



NATIONAL INSTITUTE FOR RESEARCH
AND DEVELOPMENT
IN ELECTRICAL ENGINEERING
ICPE-CA

ANNUAL REPORT

2015



FOREWORD

Dear readers,

As you know, INCODIE ICPE-CA, as an institute for research, development and innovation in electrical engineering, is involved and aims to be still active in leadership technology and innovation in the energy market and it contributes to the identification of innovative solutions for energy efficiency and security of energy supply.

In this respect, in 2015 the institute has promoted numerous investment and research projects designed to increase the institute competitiveness in areas which include high technology, a vision fully in accordance with the European objectives. Thus, there have been promoted and undertaken applied research in national and international context in electrical engineering for the benefit of the private and public companies, under PNCDI II projects program or other national and international programs, of which we ought to mention HORIZON 2020, STAR, Clean Sky, ESA, SEE, EEA, CEA and others, but also bilateral projects with IUCN - Dubna - Russian Federation; CERN - France; IPPI - Tehran - Iran; IKP - Juelich - Germany; GSI Darmstadt - Germany; Uppsala University - Sweden; TU Poznan - Poland; CISRI - Beijing - China; Galileo Ferrari - Torino - Italy; Institute of Electrical Engineering Brno - Czech Republic; scientific associations in Hungary.

Also during this year, the implementation of the contract FAIRas well as the project under the program COSME - EEN "Bisnet Transylvania - Network support and innovation for SMEs in Transylvania" continued.

Data comprised in this report for the year 2015, having a well-defined structure, include ICPE CA identification data, with a brief overview of our departments and laboratories, the management bodies, the economic and financial situation, the structure of human resources, the research and development infrastructure of the institute. There are also presented concise descriptions of the research and development activities results, the measures taken to increase our prestige and visibility in Romania and worldwide, as well as pointed out some priorities in the medium and long term. The sources of information and documentation from the institute's scientific and technical heritage, the conclusion of the presented report and also the perspectives / priorities for the next reporting period are not missing from this report.

Year 2015 meant the completion of the SOP IEC "PROMETEU" project which ensured further supplementation of R-D-I infrastructure of the existing laboratories and creating new laboratories in energy area.

By means of the research equipments which were purchased under this project and the facilities they offer, we hope our research groups to be involved in national and international projects whose results will determine the ICPE-CA to hold a leading position in a national ranking of research.

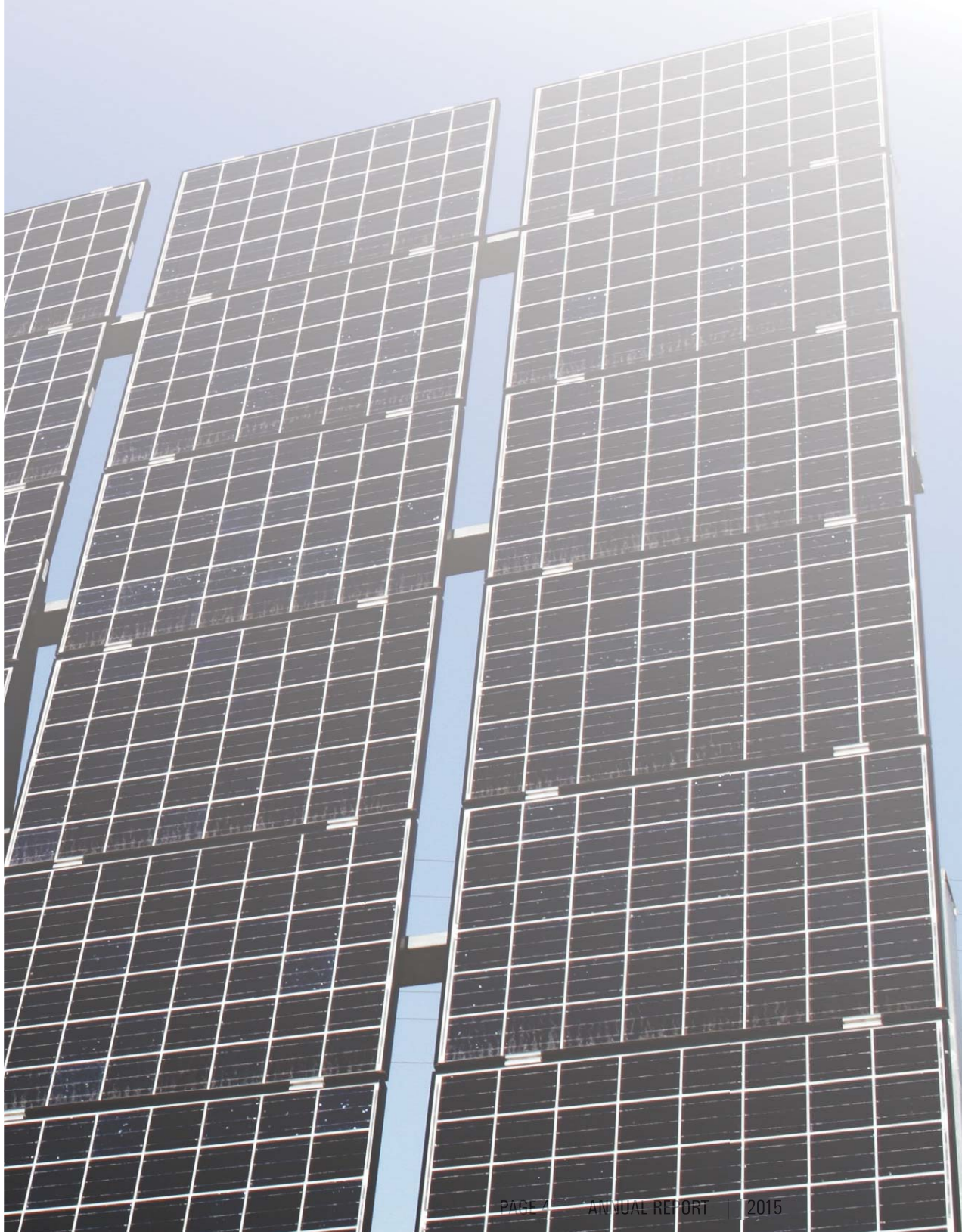
All these accomplished achievements have contributed to ensure a research and education environment of high technical and scientific level by attracting young graduates and increasing the number of researchers - doctors of science.

This was possible thanks to a responsible and sustained involvement of the Administration Council Members, which contributed to draft and approved, promoted and monitored our strategy; also thanks to the Scientific Council of ICPE-CA, but not least to the members of the Directors Board, through which we provided the daily coordination of the ICPE-CA effort.

Bucharest, March 21st, 2016

Wilhelm Kappel
General Director





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Identification data of INCDIE ICPE-CA



Company name _____	8
Founding document, subsequently amended _____	8
Registration number in the Register of Potential Contactors _____	8
Address _____	8
Phone, fax, web page, e-mail _____	8

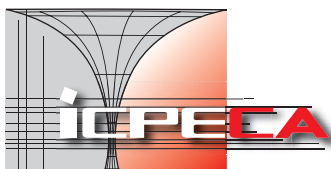
1. Identification data of INCDIE ICPE-CA

1.1. Name	National Institute for Research and Development in Electrical Engineering ICPE-CA Bucharest (INCDIE ICPE-CA)
1.2. Founding document, subsequently amended	HG 1282 / 2004
1.3. Registration number in the Register of potential contractors	2156
1.4. Address	313 Splaiul Unirii, District 3, Bucharest, Zip code: 030138, ROMANIA
1.6. Phone, fax, web page, e-mail:	tel.: 0040-21-346.72.31, 021-346.72.35, 021-346.82.97 fax: 0040-21-346.82.99 http://www.icpe-ca.ro e-mail: office@icpe-ca.ro ; marketing@icpe-ca.ro



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Brief presentation



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¹ entity with legal status

² entity with legal status

³ ex.: fusions, partitions, transformation etc.

2. Brief presentation of INCDIE ICPE-CA

2.1. History

INCDIE ICPE-CA is a research, development and innovation institution in Romania which has been continuing, since the year 2004 when it became a National Institute for Research and Development in Electrical Engineering ICPE-CA, a tradition of excellence and innovation in research. Founded based on the Government Decision no. 1282/2004 and having over 180 employees, the institute enjoys prestige nationally and internationally and it has collaborators in the economy branch through the supplied products and services that are based on international best practices, adapted to the local market.

The institute offers technological solutions shaped to customer needs, based on a comprehensive portfolio of applications in electrical engineering as well as a full range of designing services, characterization and testing of materials and products.

During the 11 years as a national institute, ICPE-CA was constantly involved in the development of RDI infrastructure, in enlarging of the multidisciplinary research area and focusing on the applicative research domain.

An important place in the activity of ICPE-CA is taken by the international projects since ICPE-CA is an active participant in both the EU Programmes (SOP IEC, HORIZON 2020), and programmes of territorial cooperation with other countries (Joint Operational Programme for Cooperation in Black Sea Basin, Romania-Bulgaria Cross Border Cooperation Programme, "South-East Europe" Transnational Cooperation Programme, Competitiveness and Innovation Framework Programme).

Being accredited and coordinated by the Ministry of Education and Scientific Research - National Authority for Scientific Research and Innovation, ICPE-CA currently covers the following research areas:

- fundamental and applicative research in the field of electrical engineering;
- technical assistance and consultancy in the field of electrical engineering;
- information, documentation and personnel training in the field of electrical engineering;
- technology transfer.

INCDIE ICPE-CA Vision

INCDIE ICPE-CA to become the promoter of the knowledge-based progress in the field of electrical engineering.

INCDIE ICPE-CA Mission

INCDIE ICPE-CA fosters and carries on applicative research in the field of electrical engineering (materials, electrotechnologies, new energy sources, micro- and nano-electrotechnologies, vibration and dynamic balancing, electromagnetic compatibility etc.), under national and international framework, for the benefit of both private and public companies.

By developing the technological innovation for beneficiaries, ICPE-CA contributes to increase their competitiveness in Romania but in Europe as well. The research activity which the institute has been carrying on is intended to promote the economic development of the society for getting environmentally friendly social advantages.

ICPE-CA ensures the development of its employees' personal professional qualification, allowing them accessing high-responsibility positions inside of institute, in industry, as well as in other scientific fields.

The mission thus defined is feasible (due to ICPE-CA skills and creativity of its employees), *instructive, accurate*, it *reflects the reality* of ICPE-CA (values and culture) and it is *targeted to beneficiaries*.

In this context, in the strategy developed by the institute on the medium and long term, the research activities in the field of electrical engineering have contributed to:

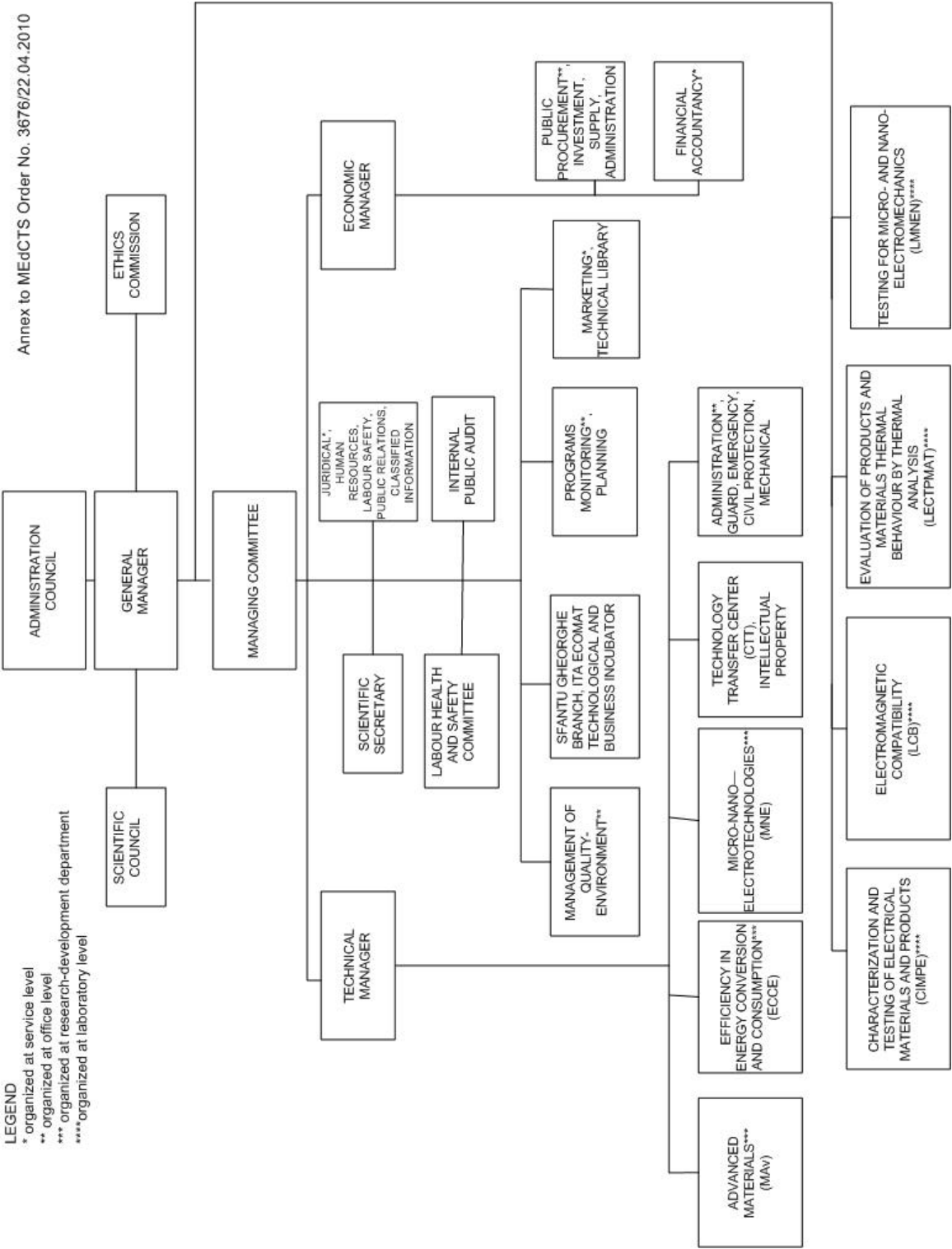
- reach the compatibility and competitiveness necessary for a full integration into the European research area;
- participation in the 7th Framework Programme of the European Union;
- development of a social, economic, dynamic and competitive environment, high-tech oriented, able to meet the long term development strategic demands, in the context of the globalized economy.

2.2. Organizational structure (organizational chart, branches¹, subsidiaries², work points)

During the year 2015, the institute has worked on the organizational chart approved by the Order No. 3676/22.04.2010 of the Minister of Education, Research, Youth and Sports. The organizational chart is shown below.

¹ subunit with legal personality

² subunit without legal personality



OFFICE OF JURIDICAL, HUMAN RESOURCES, LABOR SAFETY, CLASSIFIED INFORMATION

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ACTIVITY AREAS

- 🔦 Juridical assistance;
- 🔦 Human resources accounts;
- 🔦 Classified documents accounts;
- 🔦 Monitoring of labor safety.

INTERNAL PUBLIC AUDIT

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ACTIVITY AREAS

- 🔦 Internal public audit – assurance and advising.

OFFICE OF QUALITY-ENVIRONMENT MANAGEMENT

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ACTIVITY AREAS

- 🔦 Monitoring of the quality assurance, technical quality control and environmental protection in ICPE-CA;
- 🔦 Maintaining the high performance of the Integrated Management System of Quality-Environment in accordance with the EU requirements;
- 🔦 Support materials for certification / qualification actions in management systems as a basis in education processes of the management staff and operational personnel in the spirit of quality;
- 🔦 Information system for real-time analysis of the risk factors for environment and health;
- 🔦 Management and conservation of natural resources based on ecological principles, paying special attention to materials recycling;
- 🔦 Improve the quality of the environment by implementing technical-economical, juridical and administrative measures at the institute level;
- 🔦 Determination of organic pollutants in air, water, soil (volatile and semi-volatile organic compounds, petroleum hydrocarbons, polycyclic aromatic hydrocarbons);
- 🔦 Determination of greenhouse gases (CH₄, CO₂, chlorofluorocarbons, SF₆);
- 🔦 Analysis of dielectric oils from electrical and electronic equipment;
- 🔦 Determination of persistent organic pollutants (pesticides, herbicides, polychlorinated biphenyls) of water, soil and agricultural products;
- 🔦 Qualitative and quantitative chemical analysis of organic compounds of interest for technological

processes in obtaining biofuels (biogas, bioethanol, biodiesel);

- ✿ Monitoring the anaerobic digestion processes in biogas plants: Analysis of biomass and biogas;
- ✿ Determining the level of ambient and industrial noise;
- ✿ Determination of meteorological parameters (wind direction and speed, temperature in the range of -40... + 60°C and relative humidity in the range of 0 ... 100%, atmospheric pressure in the range of 825-1050 mbar).

OFFICE OF MARKETING, TECHNICAL LIBRARY, MANAGEMENT OF KNOWLEDGE AND INFORMATIONS / PUBLIC RELATIONS

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ACTIVITY AREAS

- ✿ Classical and electronic (internet) marketing for the institute;
- ✿ Development of the laboratories interconnection for communication, informing, collaboration and dissemination of information;
- ✿ Development of the interconnections with other institutes, research networks, consortia for establishing of partnerships, regional programs, databases;
- ✿ Developing the personnel informing frame by acquiring specialized books and subscriptions to scientific journals;
- ✿ Organizing scientific events; participation in fairs and exhibitions;
- ✿ Marketing in promoting and valuing the patents, products, equipments and services developed by the institute.

BUREAU OF MANAGEMENT OF KNOWLEDGE AND INFORMATIONS / PUBLIC RELATIONS

Head of Bureau:

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ACTIVITY AREAS

- ✿ Public relations;
- ✿ Publicizing the ICPE-CA products and services;
- ✿ Management of ICPE-CA knowledge and informations;
- ✿ Managing the technical library of ICPE-CA.

SFÂNTU GHEORGHE BRANCH – TECHNOLOGICAL AND BUSINESS INCUBATOR ITA ECOMAT ICPE-CA

Director of ITA ECOMAT ICPE-CA:

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ACTIVITY AREAS

- ✿ Support in setting up and development of SMEs in the manufacturing sector and services in electrical engineering, advanced materials, new energy sources, environmental technologies, IT;
- ✿ Promoting business partnerships, technology transfer and research;
- ✿ Consultancy in intellectual and industrial property;
- ✿ Consultancy in accessing European funding programs;
- ✿ Increasing the use of research results and patents;
- ✿ Creating new jobs, regional economic development;
- ✿ Improving SMEs' access to information, advisory services, financing sources, as well as to specific R & D services and equipment.

OFFICE OF PROGRAMS MONITORING, PLANNING

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ACTIVITY AREAS

- Monitoring research projects;
- Monitoring services and micro-manufacturing contracts;
- Planning incomes / expenses;
- Planning / monitoring the wage covering of the personnel;
- Operations of invoicing;
- Development of analyzes / reports / specific statistics.

OFFICE OF PUBLIC PROCUREMENT, INVESTMENT, SUPPLY, ADMINISTRATION

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ACTIVITY AREAS

- Procurement: organizing procedures for the procurement of equipments, products and materials;
- Investments: tendering, preparing contracts for works and services, pursuing works;
- Supply: call for tenders, acquiring products and materials needed for the research activity;
- Administration: monitoring, reception of the acquired products, raw materials and materials.

OFFICE OF FINANCIAL, ACCOUNTANCY

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ACTIVITY AREAS

- Organizing and updating of recordings for the goods entering the heritage of the institute; strictly respecting the integrity of the heritage and firmly applying the preventive financial control.

DEPARTMENT OF ADVANCED MATERIALS

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RESEARCH AREAS

The research areas of the department, directed towards solving global problems of the society with ensuring a sustainable development based on own resources, increasing the international visibility of the research and experimental development of the department, increasing the relevance of research, development and innovation to society, include:

- Development of research on achieving and characterization of materials and components for energy;
- Development of research on achieving and characterization of materials and components for electrical engineering;
- Development of research on achieving and characterization of biomaterials and biomaterials-based products; certification of the PG- β -TCP granular product;
- Development of research on achieving and characterization of materials with special applications and/or for the environment;

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In 2015, for the better functioning of the Department of Advanced Materials, working groups on specific areas were created:

Laboratory of Multifunctional Metallic Materials

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Laboratory of Magnetic Materials

Head of Laboratory: Dr. Eng.

Mirela Maria CODESCU

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Laboratory of Carbonic Materials

Head of Laboratory: Dr. Eng.

Adela BĂRA

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Laboratory of Ceramic Materials

Head of Laboratory: PhDs. Eng.

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Laboratory of Radiochemistry

Head of Laboratory: Dr. Chem.

Marius LUNGULESCU

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Laboratory of Characterization and Testing of Electrical Materials and Products

Head of Laboratory: Eng.

Sorina Adriana MITREA

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- ✶ Development of interdisciplinary research in surface functionalization and study of the interface properties;
- ✶ Development of research on structural changes in massive materials and thin films subjected to stress;
- ✶ Characterization of metallic, ceramic, magnetic, carbonic and polymeric materials.

The applications of these materials and products for the mentioned research fields are aimed to both structural applications and functional or multifunctional but also to complex applications on integration of materials in products and technologies.

ACTIVITY DOMAINS

The areas of activity, grouped according to the research areas and types of applications, include the processing and characterization of all types of materials: metal, magnetic, ceramic, carbonic and polymeric and their composites, as well as the development of interdisciplinary research in the area of surfaces functionalization, the study of the interface properties and of the structural changes induced in massive materials and thin films exposed to stress, the study of ionizing radiation interaction with the irradiated material, the materials behaviour under conditions of low temperature.

✶ **Materials for energy:**

- Structural materials: carbon fibers, carbon nanotubes (CNT), graphenes, thermo-mechanically shock resistant carbonic composite materials, CNT-reinforced carbon-polymer nanocomposites, C-C composite reinforced with carbon fiber, metal coating; amorphous alloys, amorphous matrix nanostructured composite materials, alloys with high mixing entropy; metallic foams, porous metallic and ceramic materials;
- Functional materials: functionalized carbon nanofibers electrophilated nanofibers, magnetic metal microwires for permanent magnets with low content of Nd, magnetic composites and nano-composites for permanent magnets, hydrogen storage materials based on metal hydrides; deposition materials having NiAlCrB-type thermal barrier, electrical insulating ceramic materials, non-oxide AlN ceramics and AlN-SiC, SiC-Si₃N₄ composites;
- Multifunctional materials: radiant systems for heating, advanced ceramic materials for thin layer SOFC, nanostructured Al thin films doped with ZnO, ZnO nanowires; advanced thermoelectric materials with perovskite structure for applications in energy recovery of lost heat;
- Materials integrating in products and technologies: electrodes for Ni-MH rechargeable batteries, device for the thermochemical energy storage, technology for carbon-steel material jointing; advanced technical solutions for electrical machines with increased efficiency based on the predetermination of the electrical steel sheets magnetic properties, thermal tubes with porous internal structure, electricity aerial wire with protection against hoarfrost; postcombustion innovative plant for cogeneration systems working with gas turbines on conventional and unconventional gaseous fuels; system for harvesting the natural energy using piezoelectric structures.

✶ **Materials for electrical engineering:**

- Functional materials: soft magnetic cores of iron-based composite materials; sintered hard alloy products; carbon-ceramic composites for power resistors; ceramic incandescence plugs for diesel engines, zirconium ceramics for extinguishing the electric arc and for electric resistance supports; ceramic insulating materials based on dense cordierite for extinguishing the electric arc; non-oxide AlN ceramics for power electronics; polymeric membranes for actuators; composite powders of silver nanoparticles

deposited on ZnO and SnO₂ particulate for the conductive materials; plated materials for electrical contacts; FePtNbB-type hard nanocrystalline magnetic powders; Ti (Ni, Cu, Fe, Nb)-type materials with shape memory; Al (Ni, Co) intermetallic compounds with ferromagnetic properties; electrical contacts for switching to air and vacuum; Al and Al-Mg alloys for electronic and communications equipments; Ag-SnO₂ contact materials doped with Bi₂O₃ and CuO; WC-Ag and W-Ag nanostructured contact materials; cellulosic composites secure with ferromagnetic microwires; FeBSi ferromagnetic microwires; piezoelectric nanostructures based on oxide semiconductors; magnetic nanocrystalline materials based on Fe and FeNi; Co and CoNi nanopowders; composite material based on magnetic material that provides protection from low frequency and radiofrequency electromagnetic fields; ferromagnetic materials from industrial waste for protection in microwave range (800-10000 MHz); carbon-ceramic composite materials for electromagnetic shielding; electromagnetic radiation absorbing materials based on ferrosilicon concrete; absorbing radiation pyrite composites; flexible electromagnetic wave absorbing materials; polymer matrix composites reinforced with metal or carbon fabrics for protection from electromagnetic radiation; ferromagnetic microwires for miniaturized power transformers;

- Multifunctional materials: low rare earth content magnetic materials with a nanocrystalline structure and planar anisotropy; ceramic microspheres-based ecological dye for electro and thermal insulating coatings; high magnetic stability magnetic materials (NdFeB); agglomerated permanent magnets (NdFeB, SmCo); rare earth-based nanocomposite magnets, isotropic magnetically; Cu and FeBSi microfibrils; static ceramic for insulators; piezoelectric materials for micro-engines with low speeds and high axial loads; amorphous microwires composite textiles for protection against electromagnetic radiation; natural inhibitors from plant extracts to combat corrosion and crust deposits in heating systems;
- Materials integrating in products and technologies: sensors based on polymeric composite; thin layers of aluminum nitride deposited on a copper or aluminum base, carbon fiber wire; polyamide insulation for medium voltage cables resistant to ionizing radiation; polar and nonpolar magnetic nanofluids for applications in rotating seals for high pressures and severe operating conditions; technology for development of mini-supercapacitors based on polymer-CNT/CNF electroactive grids; advanced composite structures based on polymer matrix reinforced with carbon fiber fabric to protect the electronic components of satellites; electrical contacts W-Cu / Ag for miniaturized low voltage contactors for switching in vacuum; graphene-polymer composites for laser direct writing;

Biomaterials:

- Structural materials: calcium phosphates based ceramic materials; porous ceramic materials produced from organic precursors;
- Functional materials: silver colloidal solutions for antimicrobial applications; Fe-saccharide magnetic nanocomposites; natural antioxidants obtained from plants; breathable hiperhidrofobe nanostructures based on Ag nanopowders deposited on TiO₂ and ZnO; materials for touch sensors - polymer composites with additions of nanomaterials;
- Multifunctional materials: biocompatible ceramic materials based on tricalcium phosphate and hydroxyapatite; HAP/TCP ceramic composites for orthopedic and maxillofacial

- surgery; multifunctional ecological polymeric materials with organic polyphenolic antioxidants obtained from plant; innovative nanostructured materials and coatings with antimicrobial activity;
- Materials integrating in products and technologies: fixing elements for maxillofacial prosthesis with magnetic fasteners; devices for the transport of biological fluid based on ceramic microspheres; ceramic prosthesis for the head bone;
 - Others: composite ceramic crucibles for use in dentistry.
- 🔊 **Materials with special applications and/or for the environment:**
- Structural materials: polymeric composite materials reinforced with carbon nanotubes; polymeric composite materials reinforced with carbon fiber; carbonic composite materials reinforced with carbon fibers; thermo-mechanically-shock resistant carbonic materials for aerospace industry; amorphous alloys and composites with amorphous matrix to protect space shuttles from collisions with meteoroids and orbital debris; amorphous alloy material in strips;
 - Functional materials: contrast powder for the defectoscopic nondestructive control of ferromagnetic materials; nickel powder with a large specific surface area; DLC synthesis and deposition on the metal and silicon oxide substrate; conductive coatings with noble metals of the magnetic nanostructures; composite materials based on soft magnetic ferrite for the electromagnetic shielding of the undetectable by radar military objectives; composite materials with insulating ceramic microspheres for reducing energy waste in buildings;
 - Multifunctional materials: innovative materials and processes to selectively remove heavy metals from wastewaters;
 - Materials integrating in products and technologies: carbon-based composite radiating elements for the thermal management of satellites.
- 🔊 **Interdisciplinary research for surface functionalization and study of the interfacial properties:**
- Functionalization of the interfaces made of dissimilar materials couplers for induction of specific properties at the interface (adherence, functional properties);
 - Functionalization of the surfaces to induce functional properties (usage resistance, corrosion resistance, UV resistance etc.);
 - Functionalization of the implant - living matter interface to enhance the implants assimilation by living organisms.
- 🔊 **Study of the interface properties and of the structural changes induced in massive materials and thin films exposed to stress:**
- Direct obtaining of the 1D and 2D nanoscale structures;
- 🔊 **Study of the ionizing radiation interaction with the irradiated material:**
- Investigation of the materials behavior in environments of high energy ionizing radiation (gamma radiation produced by radionuclides Cs-137, Co-60);
 - Study and characterization of the polymeric materials radioactive degradation;
 - Modification of the electrical properties of insulating materials;
 - Study and characterization of some stabilization systems (natural and synthetic antioxidants) against the radioactive degradation of materials;
 - Studies of radiochemical compatibility of some immiscible polymers (elastomer PA6);
 - Improving the functional properties of polymeric materials by irradiation;
 - Study and characterization of some ferromagnetic fluids with applications in electrical and nuclear industry.

- 🔊 **Materials behaviour under conditions of low temperatures:**
 - Cryogenic temperatures influence on the structure and properties of materials;
- 🔊 **Applied research at the request of industrial companies:**
 - Knowledge transfer through direct assistance at the request of industrial companies;
 - Knowledge transfer by organizing regular thematic events;
 - Providing research services (analyzes, tests, measurements, testing and specific experiments);
 - Transfer of skills/competencies of research and development to companies;
 - Contracting research at the companies' request;
 - Research and development in collaboration.
- 🔊 **Efficacy of the prototyping pilot stations by employing small scale production contracts:**
 - Execution contracts for electrical contacts;
 - Execution contracts for electrical brushes and seals of synthetic carbon;
 - Execution contracts for permanent magnets;
 - Execution contracts for ceramic insulators.
- 🔊 **Characterization of the metallic, ceramic, magnetic, carbonic and polymeric materials:**
 - Investigation of the thickness and optical constants of thin films (ellipsometry);
 - Determination of the thin layers tribological properties (friction and use);
 - Determination of the thin films mechanical properties (hardness, Young's modulus, scratch resistance);
 - Determination of the gas adsorption/desorption properties (hydrogen, nitrogen, argon, carbon dioxide, methane) by the Sievert method';
 - Investigation of the materials thermal properties (heat of formation, transformation temperature, Curie temperature, thermal diffusivity, linear coefficient of thermal expansion);
 - Investigation of the materials surface properties (specific surface, pores size and distribution);
 - Characterization of the nanocrystalline materials in the form of suspensions (particle size, granulometric distribution, zeta potential, molecular weight, absorbency);
 - Investigation of the optical characteristics of nanocrystalline materials in the form of powders by spectrophotometry (reflectance);
 - Investigation of the materials mechanical properties (tensile, compression, bending) at $T = 20 \dots 500^{\circ}\text{C}$;
 - Investigation of the different luminescence phenomena (chemiluminescence, thermal chemiluminescence, luminescence, fluorescence, radio thermoluminescence);
 - Investigation of radio-induced processes;
 - Investigation and knowledge development in the field of degradation and stabilization of polymeric materials under the action of various stress factors;
 - Evaluation of lifetime and remaining lifetime of electrical insulating materials in various conditions;
 - Characterization of the polymeric materials stabilizers;
 - Investigation of materials (biomaterials) behavior in the presence of fungi and molds;

- Electrically characterization of the insulating materials (complex impedance, complex admittance, complete relative permittivity, loss factor, complex electrical conductivity);
- Investigations on the material composition: atomic absorption spectrometry, laser ablation mass spectrometry; wavelength dispersive X-ray fluorescence spectrometry;
- Structural investigations: X-ray diffractometry, optical microscopy, scanning electron microscopy SEM, high resolution TEM;
- Physico-mechanical testings: density, Vickers and Knoop micro-hardness, Vickers and Brinell hardness;
- Study of the surface properties: STM tunneling electron microscopy, atomic force microscopy AFM;
- Study and determination of the magnetic properties: magnetometry with vibrant sample and histerezisgraph - magnetic moment, coercive field, maximum energy product, relative permeability.

DEPARTMENT OF EFFICIENCY IN ENERGY CONVERSION AND CONSUMPTION

Head of Department:

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DOMAINS OF RESEARCH AND ACTIVITY

⚡ Renewable energy sources and energy efficiency:

- Development of innovative equipments for increasing energy efficiency and use of renewable energy sources in industry and transport;
- Development of electric machines (high speed engines, special motors, electric generators for power conversion applications from renewable energy sources);
- New technologies with applications in ambient energy harvesting;
- New types of magnetostrictive, piezoelectric and electromagnetic actuators to be used in the aerospace industry;

⚡ Electro mechanical design - mechanical and micro-processing:

- CAD/CAM/CAE in electrical and mechanical engineering;
- Precision processing on numerically controlled machines;
- 3D analysis by mechanical and optical scanning;
- Rapid prototyping;
- Mechanical vibration monitoring systems, dynamic balancing on in situ-specialized machines;

⚡ Applications of the cryogenics and superconductivity in electrical engineering:

- The application of superconductivity in electrical engineering (superconducting coils, superconducting electromagnets for particle accelerators, LTS and HTS electromagnets for producing intense magnetic fields);
- Superconducting electrical machines (superconducting motors and electric generators);
- Cryogenic systems for cooling of the superconducting electrical machines (electromagnets, motors and generators);

⚡ Physico-chemical and electrochemical systems and devices for applications in energy:

- Hybrid systems and applications to produce energy from new and renewable sources;
- Sensitive structures based on thin layers and nanocomposite;
- Structures/devices/systems for energy storage production;
- Other applications in electrical engineering.

DEPARTMENT OF MICRO-NANO-ELECTROTECHNOLOGIES

Interim Head of Department: Dr. Eng.

Teodora MĂLĂERU

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Fax: (+40-21)346.82.99

DOMAINS OF RESEARCH AND ACTIVITY

- ✿ **Micro- and nano-electromechanics:** piezoceramic, electrostrictive, magnetostrictive, electromagnetic, electrodynamic, electrothermal microactuators; electromagnetic, electrostatic micromotors and microgenerators; microharvesting electromechanical, piezoelectric, electrostrictive systems; linear, angular position, electromagnetic microsensors with applications in monitoring of the landslides and position; electrochemical gas microsensors; microsensors for the study of motility and medical rehabilitation; micro and nanobionics / study of the magnetic bacteria with MEMS and NEMS applications; microelectromechanical sensors and systems specific for medical rehabilitation procedures or sport applications;
- ✿ **Aeronautical applications:** piezoelectric, electrostrictive microactuators for lift control; micro-gimotors and inertial wheels;
- ✿ **Micro- and nanostructures of thin layers and oxide nanoparticles:** nanoparticles and thin layers of oxide semiconductors with magnetic dilution properties; flexible piezoelectric nanocomposites; magnetic nanofluids; functionalized fluorescent oxide magnetic nanoparticles; Core-Shell type magnetic nanosystems for magnetic resonance imaging (MRI) method diagnosing;
- ✿ **Magnetic multilayers microsystems with giant magnetoresistance effect (GMR) and spin dependent tunneling (TMR) for spintronics;** diluted magnetic semiconductors; Core-Shell type magnetic nanosystems for magnetic resonance imaging (MRI) method diagnosing; self-assembling magnetic nanoparticles for diagnosing "chip" microdevices; transparent oxide semiconductor nanostructures with controllable properties by doping for applications in optoelectronics, spintronics; oxide semiconductor nanodevices (nanowires, nanostrips) for applications in nanoelectronics and nanomedicine;
- ✿ **Technology transfer for electromechanical systems:** railways verification systems for transport area; microsystems for monitoring the motion; specific software for the motion monitoring systems; identifying of the motion parameters by using micro- and macro-photogrametry systems; micro-driving and active control systems in 2D and 3D;
- ✿ **Very high speed micro-motors and generators;**
- ✿ **Center for the Youngsters Initiation in Scientific Research (CITCS):** specific methodology for initiation in scientific research on important interdisciplinary areas: micro-biotechnologies; bionics and electromechanics; microenergy harvesting with applications for the energy recovery in buildings and airport runways, microrobotics; applications of the magnetic bacteria; sensors and sensor-based matrix systems for medical rehabilitation procedures; micro-sensors kits for measurements in meteorology and climatic area. Each of the listed domains is represented by a research team consisting of 2-4 members of the National Colleges "Tudor Vianu", "Sfântul Sava", "Mihai Viteazul" and the International Informatics High School.

TECHNOLOGY TRANSFER CENTER

CTT ICPE-CA, INTELLECTUAL PROPERTY

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ACTIVITY DOMAINS

- ✦ Specialized activities for technology transfer, including the development of models and prototypes, consultancy for the implementation of the technology transfer;
- ✦ Promoting the use of patents owned by ICPE-CA and of other R&D activity results of ICPE-CA by licensing, know-how transfer and setting up of spin-offs;
- ✦ Consultancy / assistance in negotiation of contracts of licensing or know-how transfer;
- ✦ Consultancy in preparing the documentation for protection of the intellectual property and exploitation of the property rights;
- ✦ Information and consultancy in identifying the financial support schemes for the implementation of research results in SMEs;
- ✦ Facilitating SMEs' access to technological services and research infrastructure of INC DIE ICPE-CA.

LABORATORY OF ELECTROMAGNETIC COMPATIBILITY

Head of Laboratory: Dr. Eng.

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Deputy Head of Laboratory:

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DOMAINS OF RESEARCH AND ACTIVITY

- ✦ Determinations on attenuation of electromagnetic shields used to protect electronic equipments, buildings and/or specialists exposed to electromagnetic radiation;
- ✦ Determining the level of electromagnetic field;
- ✦ Determination of the electromagnetic field emitted by electronic and electrical products;
- ✦ Determination of the dielectric permittivity (in the complex) in the frequency range 40 Hz - 30 MHz;
- ✦ Determination of the loss angle tangent in the frequency range 40 Hz - 30 MHz;
- ✦ Determination of the magnetic permeability (in the complex) in the frequency range 40 Hz - 110 MHz, with determining the surface resistivity and volume resistivity;
- ✦ Infrared spectral image analyzes for electrical circuits, printed wiring, fire prevention, electrical connections, buildings etc.;
- ✦ Reflection and transmission THz spectroscopy;
- ✦ High-voltage testing of equipments and apparatus.

LABORATORY OF EVALUATION OF PRODUCTS AND MATERIALS THERMAL BEHAVIOUR BY THERMAL ANALYSIS

Head of Laboratory: Dr. Eng.
Petru BUDRUGEAC
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Deputy Head of Laboratory: Dr. Ing.
Andrei CUCOȘ
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Fax: (+40-21)346.82.99

ACTIVITY DOMAINS

- Thermogravimetric analysis (TG);
- Derivative thermogravimetric analysis (DTG);
- Differential thermal analysis (DTA);
- Differential scanning calorimetry (DSC);
- Dilatometry (DIL);
- Thermo-mechanical analysis (DMA);
- Determination of the thermal lifetime of polymeric materials, including electrical insulating polymeric materials;
- Physico-chemical characterization of materials that are part of heritage objects.

LABORATORY OF TESTINGS FOR MICRO AND NANOELECTROMECHANICS

Head of Laboratory: Eng.
Daniel Lipcinski
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Fax: (+40-21)346.82.99

ACTIVITY DOMAINS

- Measurements of micro and nano-movements;
- Measurements of surface roughness (profilograms).

OFFICE OF ADMINISTRATION, GUARD, EMERGENCIES, PC, MECHANICAL

Head of Office: Technician
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ACTIVITY DOMAINS

- Performing the maintenance, rational use and administration of the institute buildings and of the facilities related to fixed assets and inventory items under the administration of the institute;
- Operating, maintenance and repairs of the institute vehicles, ensuring their rational use;
- Making proposals for the investment and repairs plan related to buildings, associated facilities and other assets under the institute administration, pursuing the involved works and participating in repairs;
- Participating in checking and reception of the maintenance, repairs and execution works only following the management provisions;
- Performing the monthly inventory of the fuel stocks for the institute cars and elaboration of the appropriate documentation related to transport activities;
- Checking the daily work of drivers serving the institute and verifying the fuel consumption according to the travels roadmap;
- Announcing the institute management about any damage, downgrade, loss or theft of goods under administration;
- Preparing the reports for the materials consumption and confirms the payment situations regarding energy, water, heating, gas, sanitation and repairs bills of the institute.



Sfântu Gheorghe Branch– ITA ECOMAT ICPE-CA Tehnology and Business Incubator is founded by ICPE-CA Bucharest based on the National Program *“Development of the innovation and technology transfer infrastructure INFRATECH”* which is an initiative of the “Directorate of Development and Technology Transfer” in the Ministry of National Education and it is a tool for supporting the founding and development of the entities within the innovation and technology transfer infrastructure.

ITA ECOMAT ICPE-CA is accredited by the National Authority for Scientific Research in based on the Decision no. 9604/2008 is part of the ReNITT National Network for Innovation and Technology Transfer.

Another **Work Point of the ITA ECOMAT ICPE-CA Tehnology and Business Incubator** is located in Avrig-Mârșă, which was founded by our institute with the support of Avrig municipality based on the National Program *“Development of the innovation and technology transfer INFRATECH”*. This work point is performing consultancy, know-how transfer and development of partnerships to support the Avrig municipality in implementation of the program *“Local Energy” - The local contribution to fighting the climate changes - Integrated model for energy-efficient communities by valorization of the renewable energy resources in Avrig municipality, Sibiu county*.

The **Work Point CORBU ICPE-CA** was founded by ICPE-CA Bucharest as a necessity to support enlarging the institute’s research and development area, becoming a major milestone in the institute in research and development of the research partnerships, including cross-border partnerships, in the field of environment protection and preservation as well as of the renewable energy. The modern research infrastructure allows approaching of complex multidisciplinary studies nature (including fluvial, coastal and marine).

2.3. Specialty areas of INC DIE ICPE-CA (according to NACE and UNESCO classification):

a. according to NACE classification:

Main activity as coding:

7219 – Research and development in other natural sciences and engineering;

Secondary activities as coding:

7211 – Research and development in biotechnology;

7220 – Research and development in social sciences and humanities;

3250 – Manufacture of medical and dental apparatus and instruments.

b. according to UNESCO classification:

3306 – Electrical engineering and technology;

3312 – Materials technology.

2.4. Research & Development Directions / Research Goals / Research Priorities:

a. Main areas of research and development:

Research and development in other natural sciences and engineering

The institute is involved in three main research directions:

- Advanced materials: functional/multifunctional, crystalline and nanostructured materials and composites;
- New sources of energy (wind energy, solar energy, fuel cells, hydrogen storage): conversion, saving and recovery;
- Microelectromechanical technologies and systems.

b. Secondary areas of research and development:

Research and development in biotechnologies;

Research and development in social sciences and humanities;

Manufacture of medical and dental apparatus and instruments.

Activities description:

- a) Fundamental and applied research in electrical engineering;
- b) Technical assistance and consultancy in electrical engineering;
- c) Information, documentation and personnel training in electrical engineering.

c. Services / Micro-scale production

ICPE-CA offers specialized activities for technology transfer and assistance in the implementation of the technology transfer of research results in the field of electrical engineering in the economy through its pilot stations (Pilot Station of Functional Materials; Pilot Station of Carbon Materials; Pilot Station of Magnetic Materials; Pilot Station of Ceramic Materials) but also via the CTT ICPE-CA Technology Transfer Centre and ITA ECOMAT ICPE-CA incubation office headquartered in Sfântu Gheorghe town.

Likewise, ICPE-CA provides technical assistance, supply of scientific and technological services to companies and any beneficiaries which are interested in testing laboratories:

- 🔧 Laboratory of Characterization and Testing of Electrical Materials and Products;
- 🔧 Laboratory of Electromagnetic Compatibility;
- 🔧 Laboratory of Evaluation of Thermal Behavior of Products and Materials by Thermal Analysis;
- 🔧 Laboratory of Testings for Micro- and Nanoelectromechanics.

During the years 2014-2015, due to the PROMETEU project that was co-funded by the European Regional Development Fund, the infrastructure of the institute was developed by supplementing equipments in the already existing laboratories (Laboratory of electromagnetic compatibility, Laboratory of biochemistry and bioresources, Laboratory of the electric cars dynamics, Center of excellence in radiochemistry) and by creating of some new research and testing laboratories for the energy domain:

- ☛ Laboratory of photovoltaic panels;
- ☛ Laboratory of testings in transitional regime intense electrical currents for the R&D of low-medium and high voltage protection systems;
- ☛ Laboratory of applied superconductivity in electrical engineering;
- ☛ Laboratory of electromagnets and electromagnetic measurements;
- ☛ Laboratory of waste energy recovery - HARVESTING.

Since the technology transfer from the research to the business sector is the main method to stimulate the economic growth, method which is applied worldwide, this is achieved by ICPE-CA also by creating / developing of spin-offs: SC ROMNEOMAG SRL.



Another important channel for technology transfer is the European network, named Enterprise Europe Network, where ICPE-CA is a partner (under the BisNET Transylvania-1 project).

Developing of partnerships with scientific and technological parks is another goal that our institute has developed. Thus, by the Order no. 4901MD of 08.27.2013 issued by the Delegate Minister for Higher Education, Scientific Research and Technological Development, the operation of the Romania-China Scientific and Technological Park *The International Green Innovation Park – IGIP* was authorized, the founding members being ICPE-CA, Avrig municipality and the Chinese partner Beijing Chengtong Reorient Investment Consultancy Co.Ltd.

The IGIP administration body is located within the INCDIE ICPE-CA headquarter at the address 313-Splaiul Unirii, Bucharest-3, Romania.



2.5. Strategic changes in the organization and operation of INCDIE ICPE-CA³

Wishing to achieve the goals of the National Plan for R-D-I and also to achieve the projects of efficiency in energy conversion and consumption, INCDIE ICPE-CA has broadened its research area by including the conventional energy such as oil and natural gas.

In this regard, INCDIE ICPE-CA continued also in 2015 the assimilation of some employees from IPCUP Ploiesti.

³ e.g.: fusions, partitions, transformation etc.

3

Management structure of INCDIE ICPE-CA



Administration Council	30
General Manager	30
Scientific Council	30
Managing Committee	31

3. Management structure of INCDIE ICPE-CA

3.1. Administration Council⁴

Administration Council of INCDIE ICPE-CA

Kappel Wilhelm	President	General Manager of INCDIE ICPE-CA
Tănăsescu Florin Teodor	Vice-president	Specialist of the Romanian Electrotechnical Committee
Gavrilă Horia	Member	President of the Scientific Council (up to 08.02.2015)
Alecu Georgeta	Member	President of the Scientific Council (Order No. 3194/09.02.2015)
Grec Gina	Member (from 17.04.2014)	Representative of the Ministry of Education and Scientific Research
Tudor Tatiana	Member	Representative of the Ministry of Public Finance
Hristodorescu Loredana	Member	Representative of the Ministry of Labour, Family and Social Protection
Opriș Marcel	Member	Specialist, Director of the Special Telecommunications Service
Popescu Mihai Octavian	Member	Prof. Dr. Eng. Director of DB-FIM, University „Politehnica” of București
Marin Georgiana	Member	Dr. Eng., General Manager of IPCUP Ploiești

To this report, the INCDIE ICPE-CA Administration Council report of activity for the year 2015 is attached (Annex 1).

3.2. General Manager⁵

Prof. Dr. Wilhelm KAPPEL

To this report, the report of the General Manager related to the fulfillment of the mandate and of the way of achieving the performance indicators assumed under the management contract is attached (as annex to the activity report of the Administration Council).

3.3. Scientific Council

SCIENTIFIC COUNCIL OF INCDIE ICPE-CA

Georgeta Alecu	Dr. Eng., President of the INCDIE ICPE-CA Scientific Council	
Gabriela Hristea	Dr. Eng., Vice-president of the INCDIE ICPE-CA Scientific Council	
Mihai Bădic	Dr. Eng., Member	INCDIE ICPE-CA
Adela Băra	Dr. Eng., Member	INCDIE ICPE-CA
Petru Budrugeac	Dr. Chem., Member	INCDIE ICPE-CA
Mirela Maria Codescu	Dr. Eng., Member	INCDIE ICPE-CA
Ionel Chiriță	Dr. Eng., Member	INCDIE ICPE-CA
Gabriela Georgescu	Dr. Eng., Member	INCDIE ICPE-CA
Mariana Lucaci	Dr. Eng., Member	INCDIE ICPE-CA

⁴ To be presented the activity report of the Administration Council, **Annex 1** to the activity report

⁵ To be presented the General Manager's report related to the fulfillment of the mandate and of the way of achieving the performance indicators assumed under the management contract, **Annex** to the activity report of AC

Teodora Mălăeru	Dr. Eng., Member	INCDIE ICPE-CA
Sergiu Nicolaie	Dr. Eng., Member	INCDIE ICPE-CA
Gimi Aurelian Rîmbu	Dr. Eng., Member	INCDIE ICPE-CA
Violeta Tsakiris	Dr. Eng., Member	INCDIE ICPE-CA
Wilhelm Kappel	Prof. Dr. Phys., Member	General Manger of INCDIE ICPE-CA
Elena Enescu	Dr. Eng., Member	Technical Manager of INCDIE ICPE-CA
Iosif Lingvay	Dr. Eng., Member	Scientific Secretary of INCDIE ICPE-CA
Gabriela Oprina	Dr. Eng., Secretary of the Scientific Council	INCDIE ICPE-CA

3.3.1 ETHICS COMMISSION

Prof. Dr. Eng. Florin Tănăsescu
Dr. Eng. Mihai Bădic (Decision No. 41 / 02.03.2015)
Dr. Eng. Cristinel Ilie
Dr. Eng. Mirela Codescu
Legal Adviser Mariana Lungu

3.4. Managing Committee

MANAGING COMMITTEE OF INCDIE ICPE-CA

General Manager, Prof. Dr. Wilhelm KAPPEL	President
Technical Manager, Dr. Eng. Elena ENESCU	Vice-president
Scientific Secretary, Dr. Eng. Iosif LINGVAY	Member
Economic Manager, Ec. Mariana CÎRSTEA	Member
Head of MAV Dept., Dr. Eng. Mariana LUCACI	Member
Head of ECCE Dept., Dr. Eng. Sergiu NICOLAIE	Member
Interim Head of MNE Dept., Dr. Eng. Teodora MĂLĂERU	Member
Head of Juridical, Human Res. Office, Legal Adv. Mariana LUNGU	Member
Head of Programs Monitoring Office, Ec. Dorina DOBRIN	Member

4

Economic and financial situation of the INCDIE ICPE-CA



The patrimony established based on the annual financial statements at December 31, 2015	34
Incomes	34
Total expenses	35
Gross profit	35
Gross loss	35

4. Economic and financial situation⁶ of the INC DIE ICPE-CA:

4.1. The patrimony established based on the annual financial statements at 31 December, 2015 ⁷

	Year 2014 [lei]	Year 2015 [lei]
The patrimony established on the basis of financial reporting at 31 December, of which:	52.996.684	67.980.049
- Tangible assets	44.806.852	52.261.020
- Intangible assets	109.338	566.741
- Financial fixed assets	1.000	1.000
- Current assets	5.715.354	8.132.219
- Prepaid expenses	382.180	299.431
- Cash and bank accounts	1.981.960	6.719.638

4.2. Incomes

Ref. No.	Incomes name	Year 2015	Year 2014	Achievement level
		[lei]	[lei]	%
4.2.	Total incomes, of which:	42.729.299	29.161.265	1.47
4.2.1.	Incomes obtained from the research-development contracts financed by public funds (distributed on national and international sources)	35.737.158	18.234.660	
	- national sources	17.184.760	14.299.422	1.96
	- international sources	18.552.397	3.935.238	1.20
4.2.2.	Incomes obtained from the research-development contracts financed by private funds (specifying the sources)	1.616.890	1.774.139	4.71
	- international private funds	1.417.371	742.243	0.91
	- national private funds	199.519	1.031.896	1.91
4.2.3.	Incomes obtained from economic activities (services, micro exploitation of intellectual property rights)	343.729	373.371	0.19
4.2.4.	Other operating incomes	4.988.806	8.670.518	0.92
4.2.5.	Financial incomes	42.716	108.577	0.58

	Year 2014 [lei]	Year 2015 [lei]
Total subsidies / payments⁸ of which:	2.594.138	16.422.488
- of the operating	2.134.138	16.422.448
- of the investment	460.000	0

⁶ detailing the main economic and financial indicators (total incomes, total expenses, gross profit, gross loss, arrears etc.)

⁷ of which tangible and intangible assets and current assets

⁸ the total and detailing for the consolidated state budget and other creditors

4.3. Total expenses

	Year 2014 [lei]	Year 2015 [lei]
Total expenses	28.481.389	42.571.609

4.4. Gross profit

	Year 2014 [lei]	Year 2015 [lei]
Gross profit	679.876	157.690

4.5. Gross loss

	Year 2014 [lei]	Year 2015 [lei]
Gross loss	0	0

4.6. Situation of the arrears⁹:

	Year 2014 [lei]	Year 2015 [lei]
The total situation of arrears, of which:	-	-
- detailing for the consolidated state budget and other creditors	-	-

4.7. The implemented economic and social policies (costs/effects):

Principles, policies and accounting methods at 31.12.2015

The items presented in the financial statements shall be evaluated in accordance with general accounting principles covered in OMPF 1802/2014, on an accrual basis. Thus, the effects of transactions and other events are recognized when they occur and transactions and events are accounted for and reported in the financial statements of the related periods.

The incomes and expenditures resulting directly and simultaneously from the same transaction are recognized in the accounts simultaneously *through the direct association between costs and revenues associated with distinct disclosure of these revenues and expenses*.

The assessment of the items shown in this simplified financial statement was conducted in accordance with the following **accounting principles**:

1. The going concern principle: it took into account the fact that the company will continue as normal in the foreseeable future;
2. The consistency principle: there have been applied the same rules, methods, procedures on assessment, recording and presentation of the assets in the accountancy, while ensuring comparability of the patrimonial items;

⁹ the total and detailing for the consolidated state budget and other creditors

3. The prudence principle: there have been taken into account only the profits recognized until the end of the financial year, and there have been taken into account all the predictable obligations and potential losses, such as the financial result shall not be influenced;

4. The procedure independence principle: to determine the outcome there have been taken into account all the income and expenditure amounts regardless of date of receipt or payment dates;

5. The principle of separate evaluation of assets and liabilities: there have been recorded all assets and liabilities and eventually subsequently were made legal compensation;

6. The intangibility principle: the opening balance sheet corresponds to the closure;

7. The netting principle: there were performed no netting between income and expenses or between assets and liabilities other than those provided by law.

Significant accounting policies:

The economic and financial statements are drawn up and expressed in lei.

The expenditures on maintenance and repair of fixed assets were made to restore or maintain the value of these assets, they were recognized in the income statement on the date they are made, while the expenditure incurred in order to improve the technical performances were capitalized and amortized for the remaining period.

The assets are included in the financial statements at cost assessed on 30.06.2014.

The inventories are listed at the acquisition cost. The administration output method is FIFO.

The annual financial statements present fairly the financial position, performance, changes in equity and treasury flows for the financial year 2015.

The financial statements provide information relevant to the users' decision-making needs and credible in the sense that they represent faithfully the results and the financial position of the institute.

Also, the financial statements reflect the economic substance of events and transactions which are neutral, prudent and complete in all the material respects.

4.8. The evolution of the economic performance:

The main financial indicators at 31.12.2015

Ref. No.	Indicator name	Calculation formula	Calculation for 2014	Indicator value for 2014	Calculation for 2015	Indicator value for 2015	Achievement level 2015/2014 (%)
1.	Liquidity indicators						
	a) general (current) liquidity	Current assets/ short term debts	7.697.314/ 8.625.196	0.89	(14.851.857/ 7.213.633)*100	2.06	231.46%
	b) intermediary liquidity	Current assets- stocks / short term debts	(7.697.314- 2.845.652)/ 8.625.196	0.56	(14.851.857- 2.453.117/ 7.213.633)*100	1.72	307.14%
2.	Activity indicators						
	a) rotational speed of the current assets	Total current assets / turnover * 360 days	7.697.314/ 20.382.170*360	135.95	14.851.857/ 37.707.709*360	141.79	104.30%
	b) rotational speed of the stock	Total stocks/ turnover * 360 days	2.845.652/ 20.382.170*360	50,26	2.453.117/ 37.707.709*360	23.42	46.60%
	c) duration for recovery of claims	Total claims / turnover * 360 days	2.869.702/ 20.382.170*360	50,69	5.679.102/ 37.707.709*360	54.22	106.96%
	d) duration for debts payment	Total debts/ turnover * 360 days	8.625.196/ 20.382.170*360	152,34	7.213.633/ 37.707.709 *360	68.87	45.21%
3.	Profitability indicators						
	a) economic profitability	Gross profit/ total assets * 100	679.876/ 52.996.684*100	1,28	157.690/ 67.980.049 *100	0.23	17.97%
	b) financial profitability	Net income/ own capital * 100	5.252/ 31.042.624*100	0,01	107.363/ 31.148.937*100	0.34	3400.00%
	c) expenditure to operating income of 1,000 lei	Operating expenses / operating incomes * 1000	28.343.613/ 29.052.688*1000	975,59	42.368.037/ 42.686.583 *1000	992.54	101.74%
	d) gross margin on sales	Operating profit / turnover	709.075/ 20.382.170*100	3,48	318.546/ 37.707.709*100	0.84	24.14%

NOTE:

The data are presented for the reporting year n and also compared to the year n-1 (sections 4.1, 4.2, 4.3, 4.4, 4.5, 4.6).

The data are presented both in total and for subsidiaries, where appropriate.

5

Structure of human resources for R&D



Total personnel	40
Information on the activities of improvement of human resources	43
Information on the development policy of human resources for R&D	49

5. STRUCTURE OF HUMAN RESOURCES FOR RESEARCH AND DEVELOPMENT

5.1. Total personnel

Total personnel, out of which:	2015					2014				
	173	By age				173	By age			
		age up to 35	age of 35-50	age of 50-65	age over 65		age up to 35	age of 35-50	age of 50-65	age over 65
a. University graduated research and development personnel¹¹	90	13	40	28	9	81	11	32	28	10
Senior researchers of 1 st grade	18	-	2	9	7	18	-	2	9	7
Senior researchers of 2 nd grade	5	-	4	1	-	6	-	4	1	1
Senior researchers of 3 rd grade	25	5	18	2	-	14	1	11	2	-
Junior researchers	16	7	7	2	-	17	6	9	1	1
Engineers of technological development of 1 st grade	16	-	3	11	2	13	-	2	10	1
Engineers of technological development of 2 nd grade	6	-	3	3	-	7	-	2	5	-
Engineers of technological development of 3 rd grade	4	1	3	-	-	6	4	2	-	-

b. Doctoral coordinators in 2014: 3

Doctoral coordinators in 2014: Petru BUDRUGEAC, Horia GAVRILĂ, Gheorghe SAMOILESCU.

Doctoral coordinators in 2015: 3

Doctoral coordinators in 2015: Petru BUDRUGEAC, Horia GAVRILĂ, Gheorghe SAMOILESCU.

c. Doctors of science in 2014: 61

Doctors of science in 2014:

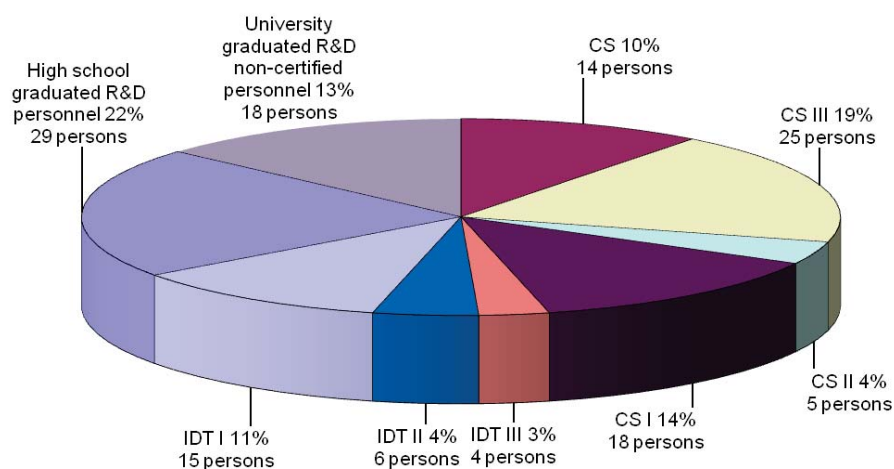
Alecă Georgeta, Apostol Emilia Simona, Banciu Cristina Antonela, Băbuțanu Corina, Bădic Mihai, Băra Adela, Budrugaec Petru, Bunea Florentina, Caramitu Alina, Chiriță Ionel, Chițanu Elena, Cîrstea Cristiana Diana, Codescu Mirela Maria, Cucos Andrei, Culicov Otilia Ana, Dobrin Ion, Enescu Elena, Gavrilă Horia, Georgescu Gabriela, Hristea Gabriela, Ignat Mircea, Ilie Cristinel Ioan, Ion Ioana, Iordoc Mihai, Iorga Alexandru, Iosif Olguța Gabriela, Kappel Wilhelm, Leonat Lucia Nicoleta, Lingvay Iosif, Lucaci Mariana, Lungu Magdalena, Marin Dorian, Manta Eugen, Mateescu Carmen, Maxim Cătălin, Mălăeru Teodora, Medianu Silviu Octavian, Mihăiescu Mihai, Mirea Radu Bujor, Neamțu Jenica, Nicolaie Sergiu, Oprina Gabriela, Ovezea Dragoș, Pîslaru-Dănescu Lucian, Pătroi Delia, Pătroi Eros Alexandru, Pinteana Jana, Popescu Mihail, Prioteasa Paula, Rădulescu Florina Emilia, Rîmbu Gimi Aurelian, Samoilescu Gheorghe, Sbârcea Beatrice-Gabriela, Setnescu Radu, Setnescu Tanța, Ștefănescu Carmen-Alina, Tănăsescu Florin Teodor, Tsakiris Violeta, Vișinescu Diana, Voina Andreea, Zaharescu Traian.

Doctors of science in 2015: 62

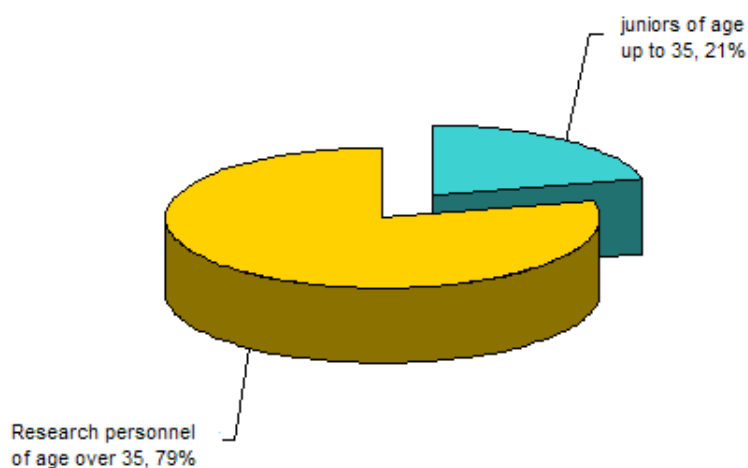
Doctors of science in 2015: Alecă Georgeta, Apostol Emilia Simona, Banciu Cristina Antonela, Barbu (Prioteasa) Paula, Băbuțanu Corina, Bădic Mihai, Bălan Ionuț, Băra Adela, Budrugaec Petru, Bunea Florentina, Caramitu Alina, Chiriță Ionel, Chițanu Elena, Cîrstea Cristiana Diana, Codescu Mirela Maria, Cucos Andrei, Culicov Otilia Ana, Dobrin Ion, Enescu Elena, Gavrilă Horia, Georgescu Gabriela, Hristea Gabriela, Ignat Mircea, Ilie Cristinel Ioan, Ion Ioana, Iordoc Mihai, Iorga Alexandru, Iosif Olguța Gabriela, Kappel Wilhelm, Leonat Lucia Nicoleta, Lingvay Iosif, Lucaci Mariana, Lungu Magdalena, Lungulescu Marius, Marin Dorian, Manta Eugen, Mateescu Carmen, Mălăeru Teodora, Medianu Silviu Octavian, Mihăiescu Mihai, Mirea Radu Bujor, Morani Cristian, Neamțu Jenica, Nicolaie Sergiu, Oprina Gabriela, Ovezea Dragoș, Pîslaru-Dănescu Lucian, Pătroi Delia, Pătroi Eros Alexandru, Pinteana Jana, Popescu Mihail, Rădulescu Florina Emilia, Rîmbu Gimi Aurelian, Sbârcea Beatrice-Gabriela, Setnescu Radu, Setnescu Tanța, Ștefănescu Carmen-Alina, Tsakiris Violeta, Teodoreanu Dan Ilie, Vișinescu Diana, Voina Andreea, Zaharescu Traian.

¹¹ To be presented distinctly on scientific grade (e.g.: CSI, CSII, CSIII, CS, ACS, IDTI, IDTII, IDTIII, IDT) and age category (e.g.: age up to 35, age of 35-50, age of 50-65 and age over 65)

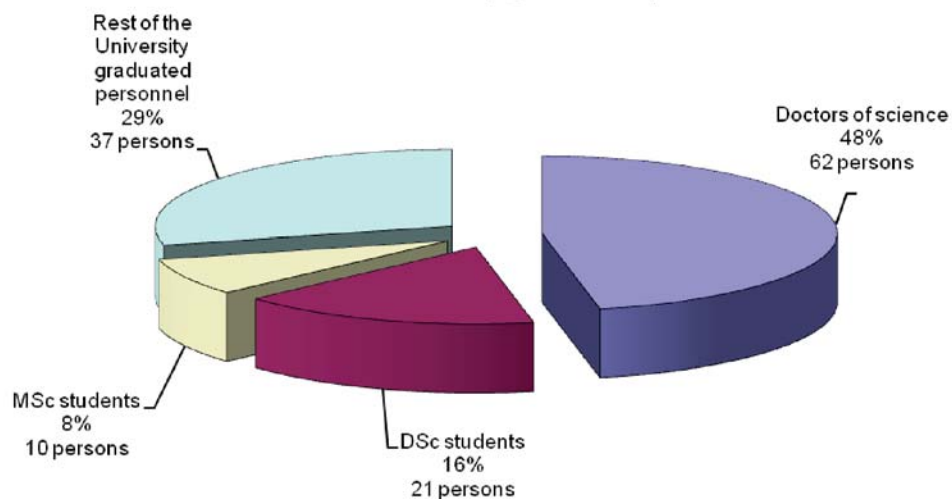
INCIE ICPE-CA research and development personnel in the year 2015



Structure of the research personnel by age, 134 persons



Structure of the university graduated personnel



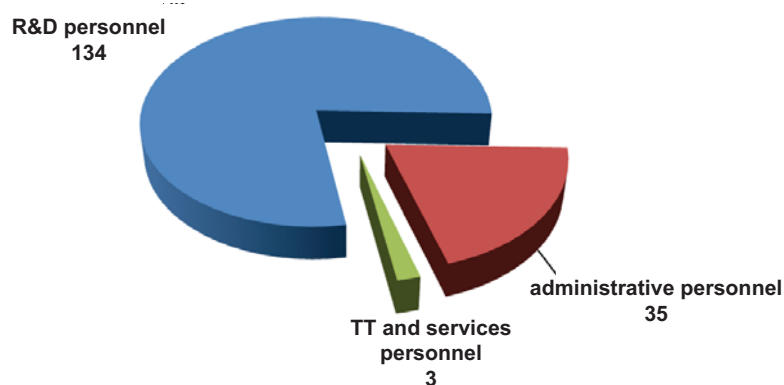
Structure of the personnel by gender



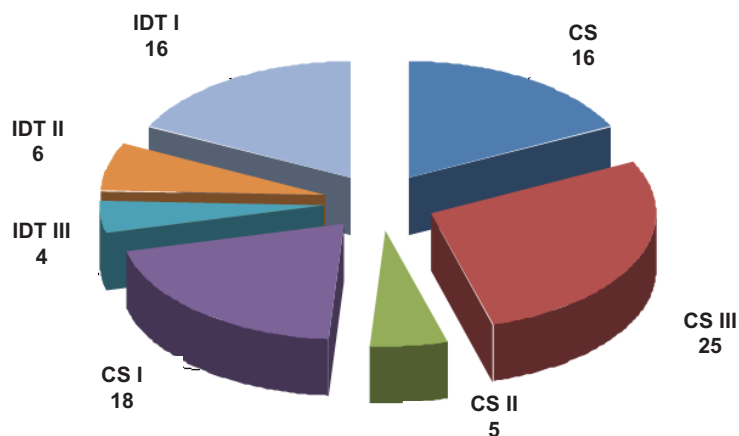
Structure of the university graduated personnel by gender



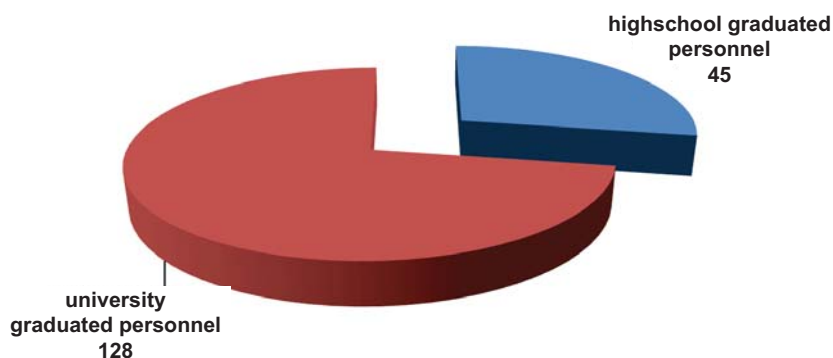
Share of the R&D, TT and administrative personnel per total INC DIE ICPE-CA personnel at the end of the year 2015



Share of the INC DIE ICPE-CA university graduated R&D personnel in the year 2015



Share of the university graduated and high school graduated personnel per total INC DIE ICPE-CA personnel at the end of the year 2015



5.2 Information on the activities of improvement of human resources (personnel involved in training processes - training courses, improvement courses)

5.2.1 DOCTORAL THESIS CONDUCTED IN THE RESEARCH & DEVELOPMENT UNIT IN THE YEAR 2014

No.	Surname, name	Title of the thesis
1	Iosif Olguța Gabriela	Institutional internal and external communication in research centers
2	Rădulescu Florina Emilia	Experimental research on obtaining and characterization of new materials for electromagnetic shielding
3	Cîrstea Cristiana Diana	Research on phenomena and transformation specifically for shape memory materials
4	Ilie Cristinel Ioan	Contributions to determine the dynamic imbalances for mechanical precision rotational systems, on balancing machines driven by the magnetic field
5	Medianu Silviu Octavian	Simulator for the identification and control of the dynamic systems

5.2.1.DOCTORAL THESIS CONDUCTED IN THE RESEARCH & DEVELOPMENT UNIT IN THE YEAR 2015

No.	Surname, name	Title of the thesis
1	Bălan Ionuț	The influence of some material parameters on electromagnetic shielding effectiveness
2	Lungulescu Marius	Contributions to the study and characterization of polymeric insulating materials degradation processes in high-energy ionizing radiation fields
3	Chihaia Rareș Andrei	Innovative solutions for planning of micro-hydropower plants with low environmental impact
4	Morari Cristian	Research on the utility of model Schelkunoff Schulz in electrically thick samples
5	Cătănescu Alexandru-Laurențiu	Unconventional drives using magnetostrictive actuators

5.2.2. MASTER DISSERTATION ELABORATED IN INCIE ICPE-CA IN THE YEAR 2015

No.	Surname, name	University / Faculty	Title of the thesis
1	Băra Adela	University Valahia of Târgoviște	Nonwoven polymeric materials obtained by electrowiring
2	Radu Elena	University of Bucharest/ Faculty of Biology	Study of the electromagnetic field influence on the morpho-physiology of <i>Aspergillus's Niger</i> cultures

5.2.3. INCDIE ICPE-CA HUMAN RESOURCES TRAINING ACTIVITIES (PERSONNEL INVOLVED IN TRAINING - TRAINING COURSES, IMPROVEMENT COURSES)

5.2.3.1. TRAINING INTERNSHIPS

No.	Surname, name	Acquired qualification, the unity that organized the training, venue and time of the training
2014		
1	Medianu Silviu	Doctoral thesis training internship University: Grenoble-INP, ESISAR, France Period: 15.03.2014 - 25.07.2014
2015		
	-	-

5.2.3.2. IMPROVEMENT COURSES

No.	Surname, name of the student	Title of the improvement course, the unity that organized the course, venue and time of the course
2014		
1	Tănase Nicolae	Training for the use of the measuring machine (produced by Wenzel) in XOrbit 87 coordinates using Metrosoft Quartis R9 program, organized by SC RO MEGA TRADE SRL, at the INCDIE ICPE-CA headquarter during 07-10.04.2014
2	Ilie Cristinel Ioan	Training for the use of the measuring machine (produced by Wenzel) in XOrbit 87 coordinates using Metrosoft Quartis R9 program, organized by SC RO MEGA TRADE SRL, at the INCDIE ICPE-CA headquarter during 07-10.04.2014
3	Ovezea Dragoș	Training for the use of the measuring machine (produced by Wenzel) in XOrbit 87 coordinates using Metrosoft Quartis R9 program, organized by SC RO MEGA TRADE SRL, at the INCDIE ICPE-CA headquarter on 07-10.04.2014
4	Cîrstea Mariana	Course "Financial Control of Administration - theoretical and practical considerations on organization and implementation of CFG" organized by "TSI Consultanta si Training SRL", in Bucharest, on 28.08 – 31.08.2014
5	Cârjan Daniela	Course "Financial Control of Administration - theoretical and practical considerations on organization and implementation of CFG" organized by "TSI Consultanta si Training SRL", in Bucharest, on 28.08 – 31.08.2014
6	Voina Andreea	Specialization course "Responsible for Waste Management" organized by the Romanian Business School of Chambers of Commerce and Industry - Bucharest branch, 01- 02 October 2014, Bucharest
7	Alecu Georgeta	Course of Training Experts in Funded Programs Management under the EU Strategy for the Danube Region (SUERD) "International Honorary Chair "Jean Bart" Associate Partner: Romanian Academy January-April 2014
2015		
1	Lungulescu Marius	Course of Radioprotection preceding the examination for obtaining the permit to level 1 practice – CNCAN, April 2015

No.	Surname, name of the student	Title of the improvement course, the unity that organized the course, venue and time of the course
2	Marinescu Mădălina	Course of Radioprotection preceding the examination for obtaining the permit to level 1 practice – CNCAN, April 2015
3	Bunea Florentina Oprina Gabriela Băbuțanu Corina Chihaia Rareș Ovezea Dragoș Pislaru-Dănescu Lucian Nedelcu Adrian Miu Marius	Training for the use of PIV equipment and lasers operating, under the contract PROMETEU, contract 629 / 03.11.2014, subcontract Metroptix, No. 1338 / 04.15.2015 "System for fluid velocities measurement in Particle Image Velocimetry PIV", organized by SC Metroptics SRL, at the INCDIE ICPE-CA headquarter on 15-26.06.2015
4	Cîrnaru Radu Nedelcu Adrian	Training for the use of 3D printer – Stratatis, at the INCDIE ICPE-CA headquarter on September 2015
5	Cîrnaru Radu	Training for the use of 5-axis processing unit OKUMA MULTUS, at the INCDIE ICPE-CA headquarter on September 2015
6	Cîrnaru Radu Miu Marius	Training AutoCAD MEP at the INCDIE ICPE-CA headquarter on September 2015
7	Dobrin Andrei Miu Marius	Training AutoCAD MEP at the INCDIE ICPE-CA headquarter on September 2015
8	Dobrin Andrei	Training Autodesk Revit, September 2015
9	Miu Marius	Training AutoCAD Electrical at the INCDIE ICPE-CA headquarter on September 2015
10	Chihaia Rareș Andrei	Training to use the wind tunnel to test models of wind turbines, at the INCDIE ICPE-CA headquarter; Training to use the stand for testing models of hydraulic turbine axial scale, at the INCDIE ICPE-CA headquarter Training to use PIV equipment (Particle Image Velocimetry) and its accessories, at the INCDIE ICPE-CA headquarter.
11	Oprina Gabriela	Training to use the wind tunnel to test models of wind turbines, at the INCDIE ICPE-CA headquarter; Training to use the stand for testing models of hydraulic turbine axial scale, at the INCDIE ICPE-CA headquarter; Training to use PIV equipment (Particle Image Velocimetry) and its accessories, at the INCDIE ICPE-CA headquarter; Training course to use the MATLAB Fundamentals / MLBE-2015, Simulink program for System and Algorithm Modelling / SLBE-2015, at the INCDIE ICPE-CA headquarter on 23-27 February 2015; Training course to use COMSOL Multiphysics Fundamentals program, at the INCDIE ICPE-CA headquarter, on 6-8 January 2015.
12	El - Leathey Lucia Andreea	Training to use the equipment and systems for testing photovoltaic cells and solar modules in laboratory, at the INCDIE ICPE-CA headquarter; Training course to use the MATLAB Fundamentals / MLBE-2015, Simulink program for System and Algorithm Modelling / SLBE-2015, at the INCDIE ICPE-CA headquarter on 23-27 February 2015.
13	Marin Dorian Nedelcu Adrian Miu Marius	Training to use the equipments and systems for testing photovoltaic cells and solar modules in laboratory, at the INCDIE ICPE-CA headquarter; Training to use equipments for testing and monitoring of photovoltaic systems.
14	Teodoreanu Dan Ilie	Training to use the equipment and systems for testing photovoltaic cells and solar modules in laboratory, at the INCDIE ICPE-CA headquarter.

No.	Surname, name of the student	Title of the improvement course, the unity that organized the course, venue and time of the course
15	Nedelcu Adrian Enache Dan Popa Marius Tănase Nicolae Apostol Simona	Advanced training course for COMSOL Multiphysics, organised by GAMAX Laboratory Solutions, at the INC DIE ICPE-CA headquarter on 06-08.01.2015; Basic training course for Matlab and Simulink, organised by GAMAX Laboratory Solutions, at the INC DIE ICPE-CA headquarter on 23-27.01.2015.
16	Stoica Victor	Advanced training course for COMSOL Multiphysics, organised by GAMAX Laboratory Solutions, at the INC DIE ICPE-CA headquarter on 06-08.01.2015
17	Băbuțanu Corina Bunea Florentina Cîrnaru Radu Dan Daniel Mirea Radu Ovezea Dragoș	Basic training course for Matlab and Simulink, organised by GAMAX Laboratory Solutions, at the INC DIE ICPE-CA headquarter on 23-27.01.2015
18	Marin Marcel Dorian	Management of Projects, at the Institute of Mechatronics, Bucharest, on 04-10 June 2015
19	Iordoc Mihai Nicolae Banciu Cristina Sbârcea Beatrice Gabriela	Management of Projects, at the Institute of Mechatronics, Bucharest, on 04-10 June 2015
20	Iosif Olguța Gabriela	Training course, at the Institute of Mechatronics, Bucharest, on 27-30 April 2015
21	Bădic Mihai	Training course, at the Institute of Mechatronics, Bucharest, on 27-30 April 2015
22	Băra Adela Codescu Mirela	Training course, at the Institute of Mechatronics, Bucharest, on 14-18 September 2015
23	Rădulescu Emilia Mitrea Sorina Tănase Ștefania	Implementation and application of quality management tools in a continuous professional training, at ICPE SA Bucharest on 13-15 May 2015
24	Mitrea Sorina	Implementation of modern TIC technologies for the electronic monitoring of data on the activities and facilities in research and development domain
25	Onica Ciprian	Implementation of modern TIC technologies for the electronic monitoring of data on the activities and facilities in research and development domain
26	Hender Clara	Accounting and fiscal news to be applied in 2015, on 02.02.2015 Bucharest
27	Ivan Ion	Entrepreneurial skills organized by SC INC DICE CONSULTING AND MANAGEMENT SRL, on 02-05.02.2015
28	Chiriță Ionel Bădic Mihai Dan Vasile Daniel Tănase Nicolae Ilie Cristinel Ioan Apostol Simona Lucaci Mariana	Master in University Politehnica of Bucharest - Faculty of Mechanical Engineering and Mechatronics
29	Hender Clara	Master in University Politehnica of Bucharest - Faculty of Applied Sciences
30	Luchian Ana Maria	Master in University Politehnica of Bucharest - Faculty of Applied Chemistry and Materials Science

5.2.3.3. DOCTORAL STUDENTS IN THE YEAR 2014 AND 2015

No	Surname, name	Title of the doctoral thesis	Institution that coordinates the doctoral thesis
1	Mantsch Adrian	Degradation and ageing of polyethylene for HVDC applications	University of Chalmers, Gothenburg, Sweden
2	Morari Cristian	Research on the utility of model Schelkunoff Schulz in electrically thick samples	UPB – Doctoral School of Electrical Engineering – Faculty of Electrical Engineering
3	Bălan Ionuț	The influence of some material parameters on electromagnetic shielding effectiveness	UPB – Faculty of Electrical Engineering
4	Mituleț Lucia Andreea	The interconnected operation of a micro-grid with SEN	University Politehnica of Bucharest – Faculty of Energetics
5	Chihaiă Rareș Andrei	Innovative solutions for planning of micro-hydropower plants with low environmental impact	Technical University of Civil Engineering Bucharest – Faculty of Hydrotechnics
6	Dan Vasile-Daniel	Analysis, characterization and optimization of electromagnets for particle accelerators	UPB - Doctoral School of Electrical Engineering – Faculty of Electrical Engineering
7	Tănase Nicolae	Electromechanical auxiliary systems for the energy conversion and storage devices	UPB - Doctoral School of Electrical Engineering – Faculty of Electrical Engineering
8	Stoica Victor	Studies on limits and operating parameters of high-temperature superconducting materials (HTS) used in superconducting generators	UPB - Doctoral School of Electrical Engineering – Faculty of Electrical Engineering
9	Enache Dan	Energy conversion processes in advanced electrical systems	UPB - Doctoral School of Electrical Engineering – Faculty of Electrical Engineering
10	Popa Marius	Electrical and mechanical interactions in microelectromechanical systems (MEMS)	UPB - Doctoral School of Electrical Engineering – Faculty of Electrical Engineering
11	Marinescu Virgil	Collagen matrices doped with bioactive substances	University of Bucharest – Faculty of Chemistry–Dept. of Chemistry-Physics
12	Erdei Remus	Electromagnetic circuit configurations used in particle accelerators	UPB - Faculty of Electrical Engineering
13	Iordache Iulian	Hybrid Structures of thin film obtained by physical deposition methods for applications in photovoltaic conversion	University Valahia of Târgoviște
14	Nedelcu Adrian	Thermal and electromagnetic field phenomena in electromagnetic devices	UPB - Doctoral School of Electrical Engineering – Faculty of Electrical Engineering

No	Surname, name	Title of the doctoral thesis	Institution that coordinates the doctoral thesis
15	Velciu Georgeta	Perovskite oxide systems for the cathode of fuel cells with IT - SOFC type solid electrolyte	UPB – Doctoral School: Faculty of Applied Chemistry and Materials Sciences, Dept. of Science and Engineering of Oxide Materials and Nanomaterials
16	Teişanu Aristofan	Azocolourants with applications in photonics	UPB – Doctoral School: Faculty of Applied Chemistry and Materials Sciences
17	Tălpeanu Dorinel	Experimental research of the titanium alloys used in medical implants	UPB – Faculty of Materials Science and Engineering
18	Caraciuc Iulia-Tatiana	Investigating the hadrons cluster properties in nuclear reactions and the asymptotic properties of nuclear matter	The Joint Institute for Nuclear Research Dubna, Russian Federation
19	Marinescu Mădălina	Research on obtaining and characterization of advanced materials designed to increase the food security	University Valahia of Targoviste
20	Lungulescu Marius	Contributions to the study and characterization of polymeric insulating materials degradation processes in high-energy ionizing radiation fields	University of Bucharest – Faculty of Chemistry
21	Marin Mihai	Methods and researches to obtain metal glass	University of Bucharest - SIM

5.2.3.4. MASTER STUDENTS IN THE YEARS 2014 AND 2015

No.	Surname, name	University / Faculty
1	Tănase Petruța Iulia	SNSPA - Faculty of Communication and Public Relations

5.2.3.4. PERSONS REGISTERED TO MASTER IN THE YEAR 2015

No.	Surname, name	University / Faculty
1	Chiriță Ionel	UPB – Faculty of Mechanical Engineering and Mechatronics
2	Bădic Mihai	UPB – Faculty of Mechanical Engineering and Mechatronics
3	Dan Vasile Daniel	UPB – Faculty of Mechanical Engineering and Mechatronics
4	Tănase Nicolae	UPB – Faculty of Mechanical Engineering and Mechatronics
5	Ilie Cristinel Ioan	UPB – Faculty of Mechanical Engineering and Mechatronics
6	Apostol Simona	UPB – Faculty of Mechanical Engineering and Mechatronics
7	Lucaci Mariana	UPB – Faculty of Mechanical Engineering and Mechatronics
8	Hender Clara	UPB – Faculty of Applied Sciences
9	Luchian Ana Maria	UPB - Faculty of Applied Chemistry and Materials Science

5.3. Information on the development policy of human resources for R&D

Achieving the scientific objectives of the institute involves:

1. Maintaining the personnel structure (more than 66% university graduates), a greater number of doctorates in natural sciences and engineering, and also a greater number of doctoral students;
2. Maintaining the personnel average age at around the current age (49 years), by engaging young researchers every year. To be mentioned that in 2015, a number of 4 young graduates with university education were employed;

In order to compensate the annual increase of our personnel average age, the following measures will be adopted:

- 2.1. Continue the policy of employing young personnel by:
 - selecting students and master students which proved meritorious results in practical work carried out in the institute's laboratories;
 - attracting young researchers whose scientific and technical activity is known;
- 2.2. Employing young experienced researchers which are well known in national and international scientific environment;
- 2.3. Maintaining the share of researchers with the age less than 35 (21%);
- 2.4. Employing of researchers on fixed-term so as to achieve the scientific research projects.
3. A continuous improvement of working conditions (high performance equipment, clean working environment, higher security in the workplace, healthcare, access to the latest scientific publications in the field);
4. Supporting young researchers in doctoral studies on topics in which the institute is involved;
5. Improving the personnel skills through participation in specialized courses;
6. Increasing the mobility of researchers in European and international research centers and initiate exchanges with other research centers in Europe;
7. A continuous improvement of the personnel training in the management of quality and environment through specific activities of training, attending scientific meetings, thus ensuring a competitive, creative and motivated personnel;
8. Increasing the number of specialists with international visibility necessary for accessing national funds as a project coordinator, increasing the number of international / national evaluators and experts;
9. The personnel of ITA ECOMAT ICPE-CA, St. George branch, together with its subsidiary in Avrig and professionals in our Technology Transfer Center will be trained further in order to increase the number of contacts with the industry;
10. The involvement of young researchers in the laboratory activities: research projects, standardized analysis, development of scientific works;
11. The personnel structure will be constantly monitored; the multidisciplinary specificity of the personnel (physicists, chemists, IT engineers, electrical and energetics engineers) covers the all activities of the institute;
12. In a system of an ultra-liberal market economy, such as our national system, a key element of recruitment policy will be also the personnel retribution that will be secured according to the specific legislation for the research area.

NOTE:

Data are presented for the year *n*, that represents the year for which this reporting is prepared, and also in comparison to *n-1* (issue 5.1).

Data are presented both in total and for subsidiaries, where appropriate.

6

R&D INFRASTRUCTURE



R&D Departments / offices / groups / laboratories	52
Testing laboratories accredited / non-accredited	74
R&D equipment	89
Measures to increase the research-development capacity related to ensuring optimal utilization	150

6. RESEARCH AND DEVELOPMENT INFRASTRUCTURE, RESEARCH FACILITIES

6.1 Departments / Offices / Groups / R&D Laboratories

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
1	Office of Quality-Environment Management	<ul style="list-style-type: none"> ● Implementation, maintaining and permanently improving an Integrated Management System of Quality and Environment, products quality; ● Technologies that enable substances and waste recycling, environmental protection; ● Methodologies regarding assessing of the „hot spots“ in the Black Sea region arising from the land sources and activities; ● Determination of the noise level. 	<ul style="list-style-type: none"> ● Implementation, maintaining and permanently improving an Integrated Management System of Quality and Environment, products quality; ● Technologies that enable substances and waste recycling, environmental protection; ● Methodologies regarding assessing of the „hot spots“ in the Black Sea region arising from the land sources and activities; ● Determination of the noise level.
2	Department of Advanced Materials	<p>◆ Development of research on achieving and characterization of materials and components for energy:</p> <ul style="list-style-type: none"> ▪ Structural materials: carbon fibers, carbon nanotubes (CNT), graphenes, thermo-mechanically shock resistant carbonic composite materials, CNT-reinforced carbon-polymer nanocomposites, C-C composite reinforced with carbon fiber, metal coating; amorphous alloys, amorphous matrix nanostructured composite materials, alloys with high mixing entropy; metallic foams, porous metallic and ceramic materials; ▪ Functional materials: functionalized carbon nanofibers electrophilated nanofibers, magnetic metal microwires for permanent magnets with low content of Nd, magnetic composites and nano-composites for permanent magnets, hydrogen storage materials based on metal hydrides; deposition materials having NiAlCrB-type thermal barrier, electrical insulating ceramic materials, non-oxide AlN ceramics and AlN-SiC, SiC-Si₃N₄ composites; 	<p>◆ Development of research on achieving and characterization of materials and components for energy:</p> <ul style="list-style-type: none"> ▪ Structural materials: carbon fibers, carbon nanotubes (CNT), graphenes, thermo-mechanically shock resistant carbonic composite materials, CNT-reinforced carbon-polymer nanocomposites, C-C composite reinforced with carbon fiber, metal coating; amorphous alloys, amorphous matrix nanostructured composite materials, alloys with high mixing entropy; metallic foams, porous metallic and ceramic materials; ▪ Functional materials: functionalized carbon nanofibers electrophilated nanofibers, magnetic metal microwires for permanent magnets with low content of Nd, magnetic composites and nano-composites for permanent magnets, hydrogen storage materials based on metal hydrides; deposition materials having NiAlCrB-type thermal barrier,

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<p>▪ Multifunctional materials: radiant systems for heating, advanced ceramic materials for thin layer SOFC, nanostructured Al thin films doped with ZnO, ZnO nanowires; advanced thermoelectric materials with perovskite structure for applications in energy recovery of lost heat;</p> <p>▪ Materials integrating in products and technologies: electrodes for Ni-MH rechargeable batteries, device for the thermochemical energy storage, technology for carbon-steel material jointing; advanced technical solutions for electrical machines with increased efficiency based on the predetermination of the electrical steel sheets magnetic properties, thermal tubes with porous internal structure, electricity aerial wire with protection against hoar-frost; postcombustion innovative plant for cogeneration systems working with gas turbines on conventional and unconventional gaseous fuels; system for harvesting the natural energy using piezoelectric structures;</p> <p>♦ Development of research on achieving and characterization of materials and components for electrical engineering:</p> <p>▪ Functional materials: soft magnetic cores of iron-based composite materials; sintered hard alloy products; carbon-ceramic composites for power resistors; ceramic incandescence plugs for diesel engines, zirconium ceramics for extinguishing the electric arc and for electric resistance supports; ceramic insulating materials based on dense cordierite for extinguishing the electric arc; non-oxide AlN ceramics for power electronics; polymeric membranes for actuators;</p>	<p>electrical insulating ceramic materials, non-oxide AlN ceramics and AlN-SiC, SiC-Si₃N₄ composites;</p> <p>▪ Multifunctional materials: radiant systems for heating, advanced ceramic materials for thin layer SOFC, nanostructured Al thin films doped with ZnO, ZnO nanowires; advanced thermoelectric materials with perovskite structure for applications in energy recovery of lost heat;</p> <p>▪ Materials integrating in products and technologies: electrodes for Ni-MH rechargeable batteries, device for the thermochemical energy storage, technology for carbon-steel material jointing; advanced technical solutions for electrical machines with increased efficiency based on the predetermination of the electrical steel sheets magnetic properties, thermal tubes with porous internal structure, electricity aerial wire with protection against hoar-frost; postcombustion innovative plant for cogeneration systems working with gas turbines on conventional and unconventional gaseous fuels; system for harvesting the natural energy using piezoelectric structures;</p> <p>♦ Development of research on achieving and characterization of materials and components for electrical engineering:</p> <p>▪ Functional materials: soft magnetic cores of iron-based composite materials; sintered hard alloy products; carbon-ceramic composites for power resistors; ceramic incandescence plugs for diesel engines, zirconium ceramics for extinguishing the electric arc and for electric resistance supports; ceramic insulating materials based on dense cordierite for extinguishing the electric arc; non-oxide AlN ceramics for power electronics;</p>

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<p>composite powders of silver nanoparticles deposited on ZnO and SnO₂ particulate for the conductive materials; plated materials for electrical contacts; FePtNbB-type hard nanocrystalline magnetic powders; Ti (Ni, Cu, Fe, Nb)-type materials with shape memory; Al (Ni, Co) intermetallic compounds with ferromagnetic properties; electrical contacts for switching to air and vacuum; Al and Al-Mg alloys for electronic and communications equipments; Ag-SnO₂ contact materials doped with Bi₂O₃ and CuO; WC-Ag and W-Ag nanostructured contact materials; cellulosic composites secure with ferromagnetic microwires; FeBSi ferromagnetic microwires; piezoelectric nanostructures based on oxide semiconductors; magnetic nanocrystalline materials based on Fe and FeNi; Co and CoNi nanopowders; composite material based on magnetic material that provides protection from low frequency and radiofrequency electromagnetic fields; ferromagnetic materials from industrial waste for protection in microwave range (800-10000 MHz); carbon-ceramic composite materials for electromagnetic shielding; electromagnetic radiation absorbing materials based on ferrosilicon concrete; absorbing radiation pyrite composites; flexible electromagnetic wave absorbing materials; polymer matrix composites reinforced with metal or carbon fabrics for protection from electromagnetic radiation; ferromagnetic microwires for miniaturized power transformers;</p>	<p>polymeric membranes for actuators; composite powders of silver nanoparticles deposited on ZnO and SnO₂ particulate for the conductive materials; plated materials for electrical contacts; FePtNbB-type hard nanocrystalline magnetic powders; Ti (Ni, Cu, Fe, Nb)-type materials with shape memory; Al (Ni, Co) intermetallic compounds with ferromagnetic properties; electrical contacts for switching to air and vacuum; Al and Al-Mg alloys for electronic and communications equipments; Ag-SnO₂ contact materials doped with Bi₂O₃ and CuO; WC-Ag and W-Ag nanostructured contact materials; cellulosic composites secure with ferromagnetic microwires; FeBSi ferromagnetic microwires; piezoelectric nanostructures based on oxide semiconductors; magnetic nanocrystalline materials based on Fe and FeNi; Co and CoNi nanopowders; composite material based on magnetic material that provides protection from low frequency and radiofrequency electromagnetic fields; ferromagnetic materials from industrial waste for protection in microwave range (800-10000 MHz); carbon-ceramic composite materials for electromagnetic shielding; electromagnetic radiation absorbing materials based on ferrosilicon concrete; absorbing radiation pyrite composites; flexible electromagnetic wave absorbing materials; polymer matrix composites reinforced with metal or carbon fabrics for protection from electromagnetic radiation; ferromagnetic microwires for miniaturized power transformers;</p>

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<p>▪ Multifunctional materials: low rare earth content magnetic materials with a nanocrystalline structure and planar anisotropy; ceramic microspheres-based ecological dye for electro and thermal insulating coatings; high magnetic stability magnetic materials (NdFeB); agglomerated permanent magnets (NdFeB, SmCo); rare earth-based nanocomposite magnets, isotropic magnetically; Cu and FeBSi microfibrils; steatic ceramic for insulators; piezoelectric materials for micro-engines with low speeds and high axial loads; amorphous microwires composite textiles for protection against electromagnetic radiation; natural inhibitors from plant extracts to combat corrosion and crust deposits in heating systems;</p> <p>▪ Materials integrating in products and technologies: sensors based on polymeric composite; thin layers of aluminium nitride deposited on a copper or aluminium base, carbon fiber wire; polyamide insulation for medium voltage cables resistant to ionizing radiation; polar and nonpolar magnetic nanofluids for applications in rotating seals for high pressures and severe operating conditions; technology for development of mini-supercapacitors based on polymer-CNT/CNF electroactive grids; advanced composite structures based on polymer matrix reinforced with carbon fiber fabric to protect the electronic components of satellites; electrical contacts W-Cu / Ag for miniaturized low voltage contactors for switching in vacuum; graphene-polymer composites for laser direct writing;</p> <p>♦ Development of research on achieving and characterization of biomaterials and biomaterials-based products:</p> <p>▪ Structural materials: calcium phosphates based ceramic materials; porous ceramic materials produced from organic precursors;</p>	<p>▪ Multifunctional materials: low rare earth content magnetic materials with a nanocrystalline structure and planar anisotropy; ceramic microspheres-based ecological dye for electro and thermal insulating coatings; high magnetic stability magnetic materials (NdFeB); agglomerated permanent magnets (NdFeB, SmCo); rare earth-based nanocomposite magnets, isotropic magnetically; Cu and FeBSi microfibrils; steatic ceramic for insulators; piezoelectric materials for micro-engines with low speeds and high axial loads; amorphous microwires composite textiles for protection against electromagnetic radiation; natural inhibitors from plant extracts to combat corrosion and crust deposits in heating systems;</p> <p>▪ Materials integrating in products and technologies: sensors based on polymeric composite; thin layers of aluminium nitride deposited on a copper or aluminium base, carbon fiber wire; polyamide insulation for medium voltage cables resistant to ionizing radiation; polar and nonpolar magnetic nanofluids for applications in rotating seals for high pressures and severe operating conditions; technology for development of mini-supercapacitors based on polymer-CNT/CNF electroactive grids; advanced composite structures based on polymer matrix reinforced with carbon fiber fabric to protect the electronic components of satellites; electrical contacts W-Cu / Ag for miniaturized low voltage contactors for switching in vacuum; graphene-polymer composites for laser direct writing;</p>

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<p>▪ Functional materials: silver colloidal solutions for antimicrobial applications; Fe-saccharide magnetic nanocomposites; natural antioxidants obtained from plants; breathable hiperhidrofobe nanostructures based on Ag nanopowders deposited on TiO₂ and ZnO; materials for touch sensors - polymer composites with additions of nanomaterials;</p> <p>▪ Multifunctional materials: biocompatible ceramic materials based on tricalcium phosphate and hydroxyapatite; HAP/TCP ceramic composites for orthopaedic and maxillofacial surgery; multifunctional ecological polymeric materials with organic polyphenolic antioxidants obtained from plant; innovative nanostructured materials and coatings with antimicrobial activity;</p> <p>▪ Materials integrating in products and technologies: fixing elements for maxillofacial prosthesis with magnetic fasteners; devices for the transport of biological fluid based on ceramic microspheres; ceramic prosthesis for the head bone;</p> <p>▪ Others: composite ceramic crucibles for use in dentistry;</p> <p>♦ Development of research on achieving and characterization of materials with special applications and/or for the environment:</p> <p>▪ Structural materials: polymeric composite materials reinforced with carbon nanotubes; polymeric composite materials reinforced with carbon fiber; carbonic composite materials reinforced with carbon fibers; thermo-mechanically-shock resistant carbonic materials for aerospace industry; amorphous alloys and composites with amorphous matrix to protect space shuttles from collisions with meteoroids and orbital debris; amorphous alloy material in strips;</p>	<p>♦ Development of research on achieving and characterization of biomaterials and biomaterials-based products:</p> <p>▪ Structural materials: calcium phosphates based ceramic materials; porous ceramic materials produced from organic precursors;</p> <p>▪ Functional materials: silver colloidal solutions for antimicrobial applications; Fe-saccharide magnetic nanocomposites; natural antioxidants obtained from plants; breathable hiperhidrofobe nanostructures based on Ag nanopowders deposited on TiO₂ and ZnO; materials for touch sensors - polymer composites with additions of nanomaterials;</p> <p>▪ Multifunctional materials: biocompatible ceramic materials based on tricalcium phosphate and hydroxyapatite; HAP/TCP ceramic composites for orthopaedic and maxillofacial surgery; multifunctional ecological polymeric materials with organic polyphenolic antioxidants obtained from plant; innovative nanostructured materials and coatings with antimicrobial activity;</p> <p>▪ Materials integrating in products and technologies: fixing elements for maxillofacial prosthesis with magnetic fasteners; devices for the transport of biological fluid based on ceramic microspheres; ceramic prosthesis for the head bone;</p> <p>▪ Others: composite ceramic crucibles for use in dentistry;</p> <p>♦ Development of research on achieving and characterization of materials with special applications and/or for the environment:</p> <p>▪ Structural materials: polymeric composite materials reinforced with carbon nanotubes; polymeric composite materials reinforced with carbon fiber; carbonic composite materials reinforced with carbon fibers;</p>

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> ▪ Functional materials: contrast powder for the defectoscopic nondestructive control of ferromagnetic materials; nickel powder with a large specific surface area; DLC synthesis and deposition on the metal and silicon oxide substrate; conductive coatings with noble metals of the magnetic nanostructures; composite materials based on soft magnetic ferrite for the electromagnetic shielding of the undetectable by radar military objectives; composite materials with insulating ceramic microspheres for reducing energy waste in buildings; ▪ Multifunctional materials: innovative materials and processes to selectively remove heavy metals from wastewaters; ▪ Materials integrating in products and technologies: carbon-based composite radiating elements for the thermal management of satellites; ♦ Interdisciplinary research in surface functionalization and study of the interface properties: <ul style="list-style-type: none"> ▪ Functionalization of the interfaces made of dissimilar materials couplers for induction of specific properties at the interface (adherence, functional properties); ▪ Functionalization of the surfaces to induce functional properties (usage resistance, corrosion resistance, UV resistance, etc.); ▪ Functionalization of the implant - living matter interface to enhance the implants assimilation by living organisms; ♦ Development of research on structural changes in massive materials and thin films subjected to stress: 	<p>thermo-mechanically-shock resistant carbonic materials for aerospace industry; amorphous alloys and composites with amorphous matrix to protect space shuttles from collisions with meteoroids and orbital debris; amorphous alloy material in strips;</p> <ul style="list-style-type: none"> ▪ Functional materials: contrast powder for the defectoscopic nondestructive control of ferromagnetic materials; nickel powder with a large specific surface area; DLC synthesis and deposition on the metal and silicon oxide substrate; conductive coatings with noble metals of the magnetic nanostructures; composite materials based on soft magnetic ferrite for the electromagnetic shielding of the undetectable by radar military objectives; composite materials with insulating ceramic microspheres for reducing energy waste in buildings; ▪ Multifunctional materials: innovative materials and processes to selectively remove heavy metals from wastewaters; ▪ Materials integrating in products and technologies: carbon-based composite radiating elements for the thermal management of satellites; ♦ Interdisciplinary research in surface functionalization and study of the interface properties: <ul style="list-style-type: none"> ▪ Functionalization of the interfaces made of dissimilar materials couplers for induction of specific properties at the interface (adherence, functional properties); ▪ Functionalization of the surfaces to induce functional properties (usage resistance, corrosion resistance, UV resistance etc.);

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> ▪ Direct obtaining of the 1D and 2D nanoscale structures; ♦ Characterization of metallic, ceramic, magnetic, carbonic and polymeric materials: ▪ Investigation of the thickness and optical constants of thin films (ellipsometry); ▪ Determination of the thin layers tribological properties (friction and use); ▪ Determination of the thin films mechanical properties (hardness, Young's modulus, scratch resistance); ▪ Determination of the gas adsorption/desorption properties (hydrogen, nitrogen, argon, carbon dioxide, methane) by the Sievert method'; ▪ Investigation of the materials thermal properties (heat of formation, transformation temperature, Curie temperature, thermal diffusivity, linear coefficient of thermal expansion); ▪ Investigation of the materials surface properties (specific surface, pores size and distribution) ▪ Characterization of the nanocrystalline materials in the form of suspensions (particle size, granulometric distribution, zeta potential, molecular weight, absorbency); ▪ Investigation of the optical characteristics of nanocrystalline materials in the form of powders by spectrophotometry (reflectance); ▪ Investigation of the materials mechanical properties (tensile, compression, bending) at T = 20 ... 500°C; ▪ Investigation of the different luminescence phenomena (chemiluminescence, thermal chemiluminescence, luminescence, fluorescence, radio thermoluminescence); 	<ul style="list-style-type: none"> ▪ Functionalization of the implant - living matter interface to enhance the implants assimilation by living organisms; ♦ Development of research on structural changes in massive materials and thin films subjected to stress: ▪ Direct obtaining of the 1D, 2D and 3D nanoscale structures; ♦ Study of the ionizing radiation interaction with the irradiated material: ▪ Investigation of the materials behaviour in environments of high energy ionizing radiation (gamma radiation produced by radionuclides Cs-137, Co-60); ▪ Study and characterization of the polymeric materials radioactive degradation; ▪ Modification of the electrical properties of insulating materials; ▪ Study and characterization of some stabilization systems (natural and synthetic antioxidants) against the radioactive degradation of materials; ▪ Studies of radiochemical compatibility of some immiscible polymers (elastomer PA6); ▪ Improving the functional properties of polymeric materials by irradiation; ▪ Study and characterization of some ferromagnetic fluids with applications in electrical and nuclear industry; ♦ Materials behaviour under conditions of low temperatures: ▪ Cryogenic temperatures influence on the structure and properties of materials; ♦ Applied research at the request of industrial companies: ▪ Knowledge transfer through direct assistance at the request of industrial companies;

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> ▪ Investigation of radio-induced processes; ▪ Investigation and knowledge development in the field of degradation and stabilization of polymeric materials under the action of various stress factors; ▪ Evaluation of lifetime and remaining lifetime of electrical insulating materials in various conditions; ▪ Characterization of the polymeric materials stabilizers; ▪ Investigation of materials (biomaterials) behaviour in the presence of fungi and molds; ▪ Electrically characterization of the insulating materials (complex impedance, complex admittance, complete relative permittivity, loss factor, complex electrical conductivity); ▪ Processing of materials by conventional powder metallurgy techniques and special plasma sintering techniques (by using the SPS FCT - HP D 25 system) and hot isostatic pressing (hot isostatic press AIP6-30H); ▪ Processing ceramic materials by conventional and unconventional techniques addressed to the areas of electrical engineering, energy, etc; ▪ Marking (pressing, extrusion, injection moulding pressure) ceramic components; ▪ Services in parts sintering by the SPS technique. 	<ul style="list-style-type: none"> ▪ Knowledge transfer by organizing regular thematic events; ▪ Providing research services (analyzes, tests, measurements, testing and specific experiments); ▪ Transfer of skills/ competencies of research and development to companies; ▪ Contracting research at the companies' request; ▪ Research and development in collaboration; ♦ Efficacy of the prototyping pilot stations by employing small scale production contracts: <ul style="list-style-type: none"> ▪ Execution contracts for electrical contacts; ▪ Execution contracts for electrical brushes and seals of synthetic carbon; ▪ Execution contracts for permanent magnets; ▪ Execution contracts for ceramic insulators; ♦ Characterization of the metallic, ceramic, magnetic, carbonic and polymeric materials: <ul style="list-style-type: none"> ▪ Investigation of magnetic materials by determining remanence, the coercive force, maximum energy product, total loss of power, polarization and relative permeability; ▪ Investigation of the thickness and optical constants of thin films (ellipsometry); ▪ Determination of the thin layers tribological properties (friction and use); ▪ Determination of the thin films mechanical properties (hardness, Young's modulus, scratch resistance); ▪ Determination of the gas adsorption/desorption properties (hydrogen, nitrogen, argon, carbon dioxide, methane) by the Sievert method; ▪ Investigation of the materials thermal properties (heat of formation, transformation temperature, Curie temperature, thermal diffusivity, linear coefficient of thermal expansion);

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
			<ul style="list-style-type: none"> ▪ Investigation of the materials surface properties (specific surface, pores size and distribution); ▪ Characterization of the nanocrystalline materials in the form of suspensions (particle size, granulometric distribution, zeta potential, molecular weight, absorbency); ▪ Investigation of the optical characteristics of nanocrystalline materials in the form of powders by spectrophotometry (reflectance); ▪ Investigation of the materials mechanical properties (tensile, compression, bending) at T = 20 ... 500°C; ▪ Investigation of the different luminescence phenomena (chemiluminescence, thermal chemiluminescence, luminescence, fluorescence, radio thermoluminescence); ▪ Investigation of radio-induced processes; ▪ Investigation and knowledge development in the field of degradation and stabilization of polymeric materials under the action of various stress factors; ▪ Evaluation of lifetime and remaining lifetime of electrical insulating materials in various conditions; ▪ Characterization of the polymeric materials stabilizers; ▪ Investigation of materials (biomaterials) behaviour in the presence of fungi and molds; ▪ Electrically characterization of the insulating materials (complex impedance, complex admittance, complete relative permittivity, loss factor, complex electrical conductivity); ▪ Identification and determination of the structural and compositional characteristics of the polymeric, carbonic, oxide, magnetic materials as well as of other Raman active materials;

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
			<ul style="list-style-type: none"> ▪ Investigating the behaviour of materials under accelerated UV aging by simulating outdoor climate (temperature, humidity, rain fall) and indoor; ▪ Morpho-structural, mechanical and physical-chemical materials characterization by using the following advanced techniques: <ul style="list-style-type: none"> - <i>X-ray diffractometry</i> in order to identify the crystalline phase of the solid materials, powders or thin films, with the possibility to determine the unit cell parameters and crystallite size, and tracking any changes in the crystal lattice in the temperature range of -180°C to + 1000°C (in case of materials as thin films); - <i>scanning electron microscopy (SEM)</i> which provides viewing and studying of the microscopic structures and surfaces of different materials types (inorganic, organic, conductive or non-conductive, magnetic, under the compact structure, powder or thin films); - <i>atomic force microscopy (AFM)</i> which allows detecting the mechanical properties of the surface, and the degree of elasticity and adhesion; - <i>tunnelling electron microscopy (STM)</i> which allows the study of surface properties from the microscopic to atomic level, on conductive or non-conductive thin films deposited on conductive substrates; - <i>determination of the Vickers and Knoop micro-hardness, and of the Vickers and Brinell hardness</i> for solid, metallic, ceramic, carbonic and polymeric materials; - <i>study of the magnetic materials</i> by determining the remanence, the coercive force, maximum energy product, total loss of power, polarization and relative permeability;

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
			<p>- <i>X-ray fluorescence (XRF), mass spectrometry (ICP-MS) and atomic absorption spectrometry (AAS)</i> that allow qualitative and quantitative elemental chemical analysis in different ranges of concentrations and types of samples (solid, powder or liquid), depending on the applied technique;</p> <p>♦ Processing of materials by conventional powder metallurgy techniques and special plasma sintering techniques (by using the SPS FCT - HP D 25 system) and hot isostatic pressing (hot isostatic press AIP6-30H);</p> <p>♦ Processing ceramic materials by conventional and unconventional techniques addressed to the areas of electrical engineering, energy, etc;</p> <p>♦ Marking (pressing, extrusion, injection moulding pressure) ceramic components;</p> <p>♦ Services in parts sintering by the SPS technique</p>
3	Department of Efficiency in Energy Conversion and Consumption	<ul style="list-style-type: none"> ● Electric machines (high speed engines, special motors, electric generators for power conversion applications from renewable energy sources); ● Applications of the superconductivity in electrical engineering; ● Applications of the cryogenics in electrical engineering; ● Superconducting electromagnets for particle accelerators; ● New types of magnetostrictive, piezoelectric and electromagnetic actuators to be used in the aerospace industry; ● Methods, technologies, systems and equipments for protecting and rehabilitating the environment; 	<ul style="list-style-type: none"> ● Electric machines (high speed engines, special motors, electric generators for power conversion applications from renewable energy sources); ● Applications of the superconductivity in electrical engineering: superconducting electrical machines and superconducting electromagnets; ● Applications of the cryogenics in electrical engineering: achieving and controlling of low temperatures (4.2 – 300 K); ● Physical properties of the materials at low temperatures (4.2 – 300 K); ● Superconducting electromagnets for particle accelerators – designing, prototyping and testing;

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> ● Increasing the energy efficiency and use of renewable energy sources in industry and transport; ● Hydrodynamics and aerodynamics of hydraulic and wind rotors; ● Hydraulics and fluid mechanics; ● Processing of the micromechanical systems through: nonconventional processing – lithography, excimers laser, wire electro-erosion, massive electrode electro-erosion; processing on numerically controlled machines - 5-axis high precision CNC center, Swiss-type lathe, 3-axis CNC center; ● CAD/CAM/CAE designing; ● New technologies with applications in harvesting energy; ● Fuel cells and their applications in integrated energy systems; ● Hybrid systems and applications to product energy from renewable sources; ● Storing energy in chemical form; ● Biotechnologies (anaerobic digestion, biomass and biogas); ● Assessing the biogas potential for biomass by physical-chemical and microbiological analysis; ● Water treatment technologies; ● Hybrid applications and systems to produce energy from new and renewable energy sources; ● Sensitive structures based on thin films and nanocomposites; 	<ul style="list-style-type: none"> ● Planar and cylindrical geometry superconducting coils for particle accelerators - implementation and testing; ● New types of magnetostrictive, piezoelectric and electromagnetic actuators to be used in the aerospace industry; ● Methods, technologies, systems and equipments for protecting and rehabilitating the environment; ● Increasing the energy efficiency and use of renewable energy sources in industry and transport; ● Hydrodynamics and aerodynamics of hydraulic and wind rotors; ● Hydraulics and fluid mechanics; ● Processing of the micromechanical systems through: nonconventional processing – lithography, excimers laser, wire electro-erosion, massive electrode electro-erosion; processing on numerically controlled machines - 5-axis high precision CNC center, Swiss-type lathe, 3-axis CNC center; ● CAD/CAM/CAE designing; ● New technologies with applications in harvesting energy; ● Fuel cells and their applications in integrated energy systems; ● Hybrid systems and applications to product energy from renewable sources; ● Storing energy in chemical form; ● Biotechnologies (anaerobic digestion, biomass and biogas);

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> Structures/devices/systems to storage and production of energy; Electrosecurity systems and active protection against corrosion for different natural and industrial environment; Achievement of the LTS and HTS superconducting coil windings, both in planary and 3D technology (solenoids, single and double rollers etc.), for particle accelerators - NICA, JINR - Dubna, Russia; Monitoring the anaerobic digestion processes in biogas plants; Biomass and biogas analysis. 	<ul style="list-style-type: none"> Assessing the biogas potential for biomass by physical-chemical and microbiological analysis; Water treatment technologies; Hybrid applications and systems to produce energy from new and renewable energy sources; Sensitive structures based on thin films and nanocomposites; Structures/devices/systems to storage and production of energy; Achievement of the LTS and HTS superconducting coil windings, both in planary and 3D technology (solenoids, single and double rollers etc.), for particle accelerators; Monitoring the anaerobic digestion processes in biogas plants; Biomass and biogas analysis;
4	Department of Micro-nano-electrotechnologies	<ul style="list-style-type: none"> Piezoceramic, electrostrictive, magnetostrictive, electromagnetic, electrodynamic, electrothermal microactuators for aeronautical and oil exploiting applications; Electromagnetic micromotors and microgenerators, in forward and reverse construction, of very high speed (> 10000rpm); flywheels, small gyro motors; Magnetostrictive motors; Systems and microsystems of sliding contacts for stands specifically to the study of the mechanical stress of gear assemblies used in aeronautics; 	<ul style="list-style-type: none"> Piezoceramic, electrostrictive, magnetostrictive, electromagnetic, electrodynamic, electrothermal microactuators for aeronautical and oil exploiting applications; Electromagnetic micromotors and microgenerators, in forward and reverse construction, of very high speed (> 10000rpm); flywheels, small gyro motors; Magnetostrictive motors; Systems and microsystems of sliding contacts for stands specifically to the study of the mechanical stress of gear assemblies used in aeronautics;

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> ● Electromechanical and piezoelectric microharvesting microgenerators systems; ● Linear, angular and electromagnetic microsensors with applications for monitoring in landslides and position; ● Electrochemical gas microsensors; ● Microsensors for the study of motility and medical rehabilitation; ● Micro and nanobionics / study of the magnetic bacterias with MEMS and NEMS applications; ● Interdisciplinary research in the field of surface and interface sciences: physics, chemistry, biology; ● Nanostructures of transparent oxidic semiconductors with controlled properties by doping for applications in optoelectronics and spintronics; ● Oxidic semiconductor nanodevices (nanowires, nanoribbons) for applications in nanoelectronics and nanomedicine; ● Piezoelectric flexible nanocomposites; ● Magnetic nanofluids; ● Fluorescent functionalizing oxide magnetic nanoparticles; ● Thermoelectric microgenerator; ● ESD wearing with bilayer knitted conductor core; Electrical and micromechanical simulations ● Railways verification systems for transport area; 	<ul style="list-style-type: none"> ● Electromechanical and piezoelectric microharvesting microgenerators systems; ● Linear, angular and electromagnetic microsensors with applications for monitoring in landslides and position; ● Electrochemical gas microsensors; ● Microsensors for the study of motility and medical rehabilitation; ● Micro and nanobionics / study of the magnetic bacterias with MEMS and NEMS applications; ● Synchronous generators of very high speed 30kW, 100000rpm; ● Magnetostrictive actuators systems for the exploiting of the impoverished oil deposits; ● Thermoelectric microgenerator; ● ESD wearing with bilayer knitted conductor core; Electrical and micromechanical simulations; ● 2D and 3D micro drives and active control systems; ● Dynamic balancing; ● Specific methodology for initiation in the scientific research on important interdisciplinary areas: microbiotechnologies; bionics and electromechanical harvesting; ● Establishment, organization and coordination of the Center of Excellence for the Young Olympians Initiation in Scientific Research; ● Editing of the Journal of Romanian Electrotechnical History (<i>Revista de Istoria Electrotehnicii Românești</i>) (6 numbers up to now);

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> ● Measurements and control systems for mechanical pieces of international passenger wagons; ● Optical systems for dimensional measurements and control for different applications (automotive, aircraft, medicine etc.); ● Software for monitoring systems of the electrical and mechanical parameters ● Identify the motion parameters with the help of micro- and macro-photogrammetry systems; ● 2D and 3D micro drives and active control systems; ● Dynamic balancing; ● Specific methodology for initiation in the scientific research on important interdisciplinary areas: microbiotechnologies; bionics and electromechanical harvesting; ● Establishment, organization and coordination of the Center of Excellence for the Young Olympians Initiation in Scientific Research; ● Editing of the Journal of Romanian Electrotechnical History (<i>Revista de Istoria Electrotehnicii Românești</i>), (3 numbers up to now) ● Organizing of the Workshop <i>INGIMED XV "INGIMED after 14 years: state of us and of the world"</i> (6 editions); ● Editing of the <i>Micro and Nanoelectrotechnologies Bulletin</i> (5 years after onset); ● Organizing of the <i>First Session of Communication of the Center of Excellence for the Young Olympians Initiation in Scientific Research</i> (<i>Prima sesiune de comunicări a Centrului de Excelență pentru Inițiere al Tinerilor Olimpici în Cercetarea Științifică</i>). 	<ul style="list-style-type: none"> ● Editing of the <i>Micro and Nanoelectrotechnologies Bulletin</i> (16 numbers); ● Organizing of the Workshop <i>INGIMED XVI "Biomedical engineering. European orientation"</i> (<i>Inginerie Biomedicală - Orientări europene</i>), 26 November 2015; <i>The Second Session of Communication of the young Olympians</i> (<i>A doua sesiune de comunicări a Centrului de Excelență pentru Inițiere al Tinerilor Olimpici în Cercetarea Științifică</i>), 11 September 2015; Debate on the topic <i>Initiation in scientific research at highschool level</i> (<i>Inițierea în cercetare științifică la nivel de liceu</i>), 7 October 2015; Seminar of the Romanian Electrotechnical History, (<i>Seminar de Istoria Electrotehnicii Românești</i>) the VIIth edition, 29 October 2015; ● Laboratory of Harvesting with residual energy micro-sources on piezoelectric, magnetostrictive, electrostrictive (elastomer), electromagnetic and thermoelectric principles.

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
5	Laboratory of Electromagnetic Compatibility	<ul style="list-style-type: none"> ● Determinations on attenuation of electromagnetic shields used to protect electronic equipments, buildings and/ or specialists exposed to electromagnetic radiation; ● Determining the level of electromagnetic field; ● Determination of the electromagnetic field emitted by electronic and electrical products; ● Determination of the dielectric permittivity (in the complex) in the frequency range 40 Hz - 30 MHz with determination of the loss angle tangent in the frequency range 40 Hz - 30 MHz; ● Determination of the magnetic permeability (in the complex) in the frequency range 40 Hz - 110 MHz; ● Determination of the surface resistivity and volume resistivity; ● Infrared spectral image analyzes for electrical circuits, printed wiring, fire prevention, electrical connections, buildings etc; ● Reflection and transmission THz spectroscopy. 	<ul style="list-style-type: none"> ● Determinations on attenuation of electromagnetic shields used to protect electronic equipments, buildings and/ or specialists exposed to electromagnetic radiation; ● Determining the level of electromagnetic field; ● Determination of the electromagnetic field emitted by electronic and electrical products; ● Determination of the dielectric permittivity (in the complex) in the frequency range 40 Hz - 30 MHz; ● Determination of the loss angle tangent in the frequency range 40 Hz - 30 MHz; ● Determination of the magnetic permeability (in the complex) in the frequency range 40 Hz - 110 MHz; ● Determination of the surface resistivity and volume resistivity; ● Infrared spectral image analyzes for electrical circuits, printed wiring, fire prevention, electrical connections, buildings etc; ● Reflection and transmission THz spectroscopy.
6	Laboratory of intense electrical currents testing in transitional regime for the R&D in low-medium and high voltage protection systems	<ul style="list-style-type: none"> ● High-voltage testing of equipments and apparatus 	<ul style="list-style-type: none"> ● High-voltage testing of equipments and apparatus ● Testing in pulsed electric field (max. 100kA) with wave shapes of 8/20μs, 1/10μs, 30/60μs, 4/10μs and long wave of 2/2,4ms for testing varistors and metal oxide-based (ZnO) dischargers.

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
7	Laboratory of Evaluation of Products and Materials Thermal Behaviour by Thermal Analysis	<ul style="list-style-type: none"> ● Developing the specific methods for determining the thermal behaviour of materials and products by the following methods of thermal analysis: <ul style="list-style-type: none"> - Thermogravimetric analysis (TG) coupled with FTIR analysis of the resulted gases; - Derivative thermogravimetric analysis (DTG); - Differential thermal analysis (DTA); - Differential scanning calorimetry (DSC); - Dilatometry (DIL); - Thermo-mechanical analysis (DMA); - Determining the thermal and thermooxidative stability of the materials; - Determining the specific parameters of phase transitions of materials; - Prediction of the thermal lifetime of polymeric materials, including electrical insulating polymeric materials; - Physical-chemical characterization of materials that are part of heritage objects. 	<ul style="list-style-type: none"> ● Developing the specific methods for determining the thermal behaviour of materials and products by the following methods of thermal analysis: <ul style="list-style-type: none"> - Thermogravimetric analysis (TG) coupled with FTIR analysis of the resulted gases; - Derivative thermogravimetric analysis (DTG); - Differential thermal analysis (DTA); - Differential scanning calorimetry (DSC); - Dilatometry (DIL); - Thermo-mechanical analysis (DMA); - Determining the thermal and thermooxidative stability of the materials; - Determining the specific parameters of phase transitions of materials; - Prediction of the thermal lifetime of polymeric materials, including electrical insulating polymeric materials; - Physical-chemical characterization of materials that are part of heritage objects.
8	Laboratory of Testings for Micro- and Nanoelectromechanics	<ul style="list-style-type: none"> ● Measurements of the dynamic parameters for new types of actuators specifically for space applications, for electromechanical or piezoelectric harvesting systems; ● Correction of the errors sources and improving the uncertainty parameter by correction of position stabilization for WYCO optical system table; ● Measurements of surface roughness, surface microrelief, profilograms, layer differences, deposition, height, thickness etc.; ● Determining the dynamic parameters for micro and nano actuators based on elastomers; ● Concerns regarding assimilation of specific standards for the measurements of micro and nano roughness and nano displacements. 	<ul style="list-style-type: none"> ● Measurements of surface nano-roughness, surface microrelief, profilograms, layer differences, deposition, height, thickness etc.; ● Measurements of the dynamic parameters for new types of actuators specifically for space applications, for electromechanical or piezoelectric harvesting systems; ● Measurements of the dynamic parameters for elastomer-based micro and nano-actuators for actuating and harvesting type applications; ● Concerns regarding assimilation of specific standards for the measurements of micro and nano roughness and nano displacements.

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
9	Intellectual Property, Classified Information	<ul style="list-style-type: none"> ● Increasing the quality and competitiveness of IP services offered by the expertise necessary to produce the following documents: <ul style="list-style-type: none"> - strategies for the long-term protection of the intellectual property rights within SMEs; - opinions, analysis regarding the IP European Standards, submitted by ASRO (Romanian Standardization Association); - counselling for the copyright protection generated during the implementation of projects within SMEs; - counselling for the SMEs in the Central and North-West Region of Romania regarding: developing the technical documentation for protecting original solutions through patents; - developing the documentation for protection by trademarks; exploitation of IP rights through licensing and transfers; - advising for the identifying and securing information, whose disclosure can be prejudicial for the interests of SMEs; - the implementation in contracts of the precautionary clauses about non-disclosure and non-transmission to the third parts of the confidential information resulted from the transferred research. 	<ul style="list-style-type: none"> ● Increasing the quality and competitiveness of IP services offered by the expertise necessary to produce the following documents: <ul style="list-style-type: none"> - strategies for the long-term protection of the intellectual property rights within SMEs; - opinions, analysis regarding the IP European Standards, submitted by ASRO (Romanian Standardization Association); - counselling for the copyright protection generated during the implementation of projects within SMEs; - counselling for the SMEs in the Central and North-West Region of Romania regarding: developing the technical documentation for protecting original solutions through patents; developing the documentation for protection by trademarks; exploitation of IP rights through licensing and transfers; - advising for the identifying and securing information, whose disclosure can be prejudicial for the interests of SMEs; - the implementation in contracts of the precautionary clauses about non-disclosure and non-transmission to the third parts of the confidential information resulted from the transferred research.
10	Technological and Business Incubator ITA ECOMAT ICPE-CA	<ul style="list-style-type: none"> ● Incubation services: <ul style="list-style-type: none"> - consultancy for start-ups and spin-offs establishment; - consultancy in accessing European funds; - identifying of business partners, technologies and researches; - industrial property services; - organizing brokerage events and company missions; - design and modelling of electromagnetic circuits; - contact point to the Enterprise Europe Network. 	<ul style="list-style-type: none"> ● Incubation services: <ul style="list-style-type: none"> - consultancy for start-ups and spin-offs establishment; - consultancy in accessing European funds; - identifying of business partners, technologies and researches; - industrial property services; - organizing brokerage events and company missions; - design and modelling of electromagnetic circuits; - contact point to the Enterprise Europe Network.

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
11	Technology Transfer Center CTT ICPE-CA	<ul style="list-style-type: none"> ● Technology transfer of the products and technologies developed within INC DIE ICPE-CA; ● Consultancy / assistance in negotiation of contracts of licensing or know-how transfer; ● Information and consultancy in identifying the financial support schemes for the implementation of research results in SMEs; ● Facilitating SMEs' access to technological services and research infrastructure of INC DIE ICPE-CA; ● Counselling for the preparing of the documentation for protection of the intellectual property; ● Consultancy for the local authorities in developing and implementing of strategies for the implementation of renewable energy sources and energy efficiency. 	<ul style="list-style-type: none"> ● Technology transfer of the products and technologies developed within INC DIE ICPE-CA; ● Consultancy / assistance in negotiation of contracts of licensing or know-how transfer; ● Information and consultancy in identifying the financial support schemes for the implementation of research results in SMEs; ● Facilitating SMEs' access to technological services and research infrastructure of INC DIE ICPE-CA; ● Counselling for the preparing of the documentation for protection of the intellectual property; ● Consultancy for the local authorities in developing and implementing of strategies for the implementation of renewable energy sources and energy efficiency.
12	Design and Research in Petroleum Equipments	<ul style="list-style-type: none"> ● Modern kinematic schemes and redesigning of the equipments, mechanisms and machines for drilling and extraction based on the producers and market requirements in order to increase the productivity of drilling and mining activities; ● Modern kinematic schemes and redesign the repair wells facilities mounted on self-propelled or howled vehicles, required by the customer, in order to increase the productivity of operations in repairing of the oil wells; ● Design of metal structures and metal constructions for various purposes; ● Solutions for the mechanization of manoeuvre operations to increase the efficiency and safety of the drilling rigs; 	<ul style="list-style-type: none"> ● Modern kinematic schemes and redesigning of the equipments, mechanisms and machines for drilling and extraction based on the producers and market requirements in order to increase the productivity of drilling and mining activities; ● Modern kinematic schemes and redesign the repair wells facilities mounted on self-propelled or howled vehicles, required by the customer, in order to increase the productivity of operations in repairing of the oil wells; ● Design of metal structures and metal constructions for various purposes; ● Solutions for the mechanization of manoeuvre operations to increase the efficiency and safety of the drilling rigs;

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> ● Design of new facilities for water well drilling, allowing in several drilling ways the exploitation of the water resources from underground drinkable water sources; ● Modern solutions applying new pumping technologies for the oil extraction, by using helicoidally depth pumps; ● Development of research in order to enhance the oil secondary recovery factor and to estimate / application of modern solutions for exploiting of new hydrocarbons deposits; ● Development of research to assimilating new types of geological and hydrogeological drilling rigs; ● Modernization projects for the fracturing equipment - stimulating the deep wells of high hydraulic power to increase oil recovery factor; ● Noise measurement for technical / industrial equipments according to the legislation in force; ● Evaluation of the pollution and risk factors in drilling-extraction processes and establishing the technologies - equipments for cleaning the lands infested with debris and petroleum products from scaffolding of production and refineries; ● Activities for drafting the construction documentation with specialized software CAD (AUTOCAD, INVENTOR, SOLIDWORKS); ● Modelling and analyzing the charging for the metal structures subjected to charges with Finite Element Method - Visual Nastran for Windows (within the operation offshore expertise in the Black Sea Platforms, IPCUP Ploiesti has performed for OMV the modelling and analysis of tensions for their metal structures); 	<ul style="list-style-type: none"> ● Design of new facilities for water well drilling, allowing the exploitation of the water resources and implementation of heat pumps; ● Modern solutions applying new pumping technologies for the oil extraction, by using helicoidally depth pumps; ● Research aimed to enhance the oil secondary recovery factor and to estimate / application of modern solutions for exploiting of new hydrocarbons deposits; ● Research on assimilating new types of geological and hydrogeological drilling rigs; ● Modernization projects for the fracturing equipment - stimulating the deep wells of high hydraulic power to increase oil recovery factor; ● Research on improving the efficiency of hydrocarbons well drilling by implementing drilling system with closed bypass; ● Evaluation of the pollution and risk factors in drilling-extraction processes and establishing the technologies - equipments for cleaning the lands infested with debris and petroleum products from scaffolding of production and refineries; ● Activities for drafting the construction documentation with specialized software CAD (AUTOCAD, INVENTOR, SOLIDWORKS); ● Modelling and analyzing the charging for the metal structures subjected to charges with Finite Element Method - Visual Nastran for Windows (within the operation offshore expertise in the Black Sea Platforms, IPCUP Ploiesti has performed for OMV the modelling and analysis of tensions for their metal structures);

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
		<ul style="list-style-type: none"> ● Expertise activities by non-destructive methods in accordance with ASME and API, to determine the technical capabilities of structures subjected to loads in order to determine the lifetime of the equipments. 	<ul style="list-style-type: none"> ● Expertise activities by non-destructive methods in accordance with ASME and API, to determine the technical capabilities of structures subjected to loads in order to determine the lifetime of the equipments.
13	Work Point ICPE-CA Corbu	-	<ul style="list-style-type: none"> ● Study and research in environmental protection and preservation (including the marine and coastal environment); ● Study and research in fluvial environmental protection and accidental technological pollution; ● Promoting the EU Strategy for the Danube Region, for increasing the attractiveness and competitiveness of the towns and villages along Danube, creating partnerships, attracting investments in strategic areas (transport, environment and energy); ● Promoting the exchange of knowledge and innovation in services and technology in the fields of environment and renewable energy sources at regional level; ● Establish an expertised network of formal and informal relations at regional level; ● Development of some educational and training programmes for human resources in the fields of environment and renewable energy sources; ● Establishment of some consultancy groups in the regions bordering the Black Sea, with an expertise in legislative and technological fields to support the initiatives for the implementation of renewable energy technologies; ● Promotion of implementing the clean technologies and based on renewable energy sources in the energy systems of the countries from the Black Sea region; ● Comparative analysis of best practices and regulations at the national level on the implementation of renewable energy technologies.

Ref. No.	Name of the department / office / group / laboratory	Expertise Areas	
		2014	2015
14	Work Point ICPE-CA Avrig	-	<ul style="list-style-type: none"> ● Activities of consultancy, know-how transfer and development of partnerships to support the Avrig municipality in implementation of the program "Local Energy" <ul style="list-style-type: none"> - <i>The local contribution to fighting the climate changes</i> - <i>Integrated model for energy-efficient communities by valorisation of the renewable energy resources in Avrig municipality, Sibiu county;</i> ● Supporting the local authorities for attracting the investment funds to modernize and expand the energy infrastructure, for implementing the energy efficiency measure, creating new jobs in the renewable energy industry locally.

6.2 Accredited / Non-accredited testing laboratories

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
1	Management of Quality – Environment	Quality Management System ISO 9001:2008	SRAC Certificate no. 594/4 from 21.06.2012	Quality Management System ISO 9001:2008	SRAC Certificate no. 594/4 up to 21.06.2012 SRAC Certificate no 594 from 22.06.2015
		Environment Management System ISO 14001:2004	SRAC Certificate no. 45/3 from 21.06.2012	Environment Management System ISO 14001:2004	SRAC Certificate no. 45/3 up to 21.06.2012 SRAC Certificate no. 45 from 22.06.2015
2	Laboratory of Biomaterials (within the MAV Dept.)	Processing and characterization of ceramic biomaterials from the areas: dentistry, orthopaedics, tissue engineering SR EN ISO 13485:2004 SR EN ISO 13485:2004/AC:2010 for „Research, design, development, fabrication of medical devices (bone substitute)“	ISO 13485 Certificate no. 25 SM1 from 20.12.2012	Research, design, development and manufacture of the medical devices (bone substitute)	Non-accredited
			EC Certificate no. 25 DM 2.3 from 20.12.2012	Tricalcium phosphate granular product (β -TCP)	Non-accredited
				Cranial implant based on hydroxyapatite	Non-accredited
3	Laboratory of Multifunctional Metallic Materials (within the MAV Dept.)	<ul style="list-style-type: none"> Optical characterization of colloidal suspension and nanopowders by light absorption spectrophotometry in the UV-Vis-NIR (by using the V570 Jasco spectrophotometer); Characterization of thin films and solid parts in terms of tribological and mechanical properties by determining the coefficient of friction and wear rates, respectively by determining the Vickers hardness, Young's modulus by nano / microindentation and of the critical adhesion / cohesion forces through 	Non-accredited	<ul style="list-style-type: none"> Optical characterization of colloidal suspension and nanopowders by light absorption spectrophotometry in the UV-Vis-NIR (by using the V570 Jasco spectrophotometer); Characterization of thin films and solid parts in terms of tribological and mechanical properties by determining the coefficient of friction and wear rates, respectively by determining the Vickers hardness, Young's modulus by nano / microindentation and of the critical 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
		<p>microscratching (by using the ball / pin-on-disk tribometer and the compact platform with nano / microindentation and microscratching platform, CSM Instruments);</p> <ul style="list-style-type: none"> ● Determination of the nanoparticle size, size distribution and zeta potential by dynamic light scattering (DLS) and electrophoretic light scattering (ELS) (by using the device 90 Plus, Brookhaven); ● Analysis of thermal behaviour of the metallic powders, ceramics, glass and composite materials, by using the equipment "Horizontal dilatometer model L75HS2000C + L75HS700LT", (Linseis GmbH, Germany), in the temperature range of: -150 – 700°C; RT...2000°C. Determination of the: linear thermal expansion (Δl); coefficient of thermal expansion (CTE); vitreous transition temperature (T_g); phase transitions; measuring the density and volume expansion of the compacted material from metal powders; The three-point bending analysis for determining the mechanical stability, the measuring voltage in the form of fiber materials and metal foils; ● Determination of the mass variations and thermal changes for different types of materials, including inhomogeneous materials, by using the equipment "Simultaneous thermal analyzer TG-DSC STA 449 F3 Jupiter (NETZSCH, Germany) in the temperature range of RT...1500°C; 		<p>adhesion / cohesion forces through microscratching (by using the ball / pin-on-disk tribometer and the compact platform with nano / microindentation and microscratching platform, CSM Instruments);</p> <ul style="list-style-type: none"> ● Determination of the nanoparticle size, size distribution and zeta potential by dynamic light scattering (DLS) and electrophoretic light scattering (ELS) (by using the device 90 Plus, Brookhaven); ● Analysis of thermal behaviour of the metallic powders, ceramics, glass and composite materials, by using the equipment "Horizontal dilatometer model L75HS2000C + L75HS700LT", (Linseis GmbH, Germany), in the temperature range of: -150 – 700°C; RT...2000°C. Determination of the: linear thermal expansion (Δl); coefficient of thermal expansion (CTE); vitreous transition temperature (T_g); phase transitions; measuring the density and volume expansion of the compacted material from metal powders; The three-point bending analysis for determining the mechanical stability, the measuring voltage in the form of fiber materials and metal foils; 	

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
		<ul style="list-style-type: none"> ● Determination of the thermal diffusivity, specific heat and thermal conductivity by using the equipment "LFA 447 Nanoflash" (Netzsch, Germany) for various materials (metals, graphite, coatings, composites, ceramics, polymers etc.) in the temperature range of RT..300°C; ● Analysis of the mechanical behaviour by using the universal machine for mechanical testing of materials in static regime, model LFM 30kN (Walter & Bai AG Switzerland). Mechanical characteristics to be determined: maximum mechanical strength, Rm (MPa); Yield strength, Rp0.2 (MPa); elongation, A (%); the modulus of elasticity, E (GPa); ● Vacuum deposition of thin films in order to achieve a thin coating technologies: decorative, biocompatible optical, anticorrosion, lubricating, anti-wear, etc. by standard magnetron sputtering or reactive-type, by using the technological equipment for processing in vacuum a thin layer of titanium nitride (BESTEC GmbH, Germany); ● Determination of the gas adsorption / desorption isotherms by using the AUTOSORB 1C apparatus. Determinations types: 		<ul style="list-style-type: none"> ● Determination of the mass variations and thermal changes for different types of materials, including inhomogeneous materials, by using the equipment "Simultaneous thermal analyzer TG-DSC STA 449 F3 Jupiter (NETZSCH, Germany) in the temperature range of RT...1500°C; ● Determination of the thermal diffusivity, specific heat and thermal conductivity by using the equipment "LFA 447 Nanoflash" (Netzsch, Germany) for various materials (metals, graphite, coatings, composites, ceramics, polymers, etc.) in the temperature range of RT...300°C; ● Analysis of the mechanical behaviour by using the universal machine for mechanical testing of materials in static regime, model LFM 30kN (Walter & Bai AG Switzerland). Mechanical characteristics to be determined: maximum mechanical strength, Rm (MPa); Yield strength, Rp0.2 (MPa); elongation, A (%); the modulus of elasticity, E (GPa); 	

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
		<p>1. Physical: adsorption / desorption isotherms, BET specific area surfaces, Langmuir, BJH pore size distribution, total pore volume, specific surface distribution of mesopores and micropores.</p> <p>2. Chemicals: absorption isotherms, monolayer coverage (V_m), an active metal surface, the crystallite size, heat of adsorption, depending on the temperature reduction (TPR) with temperature desorption (TPD), the oxidation temperature (TPO).</p>		<p>● Vacuum deposition of thin films in order to achieve a thin coating technologies: decorative, biocompatible optical, anticorrosion, lubricating, anti-wear, etc. by standard magnetron sputtering or reactive-type, by using the technological equipment for processing in vacuum a thin layer of titanium nitride (BESTEC GmbH, Germany);</p> <p>● Determination of the gas adsorption / desorption isotherms by using the AUTOSORB 1C apparatus. Determinations types:</p> <p>1. Physical: adsorption / desorption isotherms, BET specific area surfaces, Langmuir, BJH pore size distribution, total pore volume, specific surface distribution of mesopores and micropores.</p> <p>2. Chemicals: absorption isotherms, monolayer coverage (V_m), an active metal surface, the crystallite size, heat of adsorption, depending on the temperature reduction (TPR) with temperature desorption (TPD), the oxidation temperature (TPO).</p>	

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
4	Laboratory of Magnetic Materials (within the MAV Dept.)	<ul style="list-style-type: none"> • Determination of the magnetic parameters of technical interest (M_{sat}, H_c, T_c, $M = M(H)$) of the magnetic materials by using the magnetometer with vibrant sample, according to SR EN 60404-7; • Determination of the magnetic parameters of technical interest (B_s, H_{sat}, H_c, μ_i, μ_{max}), in DC, of the soft magnetic materials from the magnetization curve and hysteresis cycle, according to SR EN 60404-4:2003; • Determination of the magnetic parameters of technical interest (B_r, B_H, H_c, J_H, H_o, $(BH)_{max}$, μ_{rev}) of the hard magnetic materials from the hysteresis cycle, according to SR EN 60404-5:2008; • Determination of the magnetic parameters of technical interest (B_s, H_c, μ_i, μ_{max}), in AC of the metallic materials and powders, soft magnetically, in the frequency domain 1 Hz – 1 kHz, according to SR EN 60404-6:2004; • Determination of the power losses of toles and strips by using the Epstein frame, according to SR EN 60404-2: 2014; • Determination of power losses of toles and strip by means of testing on a single sheet, according to SR EN 10280 + A1:2007; 	Non-accredited	<ul style="list-style-type: none"> • Determination of the magnetic parameters of technical interest (M_{sat}, H_c, T_c, $M = M(H)$) of the magnetic materials by using the magnetometer with vibrant sample, according to SR EN 60404-7; • Determination of the magnetic parameters of technical interest (B_s, H_{sat}, H_c, μ_i, μ_{max}), in DC, of the soft magnetic materials from the magnetization curve and hysteresis cycle, according to SR EN 60404-4:2003; • Determination of the magnetic parameters of technical interest (B_r, B_H, H_c, J_H, H_o, $(BH)_{max}$, μ_{rev}) of the hard magnetic materials from the hysteresis cycle, according to SR EN 60404-5:2008; • Determination of the magnetic parameters of technical interest (B_s, H_c, μ_i, μ_{max}), in AC of the metallic materials and powders, soft magnetically, in the frequency domain 1 Hz – 1 kHz, according to SR EN 60404-6:2004; • Determination of the power losses of toles and strips by using the Epstein frame, according to SR EN 60404-2: 2014; 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
		<ul style="list-style-type: none"> • Characterization of magnetic materials in the temperature range from -263°C to 800°C by using the vibrating sample magnetometer, according to SR EN 60404-7; • Materials testing in the climatic chamber under cyclic temperature conditions, in the temperature range of -40°C to 180°C, and controlled humidity: 10 – 98 RH, in the temp. range of 20 – 180°C, according to SR EN 60068-3-1:2012; SR EN 60068-2-30:2006; • Determination of the massive materials density, according to SR EN ISO 3369:2010. 		<ul style="list-style-type: none"> • Determination of power losses of toles and strip by means of testing on a single sheet, according to SR EN 10280 + A1:2007; • Characterization of magnetic materials in the temperature range from -263°C to 800°C by using the vibrating sample magnetometer, according to SR EN 60404-7; • Materials testing in the climatic chamber under cyclic temperature conditions, in the temperature range of -40°C to 180°C, and controlled humidity: 10 – 98 RH, in the temp. range of 20 – 180°C, according to SR EN 60068-3-1:2012; SR EN 60068-2-30:2006; • Determination of the massive materials density, according to SR EN ISO 3369:2010. 	
5	Laboratory of Carbonic Materials (within the MAV Dept.)	<ul style="list-style-type: none"> • Determination of the physical properties of materials for the electrical machines brushes (determination of the bulk density, hardness, resistivity, flexural specific for brush materials, determination of the voltage drop into contact between two electric brushes, determination of the friction coefficient, determination of the ash content for blanks BGR, EGR and CDR etc.), according to SR CEI 60413:1997. 	Non-accredited	<ul style="list-style-type: none"> • Determination of the physical properties of materials for the electrical machines brushes (determination of the bulk density, hardness, resistivity, flexural specific for brush materials, determination of the voltage drop into contact between two electric brushes, determination of the friction coefficient, determination of the ash content for blanks BGR, EGR and CDR etc.), according to SR CEI 60413:1997. 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
6	Laboratory of Ceramic Materials (within the MAV Dept.)	<ul style="list-style-type: none"> ● Characterization of the piezoelectric materials and biocompatible materials. 	Non-accredited	<ul style="list-style-type: none"> ● Characterization of the piezoelectric materials and biocompatible materials. 	Non-accredited
7	Center of Excellence in Radiochemistry (within the MAV Dept.)	<ul style="list-style-type: none"> ● Processing and modifying of materials with radiation; classification of materials for use in nuclear environments. radiochemical sterilization; ● Characterization of the radiation effect (UV, gamma) on organic and inorganic materials; ● Characterization of the insulating materials by dielectric spectroscopy. 	-	<ul style="list-style-type: none"> ● Processing and modifying of materials with radiation; classification of materials for use in nuclear environments, radiochemical sterilization; ● Personal training activities: master and doctoral programs for students from the specific educational institutions; ● Characterization of the radiation effect (UV, gamma) on organic and inorganic materials; ● Dosimetry of the irradiation with ionizing radiation; ● Accelerated aging tests with materials exposure to light and climatic factors; ● Structural characterization of the organic and inorganic materials by vibrational spectroscopy (Raman and FTIR Spectroscopy); ● Characterization of the insulating materials by dielectric spectroscopy. 	Non-accredited
8	Laboratory of Characterization and Testing of Electrical Materials and Products (within the MAV Dept.)	<ul style="list-style-type: none"> ● Morphostructural, physical, mechanical and chemical characterization of the materials. 	Non-accredited	<ul style="list-style-type: none"> ● Morphostructural, physical, mechanical and chemical characterization of the materials. 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
9	Laboratory of Electrical Machines Dynamics (within the ECCE Dept.)	<ul style="list-style-type: none"> ● Standard tests for electrical machines: measurement of magnetic circuit; winding test; determination of losses, load test, starting torque, maximal torque, rated parameters. 	Non-accredited	<ul style="list-style-type: none"> ● Standard tests for electrical machines: measurement of magnetic circuit; winding test; determination of losses, load test, starting torque, maximal torque, rated parameters. 	Non-accredited
10	Laboratory of Applied Superconductivity in Electrical Engineering (within the ECCE Dept.)	<ul style="list-style-type: none"> ● Thermal, electrical and magnetic properties measurements for superconducting materials and other types of materials used in electrical engineering, in low temperature range; ● Critical parameters measurement (critical temperature and critical current) for High Temperature Superconductors (HTS); ● Experiments and testing of superconducting coils and electromagnets for particle accelerators; ● Experiments and testing of superconducting machines (superconducting motors and generators); ● Obtaining, control and measurement of low temperatures (4.2-300K). 	Non-accredited	<ul style="list-style-type: none"> ● Determination of the thermal electrical and magnetic properties at low temperatures (4.2 to 300 K) for the electrotechnical materials, including superconducting; ● Critical parameters measurement (critical temperature and critical current) for superconducting materials (HTS); ● Realization of LTS and HTS superconducting coils, both in planar technology and 3D (solenoids, single and double rollers etc.), for particle accelerators; ● Experiments and testing of superconducting coils and electromagnets for particle accelerators; ● Obtaining, control and measurement of low temperatures (4.2-300K). 	Non-accredited
11	Laboratory of Biochemistry and Bioresources (within the ECCE Dept.)	<ul style="list-style-type: none"> ● Determination of the microbial load of organic samples, evaluation of fermentative bacteria in the organic materials and inoculums sludge. 	Non-accredited	<ul style="list-style-type: none"> ● Determination of the microbial load of organic samples, evaluation of fermentative bacteria in the organic materials and inoculums sludge 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
12	Laboratory of Hydrogen and Fuel Cells (within the ECCE Dept.)	<ul style="list-style-type: none"> ● Determination of the functional characteristics (current, voltage, internal resistance, storage capacity) for LaNi5 and REDOX battery; ● Determination of the electrical properties for materials and their interfaces with electrodes by electrochemical impedance spectroscopy (EIS): absorption constant; the interface capacitance; diffusion coefficients; electrical conductivity; dielectric constant; load mobility. 	Non-accredited	<ul style="list-style-type: none"> ● Determination of the functional characteristics (current, voltage, internal resistance, storage capacity) for the electrochemical energy sources (rechargeable batteries, supercapacitors, REDOX batteries etc.); ● Determination of the electrical properties of electrolytes and electrode materials by electrochemical impedance spectroscopy (EIS), cyclic voltammetry, chronoamperometry, chronopotentiometry, potentiodynamic polarization; ● Determination of the wettability of surfaces of materials for electrodes by contact angle technique. 	Non-accredited
13	Laboratory of Renewable Energy Sources (within the ECCE Dept.)	<ul style="list-style-type: none"> ● Testing services specific to the field of fluid mechanics (testing the aerodynamic phenomena, testing the scale models of the hydraulic and wind turbines, study of the biphasic mixtures). 	Non-accredited	<ul style="list-style-type: none"> ● Testing services specific to the field of fluid mechanics (testing the aerodynamic phenomena, design, prototyping and testing the scale models of the hydraulic and wind turbines, study of the biphasic mixtures) 	Non-accredited
14	Laboratory of Testing the Photovoltaic Panels (within the ECCE Dept.)	-	-	<ul style="list-style-type: none"> ● Services in testing the cells, modules and inverters for photovoltaic applications; ● Testing the cells and photovoltaic panels in situ and laboratory; ● Testing the inverters and photovoltaic panels in situ and laboratory 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
15	Laboratory of Measurements the Vibration and Acoustic Levels. Dynamic Balancing. (within the ECCE Dept.)	<ul style="list-style-type: none"> ● Services on measurements of the dynamic imbalances in 1 or 2 planes for the pieces in rotation; ● Experimental services for the diagnosis of vibrations and dynamic behaviour of industrial machinery and equipments; predictive diagnosis and maintenance of machinery and equipments; analysis of the vibration monitoring (accelerations, speeds, displacements); ● Determination of the ambient and industrial noise; ● Achieving the noise maps (2D) for various equipments, both in the laboratory (anechoic chamber, normal room) and in industrial environment, courtyards or industrial sites. 	Non-accredited	<ul style="list-style-type: none"> ● Services on measurements of the dynamic imbalances in 1 or 2 planes for the pieces in rotation; ● Experimental services for the diagnosis of vibrations and dynamic behaviour of industrial machinery and equipments; predictive diagnosis and maintenance of machinery and equipments; analysis of the vibration monitoring (accelerations, speeds, displacements); ● Determination of the ambient and industrial noise; ● Achieving the noise maps (2D) for various equipments, both in the laboratory (anechoic chamber, normal room) and in industrial environment, courtyards or industrial sites. 	Non-accredited
16	Laboratory of Electromagnetic Compatibility	<ul style="list-style-type: none"> ● Determining the effectiveness of the anechoic chambers attenuation 	Non-accredited	<ul style="list-style-type: none"> ● Determining the effectiveness of the anechoic chambers attenuation; ● EMC measurements: measuring the effectiveness of electromagnetic shields; measuring the level of the electromagnetic field; ● Spectral analysis: spectral analysis in the THz range; image spectral analysis in IR; ● Impedance spectrometry. 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
17	Laboratory of Evaluation of Thermal Behaviour of Products and Materials by Thermal Analysis	Thermogravimetric analysis (TG) and determining the derivative TG (DTG); DTA analysis coupled with TG; DSC analysis coupled with TG; DSC analysis; Dilatometer analysis (DIL).	Accredited by the National Accreditation Organization RENAR (Certificate LI 685 / 25.07.2013)	Thermogravimetric analysis (TG) and determining the derivative TG (DTG); DTA analysis coupled with TG; DSC analysis coupled with TG; DSC analysis; Dilatometer analysis (DIL).	Accredited by the National Accreditation Organization RENAR (Certificate LI 685 / 25.07.2013)
18	Laboratory of Testings for Micro- and Nano-electro-mechanics	<ul style="list-style-type: none"> ● Determining the surface roughness and the difference in level between points / differences between layer thickness and deposition, the relief and 3D profilogramma; ● Determination of the micro- and nanoelectromechanical actuations. 	Non-accredited	<ul style="list-style-type: none"> ● Measuring the displacement with nanometer resolution of the deformations in electric field for different materials. Emphasizing the micro- and nanoelectro-mechanical actuations; ● Determining the parameters that define the surface profile: roughness and the difference in level between points / differences between layer thickness and deposition, the relief and 3D profilogramma. 	Non-accredited
19	ITA ECOMAT ICPE-CA Technology and Business Incubator ITA ECOMAT ICPE-CA – Work point Avrig	<ul style="list-style-type: none"> ● Technology and business incubator in the fields of: advanced materials, electrical engineering, technology and environmental protection, information technology, wood processing; ● ITA ECOMAT ICPE-CA has created a new work point at Avrig, Sibiu county; ● Incubation services: <ul style="list-style-type: none"> - supporting the creation of the start-ups and spin-offs; - provides work space for the start-ups and spin-offs activities; 	Incubative capacity: 10 SMEs	<ul style="list-style-type: none"> ● Technology and business incubator in the fields of: advanced materials, electrical engineering, technology and environmental protection, information technology, wood processing; ● ITA ECOMAT ICPE-CA has created a new work point at Avrig, Sibiu county; ● Incubation services: <ul style="list-style-type: none"> - supporting the creation of the start-ups and spin-offs; 	Incubative capacity: 5 SMEs

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
		<ul style="list-style-type: none"> - conducting the business plans and feasibility studies; - promoting the national and European funding programs; - assistance and consultancy for making experimental models; - specialized services provided as part of the Enterprise Europe Network; - facilitating the international partnerships in business, technology transfer and research; - consultancy for accessing European funding programs; - consultancy on European legislation; - organizing the local events in European specific topics for SMEs; - contact point for the Enterprise Europe Network. 		<ul style="list-style-type: none"> - provides work space for the start-ups and spin-offs activities; - conducting the business plans and feasibility studies; - promoting the national and European funding programs; - assistance and consultancy for making experimental models; - specialized services provided as part of the Enterprise Europe Network; - facilitating the international partnerships in business, technology transfer and research; - consultancy for accessing European funding programs; - consultancy on European legislation; - organizing the local events in European specific topics for SMEs; - contact point for the Enterprise Europe Network. 	
20	CTT ICPE-CA	<ul style="list-style-type: none"> ● Technology transfer; ● Consultancy on intellectual property. 	Accredited by the National Ministry of Education, Research, Youth and Sports – National Authority for Scientific Research (Certificate no. 48 / 01.03.2011) (for a period of 5 years)	<ul style="list-style-type: none"> ● Technology transfer; ● Consultancy on intellectual property. 	Accredited by the National Ministry of Education, Research, Youth and Sports – National Authority for Scientific Research (Certificate no. 48 / 01.03.2011) (for a period of 5 years)

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
21	Laboratory of Non-destructive Testings IPCUP Ploiești	Offers non-destructive testing services for: <ul style="list-style-type: none"> ● Operating and rotating equipment: hoisting devices, crown-blocks, crane hooks, swivel casing; ● Resistance structures: masts and drilling substructures, intervention masts and pumping derricks; ● Driving systems: drive groups, intermediate transmission, power units; ● Pumping and auxiliary equipment: mud pumps, centrifugal pumps, mud agitators and removal plants for drilling fluid; ● Mechanization devices: air winches, balancing devices pliers, automatic feed devices; ● Electrical power and lighting installations, electromagnetic brakes; ● Air preparation groups; ● Tools: elevator links, rotary slips, pliers, shutter; ● Blow out preventers: horizontal preventers mechanically/hydraulic driven, vertical preventers with hydraulic driven, blow out manifolds, hydraulic actuation; ● Pumping units; ● Cementing, fracturing trucks, bulk cement for special technological operations of oil and gas wells. 	Non-accredited	Offers non-destructive testing services for: <ul style="list-style-type: none"> ● Operating and rotating equipment: hoisting devices, crown-blocks, crane hooks, swivel casing; ● Resistance structures: masts and drilling substructures, intervention masts and pumping derricks; ● Driving systems: drive groups, intermediate transmission, power units; ● Pumping and auxiliary equipment: mud pumps, centrifugal pumps, mud agitators and removal plants for drilling fluid; ● Mechanization devices: air winches, balancing devices pliers, automatic feed devices; ● Electrical power and lighting installations, electromagnetic brakes; ● Air preparation groups; ● Tools: elevator links, rotary slips, pliers, shutter; ● Blow out preventers: horizontal preventers mechanically/hydraulic driven, vertical preventers with hydraulic driven, blow out manifolds, hydraulic actuation; ● Pumping units; ● Cementing, fracturing trucks, bulk cement for special technological operations of oil and gas wells. 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
22	Department of Technology Transfer – Small-scale Production IPCUP Ploiești	<ul style="list-style-type: none"> ● Execution of the equipments: <ul style="list-style-type: none"> - Superlight water drilling rig FA 75-U; - Ultralight water drilling rig FA 100; - Manometers for special fluids FS type; - Compression hydraulic dynamometer; - Pressure – pressure converter; “D2” template device for side valve actuation – Type “L”; - Side motion valves – Type “L” for piping 2 3/8, 2 7/8 in.: sealing nipples for extension; seat sealing nipples; - Jar 11/4 and 11/2 in for tools inserted by cable; joint 11/4 in and 11/2 in for cable handled tools; overshot; RZG stopper; wire knives; - Spare parts for the beneficiaries SC AMPLO, UZTEL Ploiesti. 	Non-accredited	<ul style="list-style-type: none"> ● Execution of the equipments: <ul style="list-style-type: none"> - Superlight water drilling rig FA 75-U; - Ultralight water drilling rig FA 100; - Manometers for special fluids FS type; - Compression hydraulic dynamometer; - Pressure – pressure converter; “D2” template device for side valve actuation – Type “L”; - Side motion valves – Type “L” for piping 2 3/8, 2 7/8 in.: sealing nipples for extension; seat sealing nipples; - Jar 11/4 and 11/2 in for tools inserted by cable; joint 11/4 in and 11/2 in for cable handled tools; overshot; RZG stopper; wire knives; - Spare parts for the beneficiaries SC AMPLO, UZTEL Ploiesti. 	Non-accredited
23	Laboratory of Testings in Transitional Regime Intense Electrical Currents for the R&D of Low-medium and High Voltage Protection Systems	-	-	<ul style="list-style-type: none"> ● High-voltage testing of equipments and apparatus; ● Testing in pulsed electric field (max. 100kA) with wave shapes of 8/20μs, 1/10μs, 30/60μs, 4/10μs and long wave of 2/2,4ms for testing varistors and metal oxide-based (ZnO) dischargers. 	Non-accredited
24	Laboratory of Electromagnets and Electromagnetic Measurements (within the ECCE Dept.)	-	-	<ul style="list-style-type: none"> ● Services in the high precision dimensional control (equipment for measuring in XYZ axis); ● Services in determining the magnetic characteristics specific for electromagnets to be used in particle accelerators; ● Equipment for determining the electrical test for electromagnet coils to be used in particle accelerators. 	Non-accredited

Ref. No.	Laboratory name	Field of accreditation	Notes	Field of accreditation	Notes
		2014		2015	
25	Laboratory of Waste Energy Recovery - HARVESTING	-	-	<ul style="list-style-type: none"> ● Identification of some low power sources and applications for these sources. 	Non-accredited
26	Environment Mobile Laboratory (within the ECCE Dept.)	<ul style="list-style-type: none"> ● Determination of the organic pollutants in air, water, soil (volatile and semi-volatile organic compounds, poly-aromatic hydrocarbons); ● Determination of the anions and cations from wastewater by spectrophotometric analysis; ● Determination of the concentration of greenhouse gases (CH₄, CO₂, SF₆); ● Analysis of fuel gas (CO, CO₂, NO_x, determining the ambient temperature, relative pressure and gas temperature); ● Analysis of dielectric oils from electrical and electronic equipment; ● Determination of the persistent organic pollutants (pesticides, herbicides, polychlorinated biphenyls) in water, soil and agricultural products; ● Qualitative and quantitative chemical analysis for organic compounds of interest for technological processes to obtain biofuels (biogas, bioethanol, biodiesel); ● Analysis of the volatile organic compounds in liquid samples by spectrophotometric analysis; ● Determination of the ambient and industrial noise; ● Acoustic measurements for assessing of the workplace noise pollution; ● Determination of the meteorological parameters (wind direction and speed, temperature, humidity, atmospheric pressure). 	Non-accredited	<ul style="list-style-type: none"> ● Sampling of the air, water, soil for the qualitative and quantitative determination of the organic compounds by chromatographic analysis; ● Determination of the anions and cations from wastewater by spectrophotometric analysis; ● Air sampling for determining greenhouse gases emissions by chromatographic analysis; ● Analysis of fuel gas (CO, CO₂, NO_x, determining the ambient temperature, relative pressure and gas temperature); ● Determination of the ambient and industrial noise; ● Acoustic measurements for assessing of the workplace noise pollution; ● Determination of the meteorological parameters (wind direction and speed, temperature, humidity, atmospheric pressure). 	Non-accredited

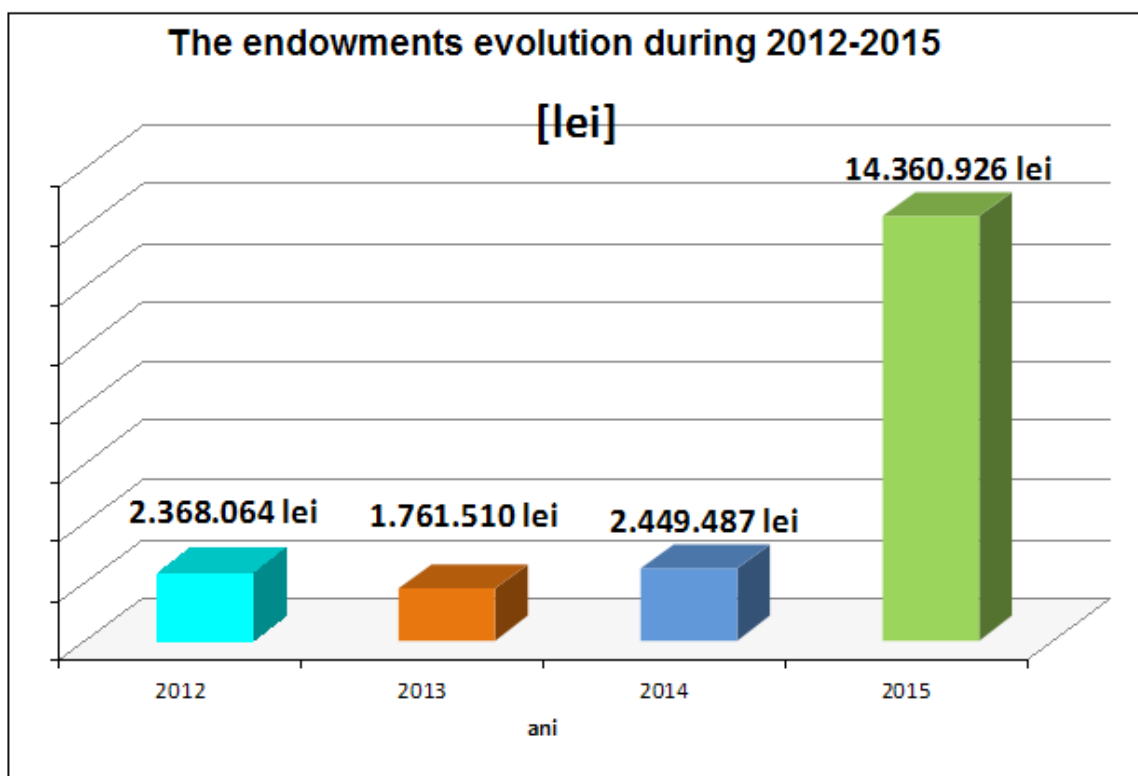
6.3. Facilities and special objectives of national interest:

We do not have facilities and special objectives of national interest.

INCDIE ICPE-CA Endowments



With a special opening towards what research-development-innovation means, particularly towards what the applied research in electrical engineering means, along the years ICPE-CA has approached impact research projects for the development of the scientific, economic, and social environments. This approach has been achievable thanks to the institute's strengths: the personnel's quality and structure as well as its well defined skills, its connection to the economic market but also the institute diversified and new endowment.


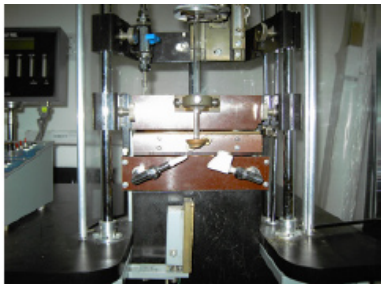


For this purpose, ICPE-CA has aimed to create a cutting-edge infrastructure to support the excellence research that can be considered of national interest.








LIST OF THE PERFORMANT EQUIPMENTS AND THE SPECIFIC RESEARCH FACILITIES




TANGIBLE EQUIPMENT





Ref. No.	Equipment name	Performances and features
	Equipments for materials processing	
1	Gas chromatograph VARIAN 450-GC 	<p>Field of application: Chemical analysis of the environmental pollutants (greenhouse gases, chlorofluorocarbons, volatile organic compounds, poly-aromatic hydrocarbons, transformer oils, pesticides etc.). Monitoring the biochemical processes in biofuels production (determination of the methane, volatile fat acids, organic alcohols, phenols).</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - gas flow electronically controlled; - enables installation of multiple capillary or packed columns; - enables the simultaneous attach of 3 injectors, 3 detectors and 1 mass spectrometer; - ensures a control system immunity to environmental parameters; - fitted with injection system and auto sampler CombiPal with headspace for liquid samples; - programmable injection volume in the range of 0.1 - 250 μl (in step of 0.1 μl for liquid sample); injection volume in the range of 0.1 - 5 ml (in step of 0.1 ml for using headspace technique); - the syringe temperature adjustable in the range of 30 - 150 °C for using headspace technique; - accommodates 96 sample vials of 1, 2 or 2.5 ml and 34 headspace vials of 10 or 20 ml; - enables the setting of needle depth access into the sample, solvent or residues vials; pre-programmed the needle depth access into the injectors; - fitted with oxygen and humidity filters; - included software for chromatograph control, data acquisition, data processing and transfer which allow the full control of the whole system (gas chromatograph, mass spectrometer, autosampler); included computer and data print system; PC and keyboard controlled equipment; qualitative and quantitative analysis.
2	Equipment for magnetron sputtering deposition 	<p>Components: 3 magnetrons (2 for metals, each one having the own voltage source, 1 for ceramics); vacuum pump.</p> <p>Functional parameters: Maximum voltage: 900 V; Maximum pressure: 3 atm; Preliminary vacuum: 10^{-3} bar; Advanced vacuum: 10^{-4} bar; Argon environment; Thickness of the film: 0.1 - 1 μm.</p>



Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
3	Equipment for UV exposure to photolithography 	Functional parameters: Exposure area: 4x4 inch; Light source: UV lamp of 60W with Hg vapour; Wave length: 270 nm; Work voltage: 220V; Maximum current: 20A.
4	Microwires dragging plant 	- microwires with metallic core (Cu, Ge, Ag, Au, Fe-Si-B alloys), glass insulated, with $\Phi 30 \mu\text{m}$ (core 5-10 μm , insulation 10 μm), L = 1-2 km.
5	Plastic materials laboratory extruder type KETSE 20/40 	Field of application: Granules of plastics composite can be prepared, having reinforcing fillers of various types: polymeric, synthetic fibers, glass fibers, natural fibers, particulates (e.g. wood flour), ceramics, pigments etc. Functional parameters: - it has two screws in counter-rotating motion; - ratio L/D: 40; - maximum temperature: 450°C; - 8 areas of temperature control.
6	Melt injection machine type BOY 35A 	Field of application: - processing of thermoplastic materials, as well as PVC, elastomers, thermosetting resins, silicone fluids and obtaining from them of different shapes depending on the mould used for injection; - dumbbell type specimens are obtained for testing the tensile strength of plastics. Functional parameters: - screw diameter: 28 mm; - ratio L/D: 16.6; - closing force: 350 kN.



Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
7	Processing machine by wire electrodischarge Smart DEM producer KNUTH - Germany 	Field of application: Processing by wire electrodischarge Functional parameters: <ul style="list-style-type: none"> - table movement XY: 250x350 mm; - maximum height of the piece: 200 mm; - 4-axis control: X,Y,U,V; - maximum angle of the axis inclination U,V: $\pm 5^\circ/100$ mm; - positioning precision: 0.02mm; - roughness: max. $1.2\mu\text{m}$.
8	Processing machine by massive electrode electrodischarge KNUTH ZNC-210 NC SMART DEM producer KNUTH - Germany 	Field of application: Processing by massive electrode electrodischarge Functional parameters: <ul style="list-style-type: none"> - table movement XY: 250x200 mm; - maximum electrode size: $\Phi 20\text{mm}$.
9	Precision processing center in 5 axis KERN Micro producer KERN - Germany 	Field of application: Precision micromechanical processing Functional parameters: <ul style="list-style-type: none"> - movement XYZ: 250x220x200 mm; - number of tools: 18; - main shaft speed: 50000 rpm; - thermal stability: $\pm 1^\circ\text{C}$; - advancement: 0.01-6000 mm/min; - positioning precision: ± 0.001 mm; - position repeatability: ± 0.001 mm; - B axis: $-10^\circ \dots +100^\circ$; - C axis: 360°; - angular precision: $10''$; - C/B advancement: 1600/800$^\circ$/min.

Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
10	Processing center in 3 axis model TMV-400 producer TOPPER - Taiwan 	Field of application: Precision mechanical processing Functional parameters: <ul style="list-style-type: none"> - movement XYZ: 400x250x250 mm; - main shaft speed: 12000 rpm; - number of tools: 10; - positioning precision: 0.01mm; - position repeatability: ± 0.003mm.
11	Numerical controlled processing center for 5-axis turning and milling 	Field of application: The numerical controlled processing center for 5-axis turning and milling is designed for processing of freestanding parts using turning, milling, drilling, threading etc. specific to the mechanical processing machine tools which interface programming commands is performed by a computer using a conventional numeric code. The machine is provided with a spindle that will execute a rotation, and a milling head and spindle. All the movements, both of the workpiece that will have a rotational movement, and of the milling head, may be carried out simultaneously. Functional parameters: <ul style="list-style-type: none"> - diameter of the parts: max. 600 mm; - length of the parts: max. 750mm; - shaft speed: max 5000 rpm; - number of tools: max. 20; - maximum speed of driven tools: 12000 rot/min.; - number of simultaneous axes machining: 5; - positioning precision on X axis: $\pm 1.5 \mu\text{m}$; - positioning precision on Y axis: $\pm 1.8 \mu\text{m}$; - positioning precision on Z axis: $\pm 1.0 \mu\text{m}$; - positioning precision on C axis: $\pm 0.001^\circ$; - positioning precision on B axis: $\pm 0.001^\circ$; - shaft type: numerically controlled; - 5-axis simultaneously numerically controlled; - 3D simulation mode: yes.




Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
12	Microprocessing station with excimer laser Coherent COMPex Pro 205 F model producer Coherent - USA 	Field of application: Microprocessing with excimer laser Functional parameters: <ul style="list-style-type: none"> - wave length: 248 nm; - maximum power: 25 W; - energy/pulse: 600 mJ; - pulse duration: 30 ns; - ISEL mechanical system in 5 axis; - positioning precision: $\pm 0.005\text{mm}$; - angular movements: A: $-90^\circ \dots +90^\circ$; B: 360°; - angular positioning precision: 1.5 min.
13	Toroidal coil winding machine SMC-1 model producer JOVIL - USA 	Field of application: Automatic execution of the toroidal coils. Functional parameters: <ul style="list-style-type: none"> - conductor size: $0.05 \div 1.2\text{mm}$; - torus internal diameter: minimum 8mm; - torus external diameter: maximum 63mm; - torus height maximum: 50.8mm.
14	Cylindrical coil winding machine TAK-01 model producer NITTOKU - Japan 	Field of application: Execution of the cylindrical coil winding Functional parameters: <ul style="list-style-type: none"> - conductor diameter: $0.01 \div 1.2\text{mm}$; - longitudinal work field: 100mm; - maximum outer diameter of the coil: 140mm; - adjustable winding step in the range of: $0 \div 9.999\text{mm}$; - coil cross section: circle, square, rectangle, ellipse etc.





Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
15	System for laser lithography DWL 66fs model producer Heidelberg – Germany 	Field of application: Achieving masks for micromechanical parts made by the LIGA technology Functional parameters: <ul style="list-style-type: none"> - wave length: 375 nm; - power of the laser diode: 18 mW; - minimum width of writing: 1µm; - thermostated chamber: ± 1C; - CAD-CAM transfer; - positioning with interferometer (200 nm resolution).
16	Equipment to remove the SU8 photoresist STP 2020 model producer R3T - Germany 	Field of application: Allows removing the SU8 photoresist at constant temperature using free radicals generated in the plasma by process gases O ₂ , CF ₄ and N ₂ . It is used to remove the exposed SU8 after the photolithography and the electrochemical deposition of a metal by the LIGA technology. The STP 2020 system contains: <ul style="list-style-type: none"> •vacuum chamber (with external vacuum pump); •temperature control system; •data tracking system; •molecular vacuum pump A300. Functional parameters: <ul style="list-style-type: none"> - it attacks the SU8 photoresist, at rates up to 200 µm/h; - it doesn't attack metals such as Ni, Ni/Fe, Au, Cu etc.; - it attacks at low rates Si and Si-based compounds (SiO₂, Si₃N₄); - power up to 2000W, 2.54GHz.
17	Screen printing equipment Gilco 	Field of application: Achieving of the printed circuits, masks, thin films (1 ... 10 m) multilayer materials. Functional parameters: <ul style="list-style-type: none"> • size A0; • film thickness: 2-10 µm; • work pressure: 5-6 bar; • adjustment x/y: 10/10 mm; • installed power: 3kW; • air consumption: 0.7 l/cycle.
18	Spin-coating equipment 	Field of application: Masks spread for microlithography, coating polymer in thin layers 0.1 ... 1 µm. Functional parameters: <ul style="list-style-type: none"> • rotation speed: adjustable 0-10000 rot/min; • size: 4x4 inch; • 2 spin-coating; • vacuum fixing system; • pipetting system; • automatic system for plates supply.




Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
19	Technological equipment for vacuum processing of titanium nitride thin layers ETPV-SSNT 	<p>Field of application: Deposition of vacuum thin layers in order to realization of the decorative thin coating technologies: biocompatible, optical, anticorrosive, lubricating, anti-wear by standard magnetron sputtering or reactive type.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - technological chamber made of magnetic stainless steel ($45 \pm 50\text{mm}$ and $H = 500 \pm 50\text{mm}$); - rotation speed of maximum 30rot/min for portsubstrates; - limit pressure under $5 \cdot 10^{-7}\text{mbar}$ and stable dynamically vacuum in range $5 \cdot 10^{-1} - 5 \cdot 10^{-4}\text{mbar}$, in technological spaces; - two circular magnetrons with the spray target of 5cm; - two work gases: Ar – bombing gas and N_2 – reactive gas; - DC power supply of min. 500W for supply of the spray cathode magnetron type; - RF power supply of min. 300W, with adaptation box of the plasma impedance for to supply the spray cathode magnetron type; - DC pulsated power supply of min. 500W for polarization of the substrate in order to ensure the coating of reactive magnetron type; - heat sources of substrates at temperatures of RT – 350°C.
20	Equipment having plasma sources for the material processing under ultra-high vacuum by the magnetron sputtering and e-beam, ATC 2200 AJA INTERNATIONAL 	<p>Field of application: Achieving of the thin layers and nanostructures of conductive materials, resistive materials, oxides, semiconductors, insulators.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - basal pressure: min. $5 \cdot 10^{-8}\text{ torr}$; - work pressure in evaporation, $5 \times 10^{-8}\text{ torr}$; - gage vacuum system for the whole field of vacuum: 760 - $5 \times 10^{-9}\text{ torr}$; - 4 sources for sputtering in DC, pulsed DC and radio frequency; - electron beam evaporator in ultra high vacuum (UHV) of 5 crucibles.




Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
21	Automated system for the thin layers deposition by "SPRAY" technique Prism 300/350 – USI ICCO	Field of application: The equipment allows thin film deposition by "spray" technique of various coatings of solid mixtures based on solvents or water-based, such as the photoresist, acrylics, adhesives, masks, and catalysts or antimicrobial coatings on almost any substrate or surface. The most common applications include: fuel cells, solar cells, circuit boards, semiconductors etc. Functional parameters: <ul style="list-style-type: none"> - platform movement on 3-axis (X, Y, Z); - work surface: 450x400 mm; - positioning resolution: 5 – 25 μm; - spray head speed: 1 – 500 mm/s.
22	Coordinate measuring machine XOrbit 87-1500 next generation made by WENZEL – Germany 	Field of application: This machine is designed to measure the geometric elements of mechanical parts, dimensions and deviations of form and position, including automatically measuring of the curves and surfaces. Functional parameters: <ul style="list-style-type: none"> - measurement ranges, X, Y, Z: min. 800x1500x700mm; - number of measurement axes: 3 plus min. 2 for the measuring head; - the maximum admitted error: MPE_e, max. 2.5 μm + L/300, according to DIN EN ISO 10260-2.
23	Carbon nanotubes and nanowires growth equipment 	Field of application: The equipment allows the growth of carbon nanotubes (single wall or multi wall, aligned or random), nanowires, graphenes by chemical vapour deposition method (CVD) at operating temperatures between 450°C and 900°C. Functional parameters: <ul style="list-style-type: none"> - processing system by CVD method; - substrate dimension: 2"; - 4 gas supply lines: reactive gases (CH_4 and C_2H_4), reducing gas (H_2) and inert gas (N_2); - automatic pressure control; - heating temperature: max. 1100°C; - automatic rapid loading/unloading of the substrate in the heating zone; - low pressure vapour delivery of liquid precursor; - exhausted gas burn off system to pyrolysis the effluent gases; - storage and monitoring system for flammable gases with 3 cylinders (H_2, C_2H_4, CH_4); - computerized controlling system with monitor and software.



Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
24	Laboratory graphitization equipment 	<p>Field of application: The equipment is designed to obtain graphitized carbon fibers from PAN fiber precursor through a batch process that provides three distinct stages of heat treatment: oxidation, low temperature carbonization and carbonization-graphitization.</p> <p>Functional parameters: The equipment includes:</p> <ul style="list-style-type: none"> - electrical oven for oxidation 200-250°C; - electrical oven for low temperature carbonization 400-1000°C; - electrical oven for carbonization-graphitization 800-2500°C; - winding and tension system of PAN fiber for each oven; - centralized command and control system of process parameters.
25	Hot isostatic press AIP-30H-PED 	<p>Field of application: Isostatic pressing of bulk metallic, ceramic, polymeric materials.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - maximum pressure: 200 MPa; - temperature: max. 1700°C; - work size in hot area: min. 50mmx100mm; - microwave heating uniformity: +/- 15°C; - heating rate: < 25°C/min. - cooling rate: < 40°C/min; - the operation programming and control is assisted by PC and software; - continuous temperature programming and monitoring (measurement, control, display); - continuous pressure programming and monitoring (measurement, control, display); - pressure and temperature test certificate, valid in the EU; - possibility of cold isostatic pressing.
26	Rapid cooling casting device on the rotational drum for laboratory use 	<p>Field of application: It utilizes a rapid cooling system to transform melted base materials into long metallic, amorphous and nanocrystalline strips.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - strips dimensions: thickness 20 – 50 μm, width 1 - 20 mm; - charge weight 10 - 60g; - vacuum ~ 10⁻⁶ mbar, capacity of working under argon overpressure; - equipped with a pyrometer for charge temperature measurements, temperature range 900 – 3000°C, buffer recipient to ensure internal inert gas overpressure; - rotation drum with variable speed: 5–50 m/s; - manual and automatic control.

Ref. No.	Equipment name	Performances and features
	Equipments for materials processing	
27	Spark plasma sintering (SPS) system HP D 25 	<p>Field of application: Sintering at high temperature and pressure of micro and nano-crystalline metallic powders, multifunctional composites and hybrid materials, functional polymer - metal systems. By SPS can be obtained highly densified materials having maximum five layers, with applications in aeronautics, electrical engineering, electronics and medicine.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - maximum working temperature: 2200°C; - working environment: gas: argon, nitrogen; - vacuum: 5×10^{-2} mbar; - maximum pressing force: 44kN; - generator of DC sintering pulses: max. 8000A, 0....8 V, pulse duration < 250 ms at 50 Hz, pulse's break duration < 25 ms at 50 Hz; - sample size: diameter = 40 mm; height = 10-15 mm.
28	Pilot station for obtaining granular product β-TCP 	<p>Field of application: PG β-TCP is recommended for oral surgery and implantology, filling applications and reconstruction of bone defects: sinus lift, alveolar defects filling after extraction and after corrective osteotomies.</p> <p>Functional parameters (for the PG β-TCP):</p> <ul style="list-style-type: none"> ♦ complex characterization: DRX/TG/ATD/DSC/FT-IR/SEM/TEM; • composition: major phase β-Ca₃(PO₄)₂, (β-TCP); • dimensions: 500-1000μm; • product with nano- and microporosity; • biocompatible (non-cytotoxic); • osteoconductive: allow the development of biological bone and favourable conditions for healing; • bioresorbable: is gradually replaced by newly formed bone/rapid healing; • PG β-TCP is 100% synthetic product, no risk of disease transmission; • does not require re-operation to remove the product; • the product is radio-opaque: allows visualization during and after surgery; • the product does not contain substances derived from animal or human origin; • the product is sterilized and it does not require any special storage/preservation requirements.
29	4-place Magnetic Stirrers 	<p>4-place magnetic stirrer with different place diameters</p>



Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
30	Electrodynamic Vibration Test System K2007E01 	Field of application: <ul style="list-style-type: none"> - general vibration testing: <ul style="list-style-type: none"> ▪ small components; ▪ subassemblies; ▪ bio-medical. - experimental modal analysis; - laboratory research in education; - mechanical impedance measurements. Functional parameters: <ul style="list-style-type: none"> • rated output force: <ul style="list-style-type: none"> ▪ sinus force: $31N_{pk}$; ▪ random force: $22N_{pk}$; ▪ shock force: $67N_{pk}$, pulse 11ms; • motion (max): 13mm peak-peak, continuous; • speed (max): 2.4 m/sec; • acceleration (max), without load: <ul style="list-style-type: none"> ▪ 70g pk ($686 m/s^2$), condos; ▪ 120g pk ($1177 m/s^2$), resonance; ▪ 190g pk ($1863 m/s^2$), shock pulse; • frequency range: DC-9kHz, empty weight; • weight of moving element: 0.045kg (45 grams).
31	Electrodynamic Vibration Test System K2060E060 model   	Field of application: <ul style="list-style-type: none"> - general vibration testing: <ul style="list-style-type: none"> ▪ medium-large components; ▪ subassemblies. - experimental modal analysis; - laboratory research; - mechanical impedance measurements. Functional parameters: <ul style="list-style-type: none"> - sinusoidal force 267 N pk; - maximum frequency 6000 Hz; - motion pk-pk 36 mm (1.4 inch); - it included 2060E modal shaker with 2050E09 power amplifier, 2000X04 cooling package and 2000X03 accessories.


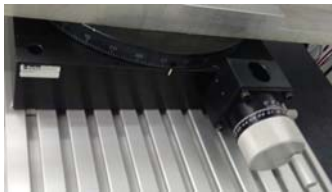



Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
32	Accelerometer PCB 353803 	<p>Field of application: PCB wideband accelerometers code 353803 can be integrated into measurement chain / configuration as the following:</p> <ul style="list-style-type: none"> - monitoring equipment for mechanical vibrations; - vibration limiters provided with drive on / off of the drive components; - dynamic balancing: measuring systems for balancing in 1, 2 measuring planes; - measuring and diagnosis of railroad subassemblies; - measuring and diagnosis of bearings (related with an acoustic device); - nodal analysis network for monitoring structures; - FFT analysis equipment <i>in situ</i> (related with speed monitoring). <p>Functional parameters:</p> <ul style="list-style-type: none"> • sensitivity: 1.02 mV/(m/s²); • measurement range: 0.35....20000 Hz; • frequency of resonance: >38kHz; • amplitude range: +/-490 m/s² pk.
33	Vacuum Drying Oven, type SELECTA, model Vaciotem-T with vacuum pump and connection kit 	<p>Field of application: For the drying of the wet samples in physical-chemical laboratory activities, removing the organic solvent after fat extraction.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - designed for drying at adjustable temperatures from 35°C up to 200°C with a temperature fluctuation of $\pm 1^\circ\text{C}$ and homogeneity of $\pm 2^\circ\text{C}$; - equipped with electronic controller for adjusting the temperature and vacuum level
34	BOD Thermostatic Box, type WTW, model OxiTop 	<p>Field of application: The device serves to regulate the temperature of measuring instruments for the biochemical oxygen demand according to the self-regulation procedure. It is especially suitable for the Biochemical Oxygen Demand Analyzer, model WTW OxiTop – IS 6, OxiTop IS 12, IS 602 and to incubate samples for BOD analyzes.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - the box is heat insulated and is set to $20^\circ\text{C} \pm 0.5$; - a blower provides the permanent air circulation. The refrigeration cycle is hermetically sealed and contains an evaporator, condenser and an automatically ventilated refrigerating unit; - power consumption: 200 W; - power supply 230 V; power frequency 50/60 Hz.





Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
35	Laboratory Refrigerator, type Candy, model ML CFO050 	Field of application: Conditioning and storage of water, wastewater, slurry and biomass samples before the physical-chemical and microbiological analysis. Functional parameters: <ul style="list-style-type: none"> - it uses a refrigerant gas R600a: isobutene; - capacity 46 l; - noise level 41 dB; - power consumption 108 kWh/an.
36	Equipment for exposure to light and climatic aging XENOTEST 440 	Field of application: Artificial aging testing under radiation and climatic factors, with xenon source with multiple uses for a wide variety of materials: plastics, textiles, paint coatings and automotive interior materials etc. Functional parameters: <ul style="list-style-type: none"> ● air-cooled Xenon lamps: 2x2200 W; ● exposure area: 2310 cm²; ● direct setting and control of irradiance in the range 300-400 nm: 30-120 W / m²; ● direct setting and control of BST (Black Standard Temperature): 20-115 °C; ● direct setting and control of the irradiation chamber temperature: 20-65 °C; ● direct setting and control of relative humidity: 10-90%; ● sample rotating system for uniform exposure of samples; ● spraying system for simulating the rain conditions and for relative humidity control; ● water tank (60 liters) for humidity control and for spraying the samples.
37	Laboratory irradiator, model Ob Servo Sanguis 	Field of application: <ul style="list-style-type: none"> ● radiochemical processing of materials for obtaining products with pre-established functional characteristics; ● radioprocessing of monocomponent systems, technological mixtures and polymeric nanocomposites; ● exposure to gamma radiation emitted by Co-60 source. Functional parameters: <ul style="list-style-type: none"> ● irradiation Source: Co-60; ● radioactive activity: 5000 Ci (185 TBq); ● dose rate: max 1241 Gy / h; ● rotating canister: 10 liters; ● control of the temperature in the irradiation chamber.



Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
38	Apparatus for deionization water RiOs-DI 3 (UV) 	<p>Field of application: The system for preparing deionized water is used for the preparation of ultra-pure water for the optimal functioning of a radiation system and spraying, Xenotest, and for use as a solvent of particular ionic characteristics. Since impurities in the liquid media used in the preparation of the solution influence the purity of the products obtained and, thus, their stability over time, deionized water is a perfect medium for the preparation of high purity material.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - resistivity: $> 10 \text{ m}\Omega\cdot\text{cm}$ at 25°C; - conductivity: $< 0,1 \mu\text{S}/\text{cm}$ at 25°C; - total organic carbon: $< 50 \mu\text{g}/\text{L}$; - supply flow: minimum 40 LPH.
39	Plasma-Enhanced Chemical Vapor Deposition (PECVD) for Flexible Organics 	<p>Field of application: The organic or inorganic layers or thin films can be obtained deposited on the various large-scale substrates (eg. flat substrate of $\varnothing 150 \text{ mm}$) as follows:</p> <p>1. Nanocrystalline, microcrystalline or polycrystalline silica films designed to obtain photovoltaic cells on flexible support:</p> <ul style="list-style-type: none"> • nc-Si: H nanocrystalline films, having crystallites of the order 1-100nm; • μc-Si: H films with crystallites having the size of $> 100 \text{ nm}$, $< 10\mu\text{m}$; • Si: H polycrystalline films having the grain size higher than 10 micrometres; • a-Si: H films n-doped with phosphorus. <p>It allows obtaining of the organic macromolecular structures on the substrate Kapton polyamide, polyethylene terephthalate PET, PTFE, polyester sulfone (PES), polyethylene naphthalate (PEN), or Si, SiO_2 substrate.</p> <p>2. DLC (DLC-diamond like-carbon) type a-C and a-C:H films, including the formation of structure type diamond films and growth of various nanostructures. These layers deposition should be possible on the metallic substrate of titanium, steel or stainless steel.</p> <p>Functional parameters:</p> <p>1. Type of operation:</p> <ul style="list-style-type: none"> - capacitively coupled - interchangeable flexible configuration: coupled anode or cathode; - simple and mixed, RF-LF, in terms of radio frequency fields;




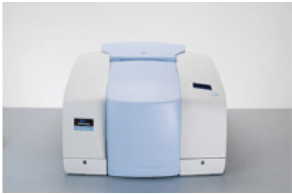
Ref. No.	Equipment name	Performances and features
	Equipments for materials processing	
		<p><i>2. Processes in plasma:</i></p> <ul style="list-style-type: none"> - cleaning / etching (plasma etching); - deposition of organic and inorganic layers and/or thin films as well as plasma treatment of the surfaces, including the engraftment of functional groups on the surface of the material; <p><i>3. Reactor for the PECVD and the system for the samples loading/unloading:</i></p> <ul style="list-style-type: none"> - the reactor is cylindrical, having two access flanges; - system for the automatic and manual substrate plaques loading / unloading with and/or without load-lock type deposition; <p><i>4. The arrangement of the electrodes:</i></p> <ul style="list-style-type: none"> - symmetrically arranged, parallel, disc-shaped, up-down configuration; <p><i>5. Support electrode for the substrate (lower):</i> heated disc, Ø 200mm;</p> <p><i>6. Upper electrode:</i></p> <ul style="list-style-type: none"> - disc-shaped, Ø 200 mm; - it contains a "gas shower" system, "shower head" type; - it ensures a uniform distribution of the reactants inside the main chamber; <p><i>7. Temperature of the support electrode:</i></p> <ul style="list-style-type: none"> - controlled heating of the support electrode in the temperature range of (20 - 400)°C; - the temperature uniformity at 400°C in the substrate surface is +/- 5°C; <p><i>8. Desposition substrate:</i></p> <ul style="list-style-type: none"> - depositions/growth are performed on plaques with diameters of 50 mm (2 inches) and 200 mm (8 inches); - the substrate for deposition and/or growth is placed in direct contact with the heated electrode (20-400)°C; <p><i>9. Distribution of the process gases:</i></p> <ul style="list-style-type: none"> - 5 gas lines and 1 liquid line in which one gas line for CH₄, SiH₄, Ar, H₂ and O₂, and a liquid line for C₂H₅-OH; - gas and liquid lines have the possibility for calibration; <p><i>10. Radiofrequency sources:</i></p> <ul style="list-style-type: none"> - the equipment allows a simple PECVD operation and mixed RF (RF mixing - LF) and it is equipped with two RF generators; - the first generator operates at a frequency of 13.56 MHz, power min. 600 W, coupled to the cathode and it has an automatical impedance adjustment circuit (<i>matching-box</i>); - the second generator operates at a low frequency (from 100 kHz to 400 kHz), power min. 300 W and it has an automatical impedance adjustment circuit (<i>matching-box</i>); - the equipment allows connecting the 13.56 MHz generator both to the upper electrode and the lower electrode for the RIE - <i>Reactive Ion Etching</i> operation mode;



Ref. No.	Equipment name	Performances and features
	Equipments for materials processing	
		<ul style="list-style-type: none"> - the lower electrode RF works with self-biasing to 500VDC; <p>11. Chamber cleaning: The deposition system is provided with the possibility of cleaning the chamber to remove the residuals after using the plasma etching, or various chemical agents.</p> <p>12. Equipment handling. Automation The equipment is configured so that:</p> <ul style="list-style-type: none"> - to include an intended computer having installed a special software compatible with the operating system support (eg. Windows 7 or newer); - the software allows the control of the process parameters and individual parts (valves, space heaters, vacuum pumps etc.); - the automation software allows the use of both automatic and manual mode.
40	Equipment for studying the biphasic mixtures 	<p>Field of application:</p> <ul style="list-style-type: none"> - visualization of flow spectra; - characterization of the different types of stirrers/impellers; - characterization for mixtures of immiscible liquids; - power determination for industrial mixers using modelling techniques. <p>Functional parameters:</p> <ul style="list-style-type: none"> - size: 710 × 500 × 1300 mm; - capacity of visualization vessel: 25 liters; - mixing system with replaceable mixers; - variable speed motor in the range of 30 -1000rpm; - digital speed and torque indicator.
41	3D printer for models – Stratasys Fortus 360 mc LE 	<p>Field of application: The printer uses the Fused Deposition Modelling Technology (FDM), by printing the needed models through the layer-by-layer fusion of the molten thermoplastic materials. The unwrought material: filament.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - work space capacity: 58.5 dm³; - work space size: 406 × 355 × 406 mm; - layer thickness: 127 μm; - tolerance: ±0.127 mm. <p>Construction materials:</p> <ul style="list-style-type: none"> • ABS - tear strength 36 MPA, tensile elongation 4%, HDT 96°C; • polycarbonate - tear strength 68 MPA, tensile elongation 5%, HDT 138°C; • nylon 12 - tear strength 48 MPA, tensile elongation 30%. <p>Support materials:</p> <ul style="list-style-type: none"> • ABS – soluble support material, dissolvable in a liquid bath; • polycarbonate - soluble support material, dissolvable in a liquid bath; • nylon 12 - soluble support material, dissolvable in a liquid bath. <p>The printing enclosure / work space of the device is closed and thermally controlled.</p>



Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
42	Positioning system on three axes - XYZ 	Field of application: positioning on three axes x,y,z. Functional parameters: <ul style="list-style-type: none"> - X-travel = 600 mm; - Y-travel = 100 mm; - Z-travel = 100 mm; - positioning accuracy = 0.2 mm.
43	Rotative table Parker 	Field of application: precision angular positioning. Functional parameters: <ul style="list-style-type: none"> - table diameter: 254 mm; - table height: 57.2 mm; - normal load: 90 kg; - field rotation: 360° (continuous); - vernier resolution: 0.12 arc-min; - dimensional system: metric.
44	Cryostat for liquid nitrogen 	Field of application: Maintaining the temperature at 77K for testing and experimenting on HTS superconductive materials and HTS coils. Testing physics properties for the electrotechnical materials at low temperatures (77-300K). Functional parameters: <ul style="list-style-type: none"> - working pressure: 0.5 bar; - working temperature: -196 °C; - cryogenic agent used: liquid nitrogen; - capacity: 88 l.
45	Cryostat for liquid helium 	Field of application: Maintaining the temperature at 4.2 K for testing and experimenting on LTS superconductive materials and LTS (Low Temperature Superconductor) windings. Testing physics properties for the electrotechnical materials at very low temperatures (4.2-300K). Measuring critical parameters (critical current, critical field and critical temperature) for the LTS superconductive materials and LTS coils. Functional parameters: <ul style="list-style-type: none"> - working pressure: 0.5 bar; - working temperature: -269 °C; - cryogenic agent used: liquid helium; - capacity: 60 liters.
46	Dewar recipient for the liquid helium storage 	Field of application: Storing liquid helium in purpose of supplying the liquid helium cryostat during tests on superconducting windings. Used for transporting the liquid helium from the producer at the user. Functional parameters: <ul style="list-style-type: none"> - capacity: 60 l; - cryogenic agent: liquid helium; - temperature lower limit: -269 °C; - working pressure: 1 bar; - relief valve set pressure: 0.5 bar; - evaporation rate: 1.5l/24h.

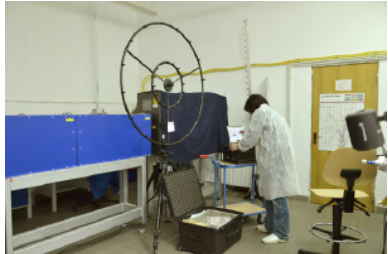
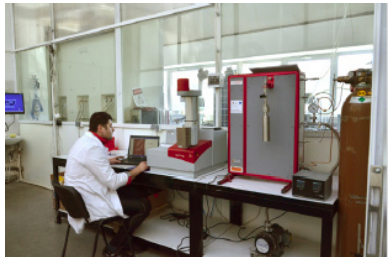
Ref. No.	Equipment name	Performances and features
Equipments for materials processing		
47	Dewar recipient for the liquid nitrogen storage 	Field of application: Storing liquid nitrogen. It is used for: <ul style="list-style-type: none"> - transporting the liquid nitrogen from the producer to the user; - supplying with liquid nitrogen the cryostat used for testing superconducting materials and windings. Functional parameters: <ul style="list-style-type: none"> - working pressure: 1.3 bars; - working temperature: -196°C; - cryogenic agent: liquid nitrogen; - capacity: 100 l.
48	Withdrawal flexible system for liquid helium 	Field of application: Transferring the cryogenic agent from the Dewar to the cryostat. Functional parameters: <ul style="list-style-type: none"> - cryogenic agent flow capacity (liquid helium): min. 2l/min.
49	Liquid helium level controller 	Field of application: In cryogenics – allows measuring the level of the liquid helium from the cryostat. It is used together with the liquid helium sensors. Functional parameters: <ul style="list-style-type: none"> - resolution: 0.1%, 0.1 cm or 0.1 in; - accuracy: $\pm 0.5\%$ from the active length; - linearity: $\pm 0.1\%$; - sensor current: 75 mA nominal; - sensor voltage: about 70 VDC for 80" of active length.
50	Advanced turbomolecular vacuum device 	Field of application: The device is used for obtaining advanced vacuum in cryostats used for reaching the low and very low temperatures. It's usable in cryogenic labs or applied superconductibility labs. Functional characteristics: <ul style="list-style-type: none"> - compression ratio: $N_2 > 1 \times 10^{11}$; $He 1 \times 10^6$; $H_2 5 \times 10^4$; - vent port: 1/8 inch BSP; - exhaust port: 1/8 inch BSP; - forced air-cooling, 35°C ambient: 1×10^{-2} mbar; - nominal rotation speed: 90000 rpm; - rotation speed in standby: variable between 49500 and 90000 rpm; - programmable power limit: variable between 50-120W; - maximum level pressure: max. 10^{-8} mbar.


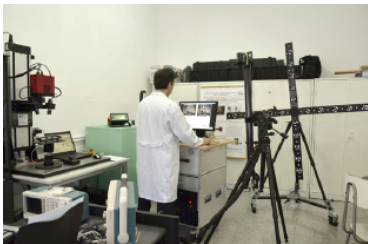
Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
51	Ion trap mass spectrometer VARIAN 240-MS 	<p>Field of application: Chemical analysis of the environmental pollutants (greenhouse gases, chlorofluorocarbons, volatile organic compounds, poly-aromatic hydrocarbons, transformer oils, pesticides etc.). Monitoring the biochemical processes in biofuels production (determination of the methane, volatile fat acids, organic alcohols, phenols).</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - atomic mass range: 10-1000 units in step of 0.1 units; - resolution: 1 mass unit for the entire mass range; - ionization technique: Electron Impact (internal ionization); - operating modes: Full scan; Selected Ion Monitoring (SIM); - uses helium as carrier gas; - enables heating up of GC/MS interface separately from ionization source up to 350°C; - enables up-grade for multiple fragmentation MS/MS; - software GC/MS Saturn Workstion MS; - included the spectrum library.
52	Atomic absorption spectrometer type SOLAAR S4, fitted with a disaggregation oven 	<p>Field of application:</p> <ul style="list-style-type: none"> - quantitative and qualitative elemental analysis at the level of ppm; - detection limit: 0.1 – 1.0 µg/ml. <p>It is a technique for the detection of elements in solutions with concentrations ranging between the maximum detection limit of 5% to the minimum detection limit of 1 ppm. This very wide detection range enables detection of a large spectrum of metallic elements (70 elements) namely from Li to Bi and lanthanide group (from Ce to Lu). Due to the method based on Beer-Lambert law there are using a series of lamps which are unique for each analyse of interest; the atomization of the analyzed matrices occurs in the oxyacetylene flame or nitrous oxide flame. This results in a very high repeatability and traceability, this instrument being very powerful analytically. Bringing the matrices into solution is done by using the microwave digestion oven ETHOS and appropriate methods for the related elements.</p>

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
53	Laser Ablation Mass Spectrometer 	<p>Field of application: Qualitative and quantitative elemental analysis of elements in solid samples or to the solution.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - mass range: from 5 to 270 amu; - laser to work directly on solid samples; - allow determination of elemental composition: semiquantitative - directly and quantitatively – by use of standards; - resolution of detection: 0.5 amu; - multi-element quick recovery; - low limits of detection; - isotopic information; - axial field technology type (all generation and detection system is on a single axle). <p>It is a device dedicated to trace analysis of materials (UltraTrace Analysis) either of solid materials (using laser ablation) either of liquid by the nebulizer chamber Scott (digested material brought into solution). The field measurement is between 500 - 100 ppm (upper limit of detection) and 1 ppm (lower limit of detection).</p>
54	UV-Vis spectrophotometer 570 Jasco, fitted with integrating sphere 	<p>Field of application: The apparatus determines the light absorption in the UV-Vis NIR spectrum range for the colloidal solutions at wavelengths of 190 ... 1100 nm.</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - optical system: single monochromator; - resolution: 2 nm; - light source: deuterium lamp (190-350 nm) and halogen lamp (330-1100 nm); - wavelength accuracy: ± 0.3 nm; - spectral bandwidth 2 nm.
55	UV-Vis spectrometer Lambda 356 PerkinElmer 	<p>Field of application:</p> <ul style="list-style-type: none"> - it is perfect for the routine analysis of liquids, powders, solids substances, gases and slurries. <p>Functional parameters:</p> <ul style="list-style-type: none"> - distance: 190 – 1100 nm; - bandwidth: 0.5 – 4 nm (variable); - it presents high stability, high precision and reproducibility.
56	100 FTIR Spectrometer PerkinElmer 	<p>Functional parameters:</p> <ul style="list-style-type: none"> - spectral resolution: 0.5 cm^{-1} - 64 cm^{-1}; - wavelength accuracy from 0.1 cm^{-1} to 1600 cm^{-1} ($6.25\text{ }\mu\text{m}$); - the optical system presents: interferometer, source, detector, wavelength splitter.


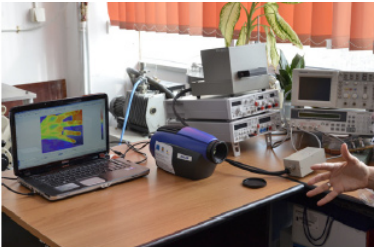
Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
57	Wavelength Dispersive X-ray Fluorescence Spectrometer (WDXRF) - S8 Tiger 	<p>Field of application:</p> <ul style="list-style-type: none"> - qualitative, quantitative and “standard less” analysis of elements from Be to U, in solid, powders and liquid samples; - detection range from ppm to 100%. <p>Functional parameters: S8 TIGER sequential spectrometer consists of:</p> <ul style="list-style-type: none"> • radiation shield made of steel with thickness of 1.5 mm; • hermetically sealed proof room during the measurement, in which can be introduced samples with max. 70 mm diameter; • high voltage generator type K410, with the following features: <ul style="list-style-type: none"> - max voltage: 50kV; - max. electric currents: 50mA; - max. electric power: 1kW. • 60, 82, or 108 positions for convenient handling; • the system can be equipped with up to 4 programmable collimators, thus providing an optimal resolution for almost the entire spectral range; • allows installation of up to 8 analyzer crystals; • the system has: <ul style="list-style-type: none"> - SPECTRAplus standard software; - specialized software for different applications; - software for remote and teleservice.
58	Impedance analyzer Solartron Analytical model 	<p>Field of application: Impedance and loss factor measurements for: polymeric, ceramic and composite materials</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> - temperature range: -160... + 400°C; - temperature growth rate (heating/cooling): 0.01 – 30°C/min; - thermal stability: max. $\pm 0.01^\circ\text{C}$; - gold plate electrodes with outer diameter 10, 20, 30, 40 mm; - frequency range 10μHz.....20MHz; - loss factor range: 10⁻⁴...10³; - time to thermal stabilization: max. 8 min.; - acquisition data software: Smart.





Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
59	Spectrometer in theTHz area 	Field of application: <ul style="list-style-type: none"> - THz reflectance spectroscopy; - THz transmission spectroscopy; - characterization of materials at THz. Functional parameters: <ul style="list-style-type: none"> - transmittance module (it measures the electromagnetic energy absorbed and reflected in the 0.2 to 4 THz).
60	Dispersive Raman Spectrometer: LabRam - HR Evolution Horiba 	Field of application: <p>Scientific research activities for the identification and characterization of materials structure and composition in liquid and solid state, in the field of polymeric materials, composites, nanocomposites, carbon materials, magnetic, ceramics, metal oxides etc.</p> Functional parameters: <ul style="list-style-type: none"> ● Spectral range: 50 - 4000 cm^{-1}; ● Detector: Electron Multiplying CCD, resolution 1024x256, cooled with Peltier elements; ● Lasers: <ul style="list-style-type: none"> - wavelengths: 785 nm, 633 nm, 532 nm; - variable power; - safety class I; - self-aligning; ● Microscope: <ul style="list-style-type: none"> - confocal (upright); - video camera (2MP) for viewing the samples; - provided with motorized mass with movement on the three axes of minimum step 0.1 micron on x, y axis and 0.2 microns on z axis; - possibility of working in bright and dark field; - objectives: 50x LWB, 50x oil immersion, 10x, 50x; - 2D and 3D automatic mapping and imaging; - identification of all the particles of the same type in the analyzed sample according to the spectral response; ● Accessory: <ul style="list-style-type: none"> - accessories module for liquid samples; - SERS kit; - antivibration mass; - heating-cooling device for samples (negative temperature $< 120^{\circ}\text{C}$; positive temperature: minimum 500°C).



Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
61	Equipment for measuring the noise level 	Field of application: Analysis and evaluation of the ambient and industrial noise. Functional parameters: <ul style="list-style-type: none"> - minimum 2D noise maps; - noise measurements for indoor applications: frequency range: 200Hz - 12kHz; distance: 0.4-2m; - noise measurements for laboratory applications: frequency range: 500Hz-12kHz; distance: 0.7-3m; - noise measurements for outdoor applications: frequency range: 200Hz-7kHz; distance: 5-150m; - software for analysis and evaluation of the noise level which includes minimum 3 algorithms: the time domain, frequency domain, orthogonal beam-forming (to detect high-level noise sources).
62	Volumetric absorption / desorption gas Analyzer Sievert model CPV 38400000-9 type 	Field of application: Determination of adsorption / desorption properties of gases (hydrogen, nitrogen, argon, carbon dioxide, methane) by volume measurements based on gravimetric measurement method Sievert and TG-DSC type, for characterizing a wide range of materials: <ul style="list-style-type: none"> - materials for hydrogen storage (metal hydrides, alanates, amides, organo-metallic structures); - carbon storage materials; - adsorbent materials with high surface area (carbon - materials, molecular sieves, activated alumina); - catalysts. Functional parameters: <ol style="list-style-type: none"> 1. Making four types of measurements: kinetic measurements, pressure-composition isotherms (PCT), charge / discharge cycles with kinetic measurements and isothermal cyclic PCT. 2. The possibility of operating on a variety of samples: powders, fibers, thin films, nanotubes, liquid. 3. The possibility of operating on a wide range of pressures: from 10^{-3} to 200 bar. 4. The possibility of operating in a wide temperature range: from -250°C to 500°C.



Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
63	Gravimetric adsorption / desorption gas analyzer (type TG-dSC) - eVo SeNSYS SETARAM 	<p>Field of application: Determination of adsorption / desorption properties of gases (hydrogen, nitrogen, argon, carbon dioxide, methane) by volume measurements based on gravimetric measurement method Sievert and TG-DSC type, for characterizing a wide range of materials:</p> <ul style="list-style-type: none"> - materials for hydrogen storage (metal hydrides, alanates, amides, organo-metallic structures); - carbon storage materials; - adsorbent materials with high surface area (carbon - materials, molecular sieves, activated alumina); - catalysts. <p>Functional parameters:</p> <ol style="list-style-type: none"> 1. Determination of thermo-gravimetric features simultaneous TG-DSC type. 2. Operation over a wide temperature range: -120°C to 800°C. 3. Possibility of operating at pressures DSC mode min. 200 bar and temperatures up to 600°C. 4. The possibility of coupling volumetric gas analyzers (Sievert, GC, FTIR). 5. Operating in isothermal mode or temperature variation for studies of adsorption / desorption. 6. Speed programmable heating / cooling between 0.01 and 30°C/min.
64	High resolution qualifier (system) for thermal / non-thermal deformations of the structures 	<p>Field of application: Measurements in 3D coordinates in dynamic or static regime in hard environmental conditions (dust, high humidity, vibrations, big variations of temperature).</p> <p>Functional parameters:</p> <ul style="list-style-type: none"> • analysis and reconstruction of surfaces shape for studying the statically deformations: - measurement domain of 3D surfaces: min. 15 cm³ with the possibility of expansion for the measurement volume to 10000 cm³; - measurement accuracy of 3D coordinates: +/-20µm; - optical sensor resolution: min. 1.3 Mpixel; - maximum distance between adjacent points (density): 0.08mm; - 3D coordinates computing of the specified interest points and report generation for the measurements; - European metrological certification (PTB or equivalent) of the analysis spot of images correlation, in the class of the littlest deviations; - re-composition of 3D surfaces for reverse engineering applications, can use CATIA V5 software and Solid Works as editable models; • kit with instruments for preparation of surfaces for measurements;




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
		<ul style="list-style-type: none"> ● 3D analysis of thermal / non thermal dynamical deformation: <ul style="list-style-type: none"> - optical sensor resolution: min. 1.3 Mpixel; - acquisition frequency of the images: min. 400 Hz at maximal resolution; min. 3500 Hz at reduced resolution; resolution; - measurement range: min. 1m³; - measurement accuracy of 3D coordinates: +/-0.2 mm at 1m³ volume; - 3D coordinates computing of the specified interest points and the generation of report measurements; - measurements in dynamical regime of relative deformations; - real time measurements of 3D coordinates for the predefined interest points; - disposal of analyzed deviations and deformations in a graphical format; - the drawing of analysis graph for deformations of the picked interest points; - data export in 3D viewer; - the generation of primitives on the basis of the recorded 3D coordinates (spheres, cylinders, cones, planes, lines, circles etc.); - reports export in PDF, HTML, XLS, ASCII format; - measured points quotation (dimensions, radiuses etc.); - mobile system with adequate protection system; ● analysis module for vibrations, diagnosis of rotating equipment and field rotors balancing: <ul style="list-style-type: none"> - measurements and analysis of noise, process parameters, relative vibrations of XY axle, transfer function, oscilloscope function; - FFT analysis of signals with 3000 lines and 1Hz-20kHz frequency; - display of Nyquist diagrams, orbits and phase – amplitude; - expert system for balancing in two planes of rotors with automatic computing of balancing weights and the vector display of position and the value of imbalance; - software for PC data transfer with management of database for measurements, data export, reference creation, reports creation.





Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
65	Miniature electromagnetic shaker for vibrations 	Field of application: Electrodynamic shaker with power amplifier for vibrations generation on some testing structures Functional parameters: <ul style="list-style-type: none"> vibrations shaker: <ul style="list-style-type: none"> - force generated in sinusoidal regime (Peak): min. 20 N; - force generated in random regime (RMS): min. 10 N; - force generated in shock regime: min. 30N; - vibrations amplitude (Peak-Peak): min. 4mm; - vibrations frequency: 0 Hz ... 8kHz. power amplifier: <ul style="list-style-type: none"> - power: min. 50W; - efficiency: min. 90%; - distortions: max. 0.05%; - cooling: with air (convection). optical system of high precision measurement and control: <ul style="list-style-type: none"> - optical sensor resolution: min. 10 Mpixeli; - 3D coordinates computing of specified interest points and measurements report generation; - captured images transfer through wireless technology; - measurement accuracy of 3D coordinates: $\pm 20\mu\text{m}$; - the drawing of analysis diagram for the specified interest points; - report export in the following formats: PDF/ HTML/ XLS/ ASCII; - the automatization of computing processes (macro scrips); - European metrological certification (PTB or equivalent) of the analysis software for images correlation, in the class of the littlest deviations; - mobile system equipped with adequate protection system.
66	Chamber of thermovision SC 5600 model 	Field of application: Spectral analysis of infrared images for electrical circuits, fire prevention, electrical connections, buildings etc. Functional parameters: <ul style="list-style-type: none"> - digital and video output; - interchangeable lens - macro: 5x;- - motorized focus infrared; - storage memory; - change of parameters without calibration (speed, time); - software for analysis and post-processing; - stand-by function for energy conservation; - bandwidth: 2 - $5\mu\text{m}$; - IF resolution: 640x512; - sensitivity: 25mK at 30°C; - integration time: 3 ... 20000μs in step of 1 μs; - temperature measurement accuracy: $\pm 1^\circ\text{C}$ or ± 1 of reading; - minimum focus distance: 0.15 m; - temperature range: - 20°C 1500°C; - operating time: min. 3 hour; - operating temperature: - 10°C ... 50°C.







Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
67	ATOS – 3DDigitizing System 	Field of application: This optical measurement system is based on correlation of triangulations and gray tones of the images captured by two CCD cameras. 3D coordinates of each pixel are calculated with great precision and thus generate polygonal surface of the object analyzed. Functional parameters: ISO ATOS system allows digitizing objects with dimensions that are registered in volume measurement from 40x30x15 mm to 250x200x200 mm.
68	PONTOS Dynamic Measuring System 	Field of application: It is a completely non-contact system that allows capturing 3D positions of the markers found in the field of volume measurement, thereby achieving trajectory points under observation and the relative movements between these points, in the event of relative deformation. Replaces classical kinematics analysis, using accelerators or displacement transducers.
69	Wyko NT1100 Optical Interferometer Profiling System 	Field of applications: Wyko Optical profilometry is a rapid, nondestructive, and noncontact surface metrology technique. Use a non-invasive method of optical interferometry to determine the 3D surface topography (roughness) layer thickness etc. Functional parameters: <ul style="list-style-type: none"> - vertical measurement range 0.1 nm to 1 mm; - vertical resolution: < 1 Å Ra; - RMS repeatability 0.01 nm; - vertical scan speed up to 7.2 μm/sec (288 μin./sec); - lateral spatial sampling 0.08 to 13.1 μm.
70	High Resolution Transmission Electron Microscope – HRTEM LIBRA 200FE-HR Model 	Field of applications: <ul style="list-style-type: none"> ➤ study of properties and lattice structure for different types of materials; ➤ types of samples which can be studied: <ul style="list-style-type: none"> - presentation form of samples: bulk materials, thin layers, wires, powders (all processed to electronic transparency); - conducting, semiconducting, insulating, magnetic, non-magnetic and ferroelectric materials; - structure: crystalline, amorphous and nanocrystalline. Functional characteristics: <ul style="list-style-type: none"> • magnification range: 50x -1.000.000x; • accelerating voltage: 80 - 200kV selectable; • field emitter system for the electron source by thermal Schottky effect (FE);




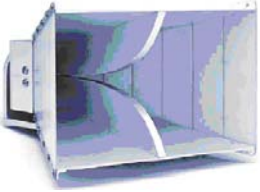

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
		<ul style="list-style-type: none"> energy filter corrected for all conventional modes and for all imaging, analysis, and diffraction modes; modes of operation: <ul style="list-style-type: none"> - EFTEM imaging; - TEM diffraction; - TEM analysis; electron spectrometer: for EELS (Electron Energy Loss Spectroscopy) and EFTEM (Energy Filtered Transmission Electron Microscopy); SSCCD camera with minimum resolution of 2048x2048 (2kx2k pixels); software for controlling the electronic optics and subsystems.
71	Scanning electron microscope, FESEM-FIB, Auriga Zeiss model 	Field of application: The equipment is dedicated to microstructural investigations of the surface of different types of materials: <ul style="list-style-type: none"> - inorganic and organic samples (polymers, plastics, composite materials), conductive or electric non-conductive, magnetic materials; - bulk materials, powders or thin layers. Functional parameters: <ul style="list-style-type: none"> - energy dispersive spectrum for elemental composition of the materials studied by point, line profile and mapping; - magnetic materials study; - optimal geometry of the sample chamber for simultaneously insertion of the accessories; - innovative FIB technology for sample processing with higher resolution of 2.5nm.
72	Scanning tunnelling microscope and surface analysis STM-Ntegra platform 	Field of application: Surface metrology, 3D imagistic, roughness measurements, line profile, particles dimension evaluation, qualitative mapping of physical properties (electric, magnetic, tribology). Working modes: <ul style="list-style-type: none"> ➤ 3D topography AFM (contact, semicontact, noncontact)*; ➤ STM topography (constant current, constant distance); ➤ phase imaging, Force modulation microscopy, adhesion force microscopy*, LFM*; ➤ Magnetic Force Microscopy (MFM); ➤ Kelvin Probe microscopy; ➤ scanning capacitance microscopy; ➤ Spreading Resistance Imaging; ➤ AFM Spectroscopy*; ➤ STM Spectroscopy (I-V); ➤ AFM and STM lithography; ➤ Nanomanipulation; ➤ PFM (Piezo Response Force Microscopy). <i>*liquid medium</i>






Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
		Technical characteristics: <ul style="list-style-type: none"> • scanning area: maximum 100x100x10 μm (AFM), 1x1x1 μm (STM); • non linearity, XY with closed loop sensors < 0.15 %; • positioning sensitivity: 2 μm; • sample size: $\sqrt{\text{max}} = 40\text{mm}$ (scanning by sample), $h_{\text{max}} = 15\text{mm}$; • sample weight: max. 100g; • external magnetic field: horizontal +/-0.2T, vertical +/-0.02T; • heating unit device up to 200°C, stability 0,05°C, thermal drift – 10 nm/°C on Z; 15 nm/°C on XY; • liquid cell having the possibility of heating up to 60°C, stability of 0.01°C.
73	Inverted Optical Microscope NIKON ECLIPSE Ti-E fitted with a confocal system ECLIPSE C1si 	Field of application: It is designed for the experimentation and investigation of the microscopic cells and living tissues, as well as for the scientific research in the fields of materials science (polymers, glass and ceramics etc.), environmental science, ecology and geology.
74	Automatic analyzer for examining the adsorption desorption properties of solids, BET specific surface area, pore size type Quantachrome UK Limited, series AUTOSORB 1 C 	Field of application: Types of tests: <ul style="list-style-type: none"> - determination of the specific surface (BET, Langmuir); - drawing the adsorption / desorption isotherms; - the pore size distribution; - total pore volume; - drawing the chemical absorption isotherms; - determination of the active specific surface (metal). Functional parameters: <ul style="list-style-type: none"> - pressure range: 0 to 0.13 MPa; - the specific surface: >0.0005 m²/g; - pore volume: minimum detectable limit of 0.0001 cm³/g; - pore diameter: 0.35 to 500 nm (in N₂); - adsorbent gases: N₂, O₂, Ar, CO, CO₂, H₂, NH₃, Kr.

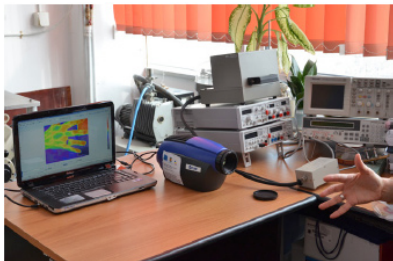
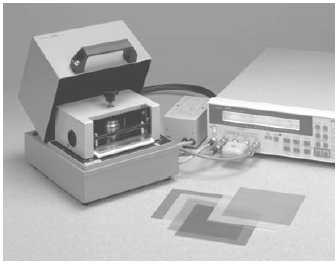

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
75	Mercury porosimeter DAB 100-M 	Functional parameters: <ul style="list-style-type: none"> - minimum pores diameter: 10μm; - pores volume; - specific surface; - the share of the pore volume; - surface tension.
76	Nanosizer apparatus 90 Plus Brookhaven Corporation 	Field of application: It is an apparatus for determining the size of the nanoparticles on the principle of dynamic light scattering. The device also measures the zeta potential and the molecular weight. Scattered light intensity fluctuations are analyzed by particles in Brownian motion in order to obtain a medium size and polydispersity or to obtain a complete distribution. Functional parameters: <ul style="list-style-type: none"> - the determinations are carried out only for the nanoparticles dispersed in the liquid medium; - the dimensional measuring range is 2 nm ... 5 microns; - the mean diameter can be expressed in terms of: light intensity, the number or volume of nanoparticles in suspension.
77	Dilatometer L75 PT 	Functional parameters: <ul style="list-style-type: none"> • types of tests: <ul style="list-style-type: none"> - linear thermal expansion; - determination of the thermal expansion coefficient (CTE); - determination of the glass transition temperature (T_g) of the phase; - measurement of the density and volumetric expansion of compacted metal powder materials; - three-point bending analysis (to determine the mechanical stability); - measuring under voltage of the materials in the form of fiber and metal foils; • temperature range: -150...700°C; 25–2000°C; • heating rate: 0.01 - 100 K/min; • cooling rate: 0.01 – 99.9 K/min; • sample size: $\Phi = 7/12$ mm, length = max. 50 mm; • working environment: vacuum, inert gas (Ar, N₂), oxidizing.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
78	Thermal analyzer STA 449 F3 Jupiter 	Functional parameters: <ul style="list-style-type: none"> - analysis on all types of materials including heterogeneous substances; - simultaneous real measurements TG / DSC / DTA; - temperature range: -150 ... +2000°C; - heating rate: 0.1 – 50°C/min; - cooling duration: 1500 – 50°C < 30 min; - work in an inert atmosphere or in reducing, oxidizing, static or dynamic gases.
79	Apparatus LFA 447 Nanoflash 	Functional parameters: <ul style="list-style-type: none"> - types of tests: determination of the thermal diffusivity, specific heat and thermal conductivity; - materials to be analyzed: metal, graphite, coatings, composites, ceramics; polymers etc.; - sample size: $\Phi = 12.7$ mm, thickness = 2–3mm; - temperature range: 25 – 300°C.
80	Investigation of the polymers behaviour under heat stress, UV and nuclear radiation CHEMILUMINOGRAPH 	Field of application: <ul style="list-style-type: none"> - assessing the oxidizing and /or aging status of the polymeric materials; - determination of the antioxidant activity efficacy level of the synthetic and natural compounds; - controls of some processes for polymers achieving; - correlation of the structural changes induced by the climatic factors; - determination of the operating limits of polymeric materials by accelerating aging tests; - characterization of the deterioration conditions for organic products such as oils, vaseline. Functional parameters: <ul style="list-style-type: none"> ● room temperature - 250°C; ● measuring ways: isothermal (intensity / duration); ramps - 87 programmable stages; non-isothermal (intensity / temperature).
81	G-TEM Cell 	Functional parameters: <ul style="list-style-type: none"> - frequency range: 200 MHz – 18 GHz; - shielding effectiveness: > 100dB; - size (l x l x h): 292cm x 570cm x 300cm; - the enclosure is certified according to SR EN 50147-1: 1999.


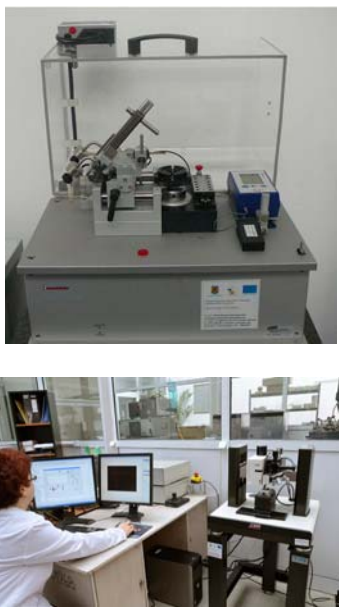
Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
82	Signal generator 	Functional parameters: <ul style="list-style-type: none"> - frequency range: 250 kHz – 40 GHz; - resolution in the frequency of: 0.001 Hz; - output power: -20 dBm – +12 dBm.
83	Spectrum analyzer E7405A 	Functional parameters: <ul style="list-style-type: none"> - frequency range: 100 Hz – 26.5 GHz; - resolution: 0.1 dB; - measurements units: dBm, dBmV, dBμV, dBμA, A, V, W; - maximum power supported at the input: 1 W.
84	Spectrum analyzer FSP 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 9 kHz – 4.2 GHz; ● maximum power supported at the input: 1W.
85	Vectorial network analyzer (VNA) ZVB4 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 300 kHz – 4 GHz; ● ports number: 2; ● ports output power: up to 50 MHz: -40 dBm – +10 dBm; over 50 MHz: -40 dBm – +13 dBm; ● ports input maximum level: +13 dBm.
86	Power amplifier BSA 0104-15/10D 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 9 kHz – 4.2 GHz; ● maximum power: 15/10 W.
87	Power amplifier 20T4G18 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 4.2 – 18 GHz; ● maximum power: 20 W.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
88	Power amplifier ST181-50 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 0.8 - 18 GHz; ● output power: 50 W; ● gain: 47 dB.
89	Power amplifier SMX50 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 10 kHz - 1000 MHz; ● output power: 50 W; ● gain: 47 dB.
90	Isotropic antenna of electric field 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 30 MHz – 3 GHz; ● the intensity of the electric field in the range of: 1 mV/m - 100 V/m.
91	Antennas Horn 3115 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 1 – 18 GHz; ● continuous maximum power: 300 W; ● top power: 500 Watts; ● impedance: 50 Ω.
92	Magnetic antennas 	Functional parameters: <ul style="list-style-type: none"> ● emission: model HFRA 5149 (20 W); ● reception: model FMZB 1513; ● frequency range: 9 kHz – 30 MHz; ● impedance: 50 Ω.

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
93	Log-periodical antennas VUSLP 9111B 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 200 MHz – 3 GHz; ● maximum input power: 1000 W (< 300 MHz); 300 W (1 GHz); ● impedance: 50 Ω.
94	TEM 4 GHz Cell 	Functional parameters: <ul style="list-style-type: none"> ● maximum frequency: 4 GHz; ● external/internal diameter: 40/8 mm.
95	Coaxial cell 20 GHz 	Functional parameters: <ul style="list-style-type: none"> ● maximum frequency: 20 GHz; ● external/internal diameter: 6/3 mm.
96	Measurement system with Horn antennas 	Functional parameters: <ul style="list-style-type: none"> ● distance between antennas: 40 cm.
97	Power-meter 5794 	Functional parameters: <ul style="list-style-type: none"> ● frequency range: 9 kHz - 110 GHz; ● power: -50 - +44 dBm; ● 2 sensors + 2 directional couplers (0.1 MHz - 4 GHz); ● 2 sensors: 1.5 MHz - 6 GHz, respectively 10 MHz - 18 GHz.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
98	Thermographic camera 	Field of application: <ul style="list-style-type: none"> - infrared image spectral analysis of high-speed circuits, printed wiring, fire prevention, electrical connections, buildings, applications in medicine, biology etc.
99	Apparatus for determining the surface resistance and volume High Resistance Meter 4339B 	Field of application: <ul style="list-style-type: none"> - measured parameters: volume and surface resistivity. Functional parameters: <ul style="list-style-type: none"> - measurement area: $10^3 - 10^{16}$ ohms; - work voltage: 0.1 - 1000 V; - electrical current: 1 pA - 100 μA; - accuracy: 0.6%.
100	Hysteresisgraph type AC/DC Hystograph - Brockhaus Messtechnik - 	<p>The device allows the determination of the retentivity, the coercive field, maximum energy product, total loss of power, polarization and relative permeability.</p> Field of application: <ul style="list-style-type: none"> - hard magnetic materials (AlNiCo, SmCo, NdFeB, hard ferrite and connected magnets); - steels and other soft magnetic materials in the frequency range from 0 to 10 kHz.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
101	Vibrating sample magnetometer 	<p>Field of application: magnetic properties of all types of magnetic materials, superconducting materials; the following parameters can be determined:</p> <ul style="list-style-type: none"> - hysteresis cycles (saturation magnetization, residual magnetization, H_c coercive field, H_c slope, H_c differential susceptibility, rectangularity ratio, hysteresis loss); - vectorial magnetic moments; - data magnetization - function of time; - data magnetization - function of temperature (4.2 ÷ 1273 K); - transition temperatures, including the Curie point. <p>Functional parameters:</p> <ul style="list-style-type: none"> - resolution: 7 calibration domains – 10³, 10², 10¹, 10⁰, 10⁻¹, 10⁻², 10⁻³; - precision: 2%, reproducibility: 1%; - time constant: 10ms, 100ms, 1s and 10s; - the sample can be 360° rotated in the horizontal plane; - temperature domain: 4.2 K ÷ 1273 K; - maximum intensity of the used magnetic field: H_{max} = 14 kOe; - measurements on compact solid samples, powders, thin films, liquids.
102	Measuring system Lake Shore 7604 	<p>Field of application: Using this measuring system of Lake Shore 7604 which is designed for the characterization and analysis of electron transport in materials and thin layers, it is possible to determine by direct or derived measurement the followings:</p> <ul style="list-style-type: none"> - Hall voltage; - I-V curves; - Hall resistance; - magneto-resistance; - anomalies of the Hall effect; - Hall coefficient; - concentration and density of the charge carriers; - Hall mobility; - quantic Hall effect; - magnetotransport; - Shubnikov de Haas (SdH) oscillations.
103	Laser interferometer Agilent 10766 	<p>Field of applications: Used to determine actuators vibration, micro and displacement.</p> <p>Technical characteristics:</p> <ul style="list-style-type: none"> - displacement resolution: 10nm; - type: Helium-Neon automatically adjusted on Zeeman output divided between two frequencies; - stabilization time: less than 10 minutes (usually 4 min); - wave length in vacuum: 632.991354 nm; - laser spot diameter: 6 mm (0.24 in).




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
104	Equipment for investigation of mechanical characteristics of thin films NHT, MHT + MST 	Field of application: Determination of mechanical properties for thin films of inorganic materials (metals, semiconductors, conductors, magnetic materials, DLC), organic materials (polymers, plastics, paints), ceramics, composites and biomaterials deposited on cylindrical or rectangular samples by ball on disc or pin on disc tests with rotative or linear motion. Functional parameters: <ul style="list-style-type: none"> - nanoindentation module; - micro-indentation and scratch module; - control unit and software for acquisition, storage and data processing and the imaging of data with accessories; - appropriate software for characterization of indentation, scratch, adhesion, modulus, CMX, DMA.
105	Equipment for tribological characterization of thin films 	Field of application: Determination of tribological properties (friction and wear) of thin films of inorganic materials (metals, semiconductors, conductors, magnetic materials, DLC), organic materials (polymers, plastics, paints), ceramics, composites and biomaterials deposited on cylindrical or parallelepipedal samples by ball on disc or pin on disc tests with rotative or linear motion. Functional parameters: <ul style="list-style-type: none"> - applied force: 0.5...60 N with resolution of 30 mN; - maximum friction force: 20 N; - maximum temperature: 150°C; - rotating module: maximum rotation speed: 1500 rpm; maximum test radius: 30mm; - linear module: speed: < 10cm/s; - sensor for online wear depth measurement: < 1.2mm; - sensor for electrical contact measurement: 0 - 1000Ω; - balls of 6 mm or 1.5 mm of steel, alumina, WC, sapphire; - pins of 6 mm of steel.





Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
106	Spectroscopic ellipsometer UVISEL 	Field of application: Ellipsometric analysis, provide information about thin film thickness and optical constants characterization. Functional parameters: <ul style="list-style-type: none"> - spectral range: from 190 to 2100 nm; - detection: high resolution monochromator; - sample stage: 200x200mm; - goniometry with automatically adjustable angle from 40° to 90° by step of 0.01°; - accessories: temperature controlled cell, liquid cell, electrochemical cell; - vision: CCD camera; - accuracy: $\Psi = 45^\circ \pm 0.02^\circ$ and $\Delta = 0^\circ \pm 0.02^\circ$ measured in air configuration 1.5 – 5 eV; - repeatability: NIST 1000Å SiO₂/Si (190-2100 nm): $d \pm 0.1\%$ – $n(632.8\text{nm}) \pm 0.0001$.
107	High temperature and resolution dilatometer for metallic alloys L75HS2000C + L75HS700LT model 	Field of application: Density and volume expansion measurement of compacted materials from metallic powders (ceramic materials, glass, metallic materials, composite materials, polymers, paste, powders, foils). Functional parameters: <ul style="list-style-type: none"> ➤ temperature measurement: from -180°C until to 2000°C; ➤ continuous monitoring (measurement, control and display) of temperature; ➤ gas dynamic atmosphere and inert atmosphere measurement (nitrogen, argon), reducing and oxidizing atmosphere; ➤ digital resolution: max. 0.125 nm/digit for measurement domain 500μm; ➤ digital resolution: max. 1.25 nm/digit for measurement domain 5000μm; ➤ specimen dimensions: length max. 50-52 mm; diameter max. 12 mm; ➤ software for DTA analysis.
108	System for thermal analysis (TG-DTA-DSC- FTIR) STA 409PC + FTIR + accesories made by NETZSCH GERATEBAU GmbH – Germany 	Field of application: Thermal characterization of chemical compounds, materials and products; quality control. Functional parameters: <ul style="list-style-type: none"> - temperature range: 25 ... 1500°C; - heating rate: 0 ... 50K/min; - mass of the sample, including crucible: max.20 g; - mass resolution: better as 2μg; - maximum relative errors of signals DTA and DSC: ±3%; - measurements in controlled atmosphere; - vacuum system; - coupling system TA-FTIR; - measuring range of the spectrometer FTIR: 7500 ... 370cm⁻¹; - software and computer.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
109	Differential Scanning Calorimeter 204 F1 Phoenix model made by NETZSCH GERATEBAU GmbH – Germany 	Field of application: Thermal characterization of chemical compounds, materials and products; quality control. Functional parameters: <ul style="list-style-type: none"> - temperature range: -85 ... 600°C; - resolution: <0.3μW; - signal: maxim <1450mW; - reproducibility: <0.5% for enthalpy variation; <0.1K for temperature; - baseline linearity: < ± 0.5mW (for entire range of temperature); - heating rate: 0.001 K/min – 100 K/min.
110	Dilatometer DIL 402 PC/4 made by NETZSCH GERATEBAU GmbH – Germany 	Field of application: Thermal characterization of chemical compounds, materials and products; quality control. Functional parameters: <ul style="list-style-type: none"> - temperature range: 25 ... 1600°C; - relative error of determining the temperature: ±0.5 °C; - resolution: 12.5 nm; - the accuracy of determining the coefficient of expansion: α: $1 \times 10^{-8} \text{K}^{-1}$ (or ±0.5% for most materials); - reproducibility for α: $1 \times 10^{-8} \text{K}^{-1}$; - controlled atmosphere.
111	Q800 Dynamic Mechanical Analyzer made by TA Instruments - USA 	Field of application: Thermal characterization of chemical compounds, materials and products; quality control. Functional parameters: <ul style="list-style-type: none"> - maximum force: 18 N; - minimum force: 0.0001 N; - force resolution: 0.00001 N; - strain resolution: 1 nm; - modulus range: $10^3 \dots 3 \times 10^{12} \text{Pa}$; - precision mode: ± 1%; - sensitivity $\tan\delta$: 0.0001; - resolution $\tan\delta$: 0.00001; - frequency range: 0.01...200Hz; - dynamic sample deformation range: ±0.5...10000μm; - temperature range: -150...600°C; - heating rate: 0.1...20°C/min; - cooling rate: 0.1...10°C/min; - clips available: single and dual cantilever, compression, tension (film), three-point bending.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
112	X-Ray Diffractometer BRUKER D8 ADVANCE 	Field of application: The equipment allows the qualitative analysis of polycrystalline materials. Also, it allows the determination of average crystallite size and unit cell parameters. Functional parameters: <ul style="list-style-type: none"> - acquisition and interpreting software; - dynamic scintillation detector with low background (0.4 cps) and high dynamic range (up to 2×10^6 cps); - X-ray tubes with Cu and Mo anode; - vertical goniometry.
113	X Ray Diffractometer BRUKER D8 DISCOVER 	Field of application: The equipment allows qualitative analysis for crystalline materials as thin films, micro, small samples. Functional parameters: <ul style="list-style-type: none"> - texture analysis; - residual stress investigations; - assessing change network parameters, and analysis of phase transformations based on temperature range: $-180^{\circ}\text{C} \dots 1100^{\circ}\text{C}$.
114	Low temperature Physical Properties Measurement System (PPMS) 	Field of application: Thermal, electrical and magnetic characterization of materials in the cryogenic temperature. Functional parameters: Measurable physical properties: <ol style="list-style-type: none"> 1. Thermal properties: <ol style="list-style-type: none"> a. Thermal conductivity (k); b. Specific heat (c); c. Seebeck coefficient (S); d. thermoelectric figure of merit (Z); 2. Electrical properties: <ol style="list-style-type: none"> a. electrical resistivity (in C.C.); b. electrical resistivity (in A.C.); c. Hall effect; d. characteristics I-V; e. critical currents of superconducting materials; 3. Magnetic properties: <ol style="list-style-type: none"> a. magnetic susceptibility (in A.C.): <i>sensitivity: $2 \times 10^{-11} \text{Am}^2$;</i> b. magnetization in C.C.: $2,5 \times 10^{-5} \dots 5 \text{ emu}$; c. magnetic couple: <i>sensitivity: $10^{-7} \text{ emu at } 9\text{T}$;</i> d. anisotropy of magnetization: <i>torque: $1 \times 10^{-4} \text{Nm}$.</i>



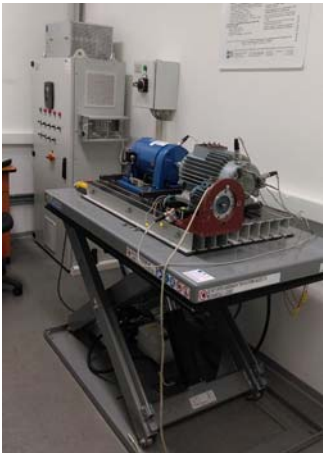
Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
115	Anechoic chamber 	Functional parameters: <ul style="list-style-type: none"> - frequency range: 200 MHz–18 GHz; - shielding effectiveness: > 100dB; - size (lxLxh): 292cm x 570cm x 300cm; - the chamber is certified according to SR EN 50147-1: 1999.
116	Coordinates measuring machine <i>XOrbit 87-1500 Next Generation</i>, WENZEL Präzision GmbH, Germany 	Field of application: Measuring the sizes of parts and mechanical assemblies. Functional parameters: <ul style="list-style-type: none"> - measuring range: <ul style="list-style-type: none"> - axis X: 800 mm; - axis Y: 1.500 mm; - axis Z: 800 mm; - precision: $2.4 + L/300 \mu\text{m}$; - resolution: $0.1 \mu\text{m}$.
117	Oscilloscope Tektronix MDO3054 	Field of application: The oscilloscope presents significant adjacent features effects on the storage and processing of the recorded signals, both in the field of continuous wave and transient: <ul style="list-style-type: none"> - analysis in the FFT frequency domain; - mathematical functions for the integration of the power calculation; - possibility of generating arbitrary signals; - AM FM, PM, PWM, FSK modulation capabilities; - acquisition memory: 10M samples per channel regardless of the number of channels simultaneously turned on. Functional parameters: <ul style="list-style-type: none"> - analogy channels: 4; - frequency band for the analogue channels: 500MHz; - growth duration: 800ps; - sampling frequency: 2.5GS/s per channel, regardless of the number of channels simultaneously turned on; - input impedance: 1 MOhm, 50 Ohm, 75 Ohm; - 30 types of automatic measurements; - waveforms histogram display.



Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
118	Arbitrary function generator Siglent SDG 5082 	Field of application: The function generator is used to create various types of modulation (AM, FM, PM, PWM, FSK), and a scanning with scanning time as well as to define the arbitrary waveform, specific to a certain application. Functional parameters: <ul style="list-style-type: none"> - standard waveforms, sin, rectangle, ramp, pulse, noise, exponential (rise + fall), sin(x)/ x, cardiac, DC; - period 100 ns to 2000 s; - pulse width 20ns to 1999.9s; - sampling rate 100MSa/s.
119	Programmable simple source 160 W Rigol 	Field of application: The programmable simple source of 160 W is especially suitable for applications that require: different settings for certain groups of output parameters and different actuating times during some repetitive tests. Functional parameters: <ul style="list-style-type: none"> - output channel range: 16V/10A 32V/5A; - DC output (0°C up to 40°C); - voltage 0-16V...0-32V; - current 0-10 A, 0-5A; - processing time < 50 ms; - temperature coefficient per °C: voltage 0.01% ÷ 3mV, current 0.1% ÷ 1 mA.
120	Digital multimeter Fluke 	Field of application: The digital multimeter is used to measure electrical parameters: DC and AC voltage, current, resistance, conductance, capacitance, frequency, temperature, inductance, diode testing. Functional parameters: <ul style="list-style-type: none"> - DC voltage. (domains) 50mV 1μV / 0.025% / 500mV / 5V / 50V / 500V / 1000V minimum resolution / precision, 1μV / 0.025%; - AC voltage (domains) 50mV / 500mV / 5V 1μV / 0.4% / 50V / 500V / 1000V, minimum resolution / precision, frequency band, 20Hz...100kHz; - real effective value, True RMS c.a. / DC + AC); - DC currents (domains), 500 μA / 5mA / 50mA / 400mA / 5A / 10A (permanent) / 20A (30 sec.), minimum resolution / precision, 10nA / 0.15%; - AC current (domains), 500 μA / 5mA / 50mA / 400mA / 5A / 10A (permanent) / 20A (30 sec., minimum resolution / precision, 10nA / 0.75%; resistance (domains), 50Ω (only 289) / 500Ω / 5kΩ / 50kΩ / 500kΩ / 5MΩ / 50MΩ / 500MΩ; conductance (domains) 0 ... 500 nS; diode test / continuity test; interface to computer.


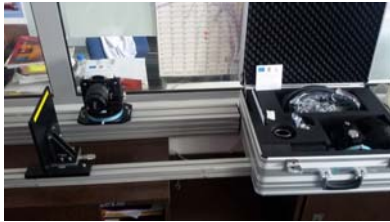
Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
121	HM8118 programmable RLC bridge 	Field of application: Measuring the electrical impedance. Functional parameters: <ul style="list-style-type: none"> • functions for the measuring of: L, C, R, Z , X, Y , G, B, D, Q, Θ, Δ, M, N; • serial and parallel modes; • frequency range: 20Hz – 200kHz; • polarisation up to 40V; • measuring the transformers parameters.
122	Analytical Balance AS 220 R2 	Field of application: It is intended for the non-automatic weighing of laboratory samples. Functional parameters: <ul style="list-style-type: none"> - weighing range: min 10 mg - max. 200 g; accuracy 0.1 mg; - sensitivity 1 ppm/°C in the temperature range of +10° - +40°C; - work temperature +10° - +40°C; - power supply 12 ÷ 16 V DC / 2.1 A.
123	System for testings in pulsed current IP 125/100_High Volt 	Field of application: The system is used for testings in pulsed current according to the IEC 61643-11, for currents up to 4 kA, peak value, wave shape 10/350 μ s; $U_{res} \leq 24$ kV. Functional parameters: <ul style="list-style-type: none"> - charging voltage: 100 kV; - nominal pulse energy: 125 kJ; - nominal capacity: 25 μF (10 x 2.5 μF); - minimum duration between pulses: 60 s; - power source: voltage 230/400 (3NPE), frequency 50 Hz, nominal power 18 kVA; Operating conditions: <ul style="list-style-type: none"> - operating temperature: 5 – 40°C; - maximum relative humidity: 90% (non-condensing); - altitude: m \leq 1000 (with low voltage at higher altitudes).
124	RF power amplifier SMX50 	Field of application: Electromagnetic compatibility research / testing: emissivity; immunity; shielding. Functional parameters: <ul style="list-style-type: none"> • frequency range: 9kHz – 1 GHz; • output power: 50 W; • input signal level: < 0 dBm (1.0 mW); • input impedance: nominal 50 Ohms; • output impedance: nominal 50 Ohms; • power gain: 50 dB.



Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
125	RF power amplifier ST181-50 	Field of application: Electromagnetic compatibility research / testing: emissivity; immunity; shielding. Functional parameters: <ul style="list-style-type: none"> • frequency range: 1 – 18 GHz; • output power: 50 W; • input signal level: < 0 dBm (1.0 mW); • input impedance: nominal 50 Ohms; • output impedance: nominal 50 Ohms; • power gain: 47 dB.
126	Up-grade oscilloscope DSA 8300 S-parameter module and Z-line software Code 80E04 + 80SSPAR 	Field of application: The module provides a larger bandwidth of measurements as well as rapid measurements with a short rise time. Functional parameters: <ul style="list-style-type: none"> • absolute compatibility with the oscilloscope DSA 8300; • pulse amplitude TDR: $\pm 250\text{mV}$; • incident rise time: 23 ps; • reflected rise time: 28ps; • dynamics: min 10V_{vv}; • maximum voltage of separation: $\pm 1.6\text{V}$; • maximum non-destructive voltage: DC + AC_{vv}: 3V; • input/output impedance: 50Ω; • vertical resolution: 16 byte; • rise time: 17.5ps; • offset range: $\pm 1.6\text{V}$; • vertical sensitivity: 10mV – 1V (on the full scale); • noise RMS: at 20 GHz: 1.2mV (max); • pulse repetition frequency: 30kHz.
127	Up-grade oscilloscope DSA 8300 - single channel module code 80E11x1 	Field of application: The module provides a larger bandwidth of measurements as well as rapid measurements with a short rise time. Measurements in the ultra high frequency range. Functional parameters: <ul style="list-style-type: none"> • absolute compatibility with the oscilloscope DSA 8300; • frequency range: DC ÷ 70GHz; • input impedance: 50Ω; • vertical resolution: 16 byte; • rise time: 50ps; • offset range: $\pm 1.0\text{V}$; • vertical sensitivity: 8mV - 800mV (on the full scale); • noise RMS: 70GHz typical 1000μV; 60GHz typical 500μV; 40GHz typical 400μV.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
128	Up-grade oscilloscope DSA 8300 - IF triggering module - code SHF 442A 	Field of application: The module provides a larger bandwidth of measurements as well as rapid measurements with a short rise time. Functional parameters: <ul style="list-style-type: none"> • absolute compatibility with the oscilloscope DSA 8300; • frequency range: 15 - 70GHz; • input impedance: 50Ω; • output voltage: min. 700mVpp/50Ω; • operating temperature: 10° – 50°C; • S parameters: S_{22} 10dB; S_{11} 10dB.
129	Up-grade spectroscope TPS Spectra 3000 Reflectance module TDR – code 80E04 	Field of application: Spectroscopy THz area: <ul style="list-style-type: none"> - researching of the plastics, ceramics, dielectric materials which are opaque to X-ray or optical field; - researching of the materials highly absorbent for the electromagnetic radiation. Functional parameters: <ul style="list-style-type: none"> - spectral range: 0.06 THz to 4 THz (2cm^{-1} – 133cm^{-1}); - it is operating at the ambient temperature.
130	Measurement and acquisition system for recording the voltage/current waveforms 	Field of application: Acquisition and storage the voltage/current waveforms from the intense currents and high voltage electrical tests. Functional parameters: <ul style="list-style-type: none"> - frequency: 100 MHz; - channels number: 2; - input impedance: 50 Ω / 1 MΩ; - input signal level: 1600V; - input/output ports: USB 2.0/USB 3.0; - external triggering channel; - offset range: +/- 1V; - sensitivity: 50 Ω 1mV/div - 1V/div; 1 MΩ:1 mV/div – 10 V/div; - display resolution: min 1280 x 800.





Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
131	Dosimetric equipment Flowmeter FH-40 GL 	Field of application: Detection and measurement of beta and gamma radiation. Functional parameters: <ul style="list-style-type: none"> - as a detector a proportional counter is used; - its field of measure is in the range of 100 nSv / h (which corresponds to the background radiation) to 100 mSv / h; - the instrument can support, for a very short period, an overload to a dose rate of 100 Sv / h without suffering any damage.
132	Data acquisition board Adlink, USB-1210 	Field of application: Suitable for high-speed data acquisition, laboratory research for pressure end flow rates; the USB-1210 provides a reliable measurement solution. Functional parameters: <ul style="list-style-type: none"> - 4- channels; - resolution 15-Bit; - maximum sampling rate 2 MS/s; - Simultaneous-Sampling Analog; - Input USB Module.
133	Testing stand for high speed electric motors 	Field of application: Test stand designed for high speed electric motors is equipped and used for electromechanical testing. These electric machines are generally used for driving tools used for finishing surfaces. The test stand is capable of making measurements of characteristic parameters of electric machines (winding electric resistance in cold conditions, idle and short-circuit operating parameters, mechanical characteristics, heating test and characterization during in load operation). Functional parameters: Electric machines that are intended to be tested will have the following characteristic values: <ul style="list-style-type: none"> - maximum rated power of 17 kW; - maximum speed: 50000 rev / min; - maximum supply voltage of electric machine: 400 V; - the measurable frequency range of the supply voltage of the electrical machines: 0-1700 Hz.



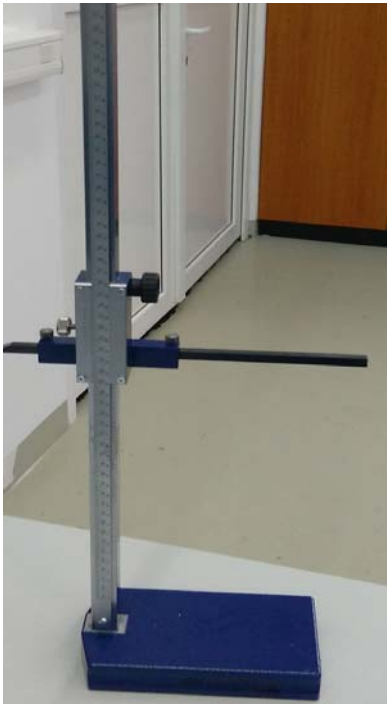
Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
134	Wind tunnel for testing the wind turbine experimental models 	<p>Field of application:</p> <ul style="list-style-type: none"> ● wind micro turbines with horizontal and vertical axis; ● scale models of horizontal and vertical axis wind turbines; ● active parts in terms of aerodynamics for wind micro turbines and scale models of wind turbines; ● aerodynamic testing of specific parts. <p>Functional parameters:</p> <ul style="list-style-type: none"> - test section: 1m x 1m; - test length: 1 m; - working speed range: 2-30 m /s; - total length of the testing stands: 10 m; - loading system using a mechanical load for the wind rotors and for the wind rotor models in order to determine their mechanical and power characteristics; - wind regime characterization: aerodynamic scale with maximum force of 50 N and maximum measured torque of 10 Nm; - mechanical and energy parameters characterization: the stand is equipped with transducers to determine the rotational speed (the speed will be measured in the range between 10 - 3000 rpm) and torque to a turbine shaft in the range of 0.2 to 10 Nm; - visualization system of the airflow and turbulence; - acquisition system, analysis and display of the data from measuring equipment modules.
135	Testing stand for scale models of axial water turbines 	<p>Field of application:</p> <p>The testing stand is designed for testing scale models of hydraulic turbine with horizontally and vertically shafts. Hydraulic stand operates in closed circuit and has a testing/visualization area for the flow within the channel.</p> <p>Functional parameters:</p> <p>The stand has a modular construction conducted which is sealed and detachable components which circulates the water in a closed circuit. The main modules of the stand are: flowing section, testing section, water tank, pumps and variable-speed electric motors with frequency converters.</p>






Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
136	Equipment for monitoring wind and solar radiation WS-GP2 	Functional parameters: <i>Wind speed:</i> <ul style="list-style-type: none"> - speed range: 0 - 75m/s; - speed accuracy: ± 0.1m/s; - direction accuracy: $\pm 4^\circ$; - temperature accuracy: $\pm 0.1^\circ\text{C}$ (in the range: 0-70°C). <i>Solar radiation:</i> <ul style="list-style-type: none"> - solar radiation accuracy: $\pm 5\%$ at 20°C; - linearity: $\pm 1\%$ for 0 to 2 kW.m⁻²; - support pole: 2 m; fitted with anchoring system.
137	Equipment for measuring the fluid water velocity – Particle Image Velocimetry 3D (PIV 3D) 	Field of application: The 3D - PIV measurement system is used for various scientific research and application related to 3D flows in fluid media: air and water, and air-water biphasic flow. It is used to determine the instantaneous velocity field and flow lines. Functional parameters: <ul style="list-style-type: none"> ● 3D PIV system enables non-intrusive measurement of instantaneous velocities by optical means; ● stereoscopic measurement method allows the evaluation of the 3 components of velocity simultaneously in a plan to give instantaneous speed fields; ● minimum speed range of operation: air 0-50 m/s; water and biphasic environment: 0-20 m/s, allowing phase separation. <i>Reference components:</i> <ul style="list-style-type: none"> ● pulsed laser source with two cavities, minimum energy 2 x 200 mJ, and the minimum operating frequency of 15 Hz; ● optical system, for generating laser light plane equipped with: <ul style="list-style-type: none"> - a base module for generating light plane; - a module for focusing the widest range possible (e.g. 100-5000 mm); - optical modules that allows varying the angle of light plane between 5° and 60°; ● a synchronization unit between the various hardware components;




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
		<ul style="list-style-type: none"> ● the software acquisition package for control and data processing compatible with the operating systems Microsoft Windows 7 and 8, 64 bit allowing total control of all devices that compose 3D PIV system (laser source, cameras etc.); ● two fast CCD cameras, encoding 12 bits grey level, with image acquisition rate of at least 30 Hz at a resolution of 4 megapixels; ● special stereoscopic Mira: for 3D PIV system calibration; ● synchronization: synchronization electronic unit between cameras and laser source - autonomous system; ● software acquisition package, control and data processing: acquisition module and control module of the instantaneous velocity fields; module for advanced calculation correlation; module for generating the adaptive correlation grid for computing; stereoscopic PIV measurements module; ● atomizer for air dispersion of tracer particles.
138	Solar power simulator for testing the inverters 	Field of application: The programmable solar power simulator 62150H-600S & 1000S can simulate open circuit voltages up to 1000V, short circuit currents up to 50 A and 30kW maximum power. It can simulate the current-voltage curves from the early morning to the nightfall for testing the inverters or for the transient testing of the current-voltage dynamic curves.
139	Solar power simulator for testing the photovoltaic modules 	Field of application: The accuracy of the power measurement is set by the quality and reliability of the sun simulator in compliance with the IEC Standard 60904-9. The PASAN Mayer Burger SunSim 3c simulation equipment is rated in class AA – AA – AA (or A+ according to TÜV). Functional parameters: <ul style="list-style-type: none"> - non-uniformity of irradiance: $\leq 1.0\%$; - pulse instability (long term): $\leq 1.0\%$; - spectral irradiance distribution: $\leq \pm 12.5\%$.





Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
140	Equipment for the photovoltaic modules testing at high-voltage 	Field of application: Potential Induced Degradation (PID) is a phenomenon which affects some PV modules with crystalline Si cells and leads to gradual deterioration of performance, reaching up to 30 percent and more after a few years. The compact tester of series LG 1800 combines protective wire, insulation, high voltage, leakage current, function and continuity test in one device allowing tests according to many standards (IEC, EN, UL, VDE etc.). The tester is optimally suited for manual workstation and for production line and laboratory.
141	Electroluminescence inspection system for PV modules 	Field of application: Elporti pi4 SOLAR is an <i>electroluminescence inspection system for PV modules</i> , developed for mobile use. It is characterized by excellent image quality because of the use of high-quality industrial camera. It can visualize the concealed damage in PV modules locally.
142	Equipment for testing and monitoring of PV modules and systems 	Field of application: The SOLAR1000 is an automated data acquisition system specifically designed for solar monitoring applications. The standard package is designed to meet CalSO standards. Typical applications include pre-construction phase solar resource assessment, baseline data collection, and performance monitoring. The Solar1000 simplifies the process of collecting system data by acting as the single point data gateway for environmental, inverter, and meter data. SOLAR 300N allows carrying out all tests required for the verification of the efficiency of single-phase and three-phase photovoltaic systems. Testing photovoltaic systems requires contemporarily measuring environmental parameters (incident irradiation of modules, temperature of environment and modules) and electric parameters (continuous power, alternating power). Measures on PV modules in compliance with IEC/EN60891 and IEC60904-5. It is also a powerful instrument for the complete analysis of mains quality in compliance with standard EN50160 (harmonic analysis, analysis of voltage anomalies, flicker, unbalance.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
143	Multifunction instrument PVCHECK 	Field of application: The multifunction instrument PVCHECK allows prompt and safe electrical checks required for a PV system (section DC) as well as controls on working of modules / strings in accordance with IEC/EN62446 guidelines. It is useful both for separate PV modules and also for PV modules strings.
144	Hall probe positioning system for magnetic measurements 	Functional parameters: <ul style="list-style-type: none"> • X, Y, Z linear actuators: 100 x 100 x 600 mm; • accuracy: 0.02 mm; • Lake Shore 18.125 in 3D Hall probe rotation: $\pm 180^\circ$; • servomotors with 2.500 pps parallel encoder.
145	External micrometer set MITUTOYO 	Field of application: lengths measurement. Functional parameters: <ul style="list-style-type: none"> - measuring range: 0...25 / 25...50, 50...75, 75...100 mm; - accuracy 0.001 mm.
146	Thickness measuring device KAEFER 	Field of application: thickness measurement. Functional parameters: <ul style="list-style-type: none"> - measuring range: 0...3 mm; - accuracy 0.001mm.




Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
147	Multifunctional measuring and recording system Testo 435-2 + probe for temperature and humidity measurements 	Field of application: temperature and humidity measurement. Functional parameters: <ul style="list-style-type: none"> - temperature range: -20... + 70°C, $\pm 0.3^{\circ}\text{C}$, $\pm 2.0\% \text{rF}$; accuracy $0.5^{\circ}\text{C} \pm 1$; - relative humidity 3% ± 1 digit.
148	Digital calliper MAHR 	Field of application: lengths measurement. Functional parameters: <ul style="list-style-type: none"> - measuring range: 0...150 mm, with data output via RS232C interface and PC connection cable; - accuracy: 0.03mm.
149	Vernier height gauge HELIOS PREISSER 	Field of application: heights measurement. Functional parameters: <ul style="list-style-type: none"> - measuring range: 0...1000 mm; - accuracy: 0.1mm.

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
150	Nanovoltmeter Keithley 2182A 	Field of application: make low noise measurements at high speeds. Functional parameters: <ul style="list-style-type: none"> - dual channels support measuring voltage, temperature, or the ratio of an unknown resistance to a reference resistor; - built-in thermocouple linearization; - A/D linearity: 0.8ppm of reading + 0.5ppm of range.
151	Magnetic characterization equipment    	Functional parameters: <ul style="list-style-type: none"> - National Instruments NI-USB 6366 (16 bits, 2MS/s); - National Instruments NI-USB 4065 + Test Probes (6½ digits); - Tektronix DMM4050 + TP750 multimeters Fluke 8508A + 8508A-700k (8½ digits) multimeter; - National Instruments PCI-7354 + UMI-7774 + SHC68-C68S, NEMA 34 step motor, high torque, double-shaft, 2000CPR ENCODER; STAC6-Si-220 stepper drive, AC RS-232 microstep, Si PROG, SiNet HUB 8; - Tektronix TCP404XL + TCPA400 probe; - Tektronix A621 probe; - Tektronix AFG3052C generator.

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
152	Electrostatic Kilovoltmeter HVC -804 	Field of application: Measuring of electrostatic charge level in fabrics and dielectrics materials. Functional parameters: <ul style="list-style-type: none"> - $U = 0 - 40\text{kV}$; - input impedance, $10\text{G}\Omega$, DC bench kilovoltmeter; - 3 range tension selected: 2 kV, 20 kV, 40 kV; resolution: 40 kV: 0,01 kV; 20 kV: 0,001 kV; 2 kV: 0,0001 kV; - display: 4 ½ digit, 0,36\6", red LED; - climatic conditions of operation: 0-80%UR, -20 ... + 60°C.
153	Trinocular stereozoom microscope SZM 2 with high resolution videocamera Optikam Pro 3 (OPTIKA) 	Field of application: Advanced materials investigations, quality evaluation of the surfaces, biologic sample investigations. Functional parameters: <ul style="list-style-type: none"> • Trinocular stereozoom microscope SZM 2: <ul style="list-style-type: none"> - head: Trinocular; - eyepieces: WF 10x/20 mm (high point); - objectives: Continuous increment zoom 0.7x ...4.5x; - illuminator: incident and transmitted 12V/15W halogen; • High resolution videocamera Optikam Pro 3: <ul style="list-style-type: none"> - resolution: 2048 x 1536 pixels (3.1 Mpixel); - sensor: CMOS 1/2"; - pixel size: $3.2\text{ }\mu\text{m} \times 3.2\text{ }\mu\text{m}$; - image area 6.55 mm x 4.92 mm; - frame rate at full resolution 6 frames/sec; - frame rate at half resolution 21 frames/sec; - s/n ratio: 43 dB max; - sensitivity: 1.0 V/Lux-second.
154	Programmable DC power supply 	Field of application: Power supply for the superconducting windings and superconducting electromagnets (HTS and LTS). Superconductors applications in electrical engineering. Functional parameters: <ul style="list-style-type: none"> - input parameters: 187-229 V AC, 22 A AC, 50-400 Hz, 3 phases; - output parameters: 0-10 V DC, 0-500 A DC, 0-6 kW.

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
155	Liquid helium level sensors 	Field of application: In cryogenics – allows measuring the level of the liquid helium from the cryostat. It is used together with the liquid helium level controller. Functional parameters: <ul style="list-style-type: none"> - diameter: rigid: 6 mm; - outer diameter: 8mm; - total length: 0.76m; - standard current: 75 mA; - standard resistivity: 11.6 ohms/in. at 20 K; 13.7 ohms/in. at 300 K; - proper working inside a magnetic field: unaffected at least until 10 T.
156	Gaussmeter 	Field of application: Used for magnetic fields measurements obtained with superconducting coils. The device it's used with Hall probes in order to measure the magnetic field. Functional parameters: <ul style="list-style-type: none"> - measurement range: from 35 mG to 350 kG; - measurement resolution in DC: 0.02 mG; - precision in DC: $\pm 0.05\%$; - frequency: DC up to 50 kHz; - AC filters: 15 band-passing and 3 down-passing; - measurement rate: 1000 measurements/s.
157	Cryogenic Hall probes 	Field of application: They are used in cryogenic labs or applied superconductivity labs for measuring the magnetic fields of coils at cryogenic temperatures. Functional parameters: <ul style="list-style-type: none"> - frequency range: ¹DC at 800 Hz; ²DC and 10 Hz at 400 Hz; - correction accuracy: ¹$\pm 2\%$ at 100 kG; ²$0.25\%$ at 20 kG, 0.5% from 20 kG to 30 kG; - zero temperature coefficient: ¹± 0.13 G/°C; ²± 0.09 G/°C.
158	Cernox Sensors 	Field of application: They are used for temperature measuring in cryogenic field (2-300 K) in the presence of magnetic fields. They are used at superconducting coils that works at low temperature. Functional parameters: <ul style="list-style-type: none"> - small errors induced by magnetic field; - temperature filed: from 2 K to 420 K; - high sensitivity at low temperatures and good sensitivity over a wider field; - excellent resistance to ionizing radiation; - excellent stability.

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
159	Nanovoltmeter 	Field of application: Device for voltage measurement with high accuracy for small voltages (μV ... mV). It's used for critical parameters of superconducting materials / coils. It's also used for temperature sensor calibration with constant current power supply. Functional parameters: <ul style="list-style-type: none"> - number of channels: 2; - linearity A/D: $\pm(0.8\text{ppm}$ from reading + 0.5ppm from radius); - DC input current: $<60\text{pA}$ DC at 23°C, -10V at 5V; - input protection: 150V peak voltage at any terminal; - precision: $\pm(0.1\%$ from output + 1mV); - memory size: 1024 readings.
160	Constant current power supply 	Field of application: Device used for temperature sensors calibration. This device works with nanovoltmeter. Functional parameters: <ul style="list-style-type: none"> - type: bipolar, DC power supply; - current values: 13 fixed levels of 100 nA, 300 nA, $1\text{ }\mu\text{A}$, $3\text{ }\mu\text{A}$, $10\text{ }\mu\text{A}$, $30\text{ }\mu\text{A}$, $100\text{ }\mu\text{A}$, $300\text{ }\mu\text{A}$, 1 mA, 3 mA, 10 mA, 30 mA, 100 mA, and one programmable by user; - precision: 0.05% on $10\text{ }\mu\text{A}$ level, 0.5% on 100 nA and 300 nA levels, and 0.1% on other levels; - stability (24 h): 0.05% on 100 nA level, 0.01% per day on the other levels; - maximum loads: $300\text{ k}\Omega$.
161	Data acquisition board and software 	Field of application: It is destined for data acquisition (voltages and currents with small values – mV , mA). It's working with constant current power supply for sensors calibration and for materials/superconducting coils critical parameters measurement. Functional parameters: <ul style="list-style-type: none"> - resolution: 16 byte; - transfer rate: 50 kS/s; - analogue input channels: 16 SE/8 DI (1 CJC); - analogue output channels: 2; - digital I/O channels: 17; - counter: 2; - increment: 1, 10, 100, 500.

Ref. No.	Equipment name	Performances and features
Equipments for characterization and testing of materials and products		
162	Temperature monitor 	Field of application: Device used for temperature measurements. The device it's working with CERNOX sensors for temperature measurements in the field of 2 – 300 K. Functional parameters: <ul style="list-style-type: none"> - minimum operating temperature: works up to 1.2 K with suitable sensor; - sensors: max. 8; - supported sensors: diodes and RTD; - units: K, °C, V or Ω; - interfaces: IEEE-488 and RS-232C.
163	Flowmeter 	Field of application: Device used for measuring the magnetic fields induction. This device it's working with suitable probes (calibrated coils). Functional parameters: <ul style="list-style-type: none"> - resolution: 5% digits DC (1 part in ± 300.000); - frequency: 50 kHz; - interface: IEEE-488 and serial; - memory: parameters for 10 existing coils; - precision: $\pm 10 \mu V$s.
164	Monitoring probes for advanced vacuum (10^{-9} torr) 	Field of application: They are accessories for measurement the vacuum in pressure chambers with the field of measurements 10^{-8} mbar ... 10^{-2} mbar. The probes are working together with turbomolecular vacuum unit. Functional parameters: <ul style="list-style-type: none"> - pressure: 10^{-2} - 10^{-8} mbar; - precision: $\pm 30\%$; - maximum overpressure: 10 bar (145 psi); - power supply: +13.5 at +36 V DC; - energy consumption: 2 W maximum.

INTANGIBLE EQUIPMENT

Ref. No.	Intangible equipment name	Performances and features
1	BiblioPortal Library software	<p>This application is presented as an easy to use web page.</p> <p>The system is designed as a portal type application. This portal has several sections and each section has several substrates: Our library, Information points for EU news, Community, Search, Sitemap.</p> <p>This application has a console to login for different user groups, each with a login name and password of its own, which establish the level of access of the person concerned.</p> <p>The sections: Our library, information Points for EU News, Community, Search, Sitemap, actually compose the website and the Cataloguing and Administration sections are intended to access the complex application behind it.</p>
2	NX 6 – Siemens PLM software NX Model NX Drawing NX Manufacturing NX Nastran	<ul style="list-style-type: none"> • NX Model and NX Drawing – cover requirements CAD for three-dimensional modelling of components and products; • NX Manufacturing – enables import 3D models made in CAD system, data input needed for processing parts (equipment features, sequence of operations, working regimes, features of used tools etc.) and development of machine code that can be transferred to numerical controlled tools used in processing; • NX Nastran – allows simulating the mechanical, thermal, fluid and electromagnetic phenomena which appears in functioning of the studied products for their analysis and optimizing.
3	COREL DRAW 12 FULL01.04.06.99.0466 (7CD)	It is a complex package of graphics programs that provide facilities for the automatic drawing, processing of objects and the use of special effects.
4	National Instruments Academic Site License	<p>LabVIEW is a programming software used primarily to carry out measurements and monitoring of the automated processes. To write programs in LabVIEW 2011 the G graphical language and 5th generation programming language are used. LabVIEW contains several built-in function libraries for acquisition, processing, displaying and transmitting data.</p> <p>LabVIEW programs are called virtual instruments (Visual Instruments - VIs), based on their concepts of modularity and hierarchy stand tree.</p>
5	SolidWorks Premium 2013 license (including Simulation Premium 2013 and Flow Simulation 2013)	<p>Field of use: CAD and CAE.</p> <p>Applications:</p> <p>It allows creating the 3D models of components and products developed by our institute, to elaborate the products technical documentation and to simulate mechanical, thermal and fluidic phenomena which occur during products operation, in order to analyze and optimize the studied products.</p>

Ref. No.	Intangible equipment name	Performances and features
6	SocrateOpen software	<p>Socrate Open is an Open Source type software designed for the resource management and it brings together in one integrated package both ERP (Enterprise Resource Planning) functionalities and CRM (Customer Relationship Management) functionalities, being ready for the integration with BI (Business Intelligence) technologies. Socrate + is an ERP intelligent modular system, a software platform that allows planning and management of all resources within the organization.</p> <p>Characteristics:</p> <ul style="list-style-type: none"> • profitability analysis (after the various criteria: the products, stores, customers, geographic area, etc.); • optimization and Control (stock and supply the supplier, average sale and terms of supply, inventory and inventory control proposal by specific analysis); • streamlining business, storage and delivery system barcode (sales, inventory and receive a bar code with specific equipment, product and shelf labels, price checking, internal orders based on scan); • optimize Cash Flow (daily closing specific control procedures, control cash flow on sales outlets and shops, analysis); • control and optimization of pricing policy (centralized or decentralized pricing policy, limited policy discounts, customer loyalty card based control margins to define prices); • media distribution and consolidation of data (data transfer between stores, between the central warehouse and stores, and between customers and stores), electronic transfer of documents between stores and headquarters; • integration with other devices (POS, Handheld's, electronic scales).
7	ROXIE software for designing superconducting electromagnets	This software was developed for designing electromagnets, coils, superconducting generators.
8	COMSOL Multiphysics software for modelling magnetic, thermal and electrical fields	<p>This software is a powerful interactive environment dedicated to numerical modelling and solving a wide range of engineering problems described by systems with partial differential equations 1D, 2D, 3D elliptical type, parabolic or hyperbolic, linear or non-linear, possibly coupled together, even if describes different physical phenomena.</p> <p>With the help of software simulation COMSOL Multiphysics 5.0 to which adds several optional software modules can solve gathered by: diffusion, wave propagation, acoustics, structural mechanics, electromagnetism, electrochemistry, microwave, micro electromechanical, optical, fluid dynamics, quantum mechanics, solid state chemistry, biology but also coupled problems, such as the electrokinetic and heat transfer in order to take into account the variation of conductivity with temperature.</p>

Ref. No.	Intangible equipment name	Performances and features
9	RIETVELT database software	<p>This licensed Rietveld database is used to improve the technical performance of the equipment “X-ray diffractometer type D8 Discover” and to increase the level of technicality of the performed analysis, tests and measurements.</p> <p>By using the Rietveld analysis there will be possible the morpho-structural and compositional characterization of various materials which are developed for specific applications in the energy area, such as: electromagnetic shielding, fuel cells, photovoltaic panels etc.</p>
10	MATLAB - SIMULINK software, specific for autonomous photovoltaic systems and connected to the grid	<p>This software is a development environment for numerical computation and statistical analysis that contains the programming language with the same name, made by MathWorks. MATLAB allows manipulation of matrices, visualization of functions, implementation of algorithms, creation of interfaces and can interact with other applications. Although it is specialized in numerical computing, there are packages [2] enabling it to interact with gender Maple symbolic computation engine. An additional package, Simulink 2014, provides the ability to perform simulations of dynamic systems and loaded using mathematical models. MATLAB is widely used in industry, in universities and it is cross-platform available, under various operating systems: Windows, GNU/Linux, UNIX and Mac OS.</p>
11	PV Syst, PV Sol, Meteonorm software, specific for photovoltaic systems	<p>This software is intended for photovoltaic panels research and testing laboratory for testing the photovoltaic models in real operating conditions.</p>
12	AUTOCAD electric 3D + , 4Autocad software, specific for photovoltaic systems	<ul style="list-style-type: none"> • AutoCAD Electrical 2015; • AutoCAD LT 2015; • Building Design Suite Premium 2015 care which includes: <ul style="list-style-type: none"> • AutoCAD Architecture; • AutoCAD MEP; • Revit. <p>This software is intended for research and testing laboratory for modelling and simulation of photovoltaic panels and present thermal electrical phenomena, cells and photovoltaic panels, and for the design of structures based on photovoltaic energy.</p>
13	Z-line software for measuring S-parameter (DSA 8300 specific software)	<p>Emulating a virtual channel for the S parameters.</p>

6.4. Measures to increase the research and development capacity correlated to ensuring an optimal utilization

One of the main directions of action to achieve the assumed target by ICPE-CA was strengthening the capacity and increasing the performance of R&D to enhance the scientific and technical productivity as well as the quality level of the research results. Thus, an important role in increasing the capacity of R&D is to increase the financial contribution of the private sector in implementing the R&D projects financed by public funds and growth of innovative projects requested by the companies through:

- further development of strategic partnerships with prestigious Romanian universities from Romania and abroad, and with national businesses companies or service providers.

Under the signed partnerships there were submitted and gained projects funded by Nucleu and NPRDI-II programs and also by the structural funds and EU programs. We can mention: 35 projects funded by the NP-II, 6 projects funded by the Nucleu Program; 2 projects funded by the RDI Program for Space Technology and Advanced Research STAR: „*Magnetic nanocomposite materials for high speed electric motors*” and „*New types of specific actuators for special applications*”; 3 contracts for funding of scientific events organized by our institute; 11 projects funded by the bilateral cooperation with JINR (Joint Institute for Nuclear Research) - Dubna, Russian Federation; 1 project funded as a coordinator within the program FAIR (*Facility for Antiproton and Ion Research*) – Germany, “*Normal conducting magnets and power supplies – in-kind contribution to the FAIR project*”; 1 project funded by the Competitiveness and Innovation Framework Programme, ENT/CIP/07/0001a “*Business Innovation Support Network Transylvania*” EEN 225 559 BISNet Transylvania-1; 1 project funded by the Sectoral Operational Programme “Increase of Economic Competitiveness”, priority axis II - Research, Development and Innovation RDI, area of intervention 2.2, operation 2.2.1, thematic area: Energy, “*Infrastructure to promote competitiveness through innovation in electrical engineering for the energy security sustainable growth*” - acronym PROMETEU; 1 project funded by the Romania-Bulgaria Cross-Border Cooperation Programme 2007-2013, “*Clean access in Calarasi-Silistra cross-border area*” – MIS-ETC CODE 118; 1 project funded by the European Commission under the Joint Operational Programme Black Sea 2007-2013, “*Integrated hotspots management and saving the living Black Sea ecosystem – HOT BLACK SEA*” - MIS-ETC CODE 2303; 1 project funded under the European Space Agency program (ESA) – ESTEC (European Space Research and Technology Centre), “*Planar heater based on electroconductive carbon fibbers designed for satellite thermal management*”; 3 projects financed by the Programme Capacities - Module III; 3 projects on preparing of experiments at ELI-NP and FAIR under the Romania-CERN program: “*Characterization the quality of the HESR normal conductors electromagnets field, as preparatory action for the PANDA experiment*”, “*HTS superconducting magnet designed to measure the nuclear magnetic moments*”, “*Laboratory for development and testing of structures for the acceleration, transport and diagnostics of charged particle beams*”; in 2015, experts seconded from Ploiesti IPCUP were carried out projects stages under the ICPE-CA Nucleu Program, as well as service contracts signed with Albeanu Water Drilling Services Ltd, APA VUTCANI SRL, NAPOVAN Distribution SRL; 3 contracts of execution (wells drilling rigs, pressure gauges for drilling fluids). The institute has also been involved in other 8 applied research extrabudgetary contracts in areas such as new energy sources, electrical engineering specific materials, environmental protection, electromagnetic compatibility, micro- and nano- electrotechnologies, oil equipment, drilling-extraction, as well as in 11 contracts of implementation (small series of a wide range of processed materials in various shapes and sizes; small series of complex applications: sensors, actuators, magnetic couplings, transducers, specific equipment to combat electrochemical corrosion, stands / systems for monitoring, checking and controlling of electrical and environmental parameters; application procedures for deposition of

the thin films under vacuum, characterization and tests on various types of materials, measurements of bioelectromagnetic compatibility, assessing thermal behaviour of products and materials by thermal analysis, processing the microelectromechanical systems; MEMS and NEMS measurements, consultancy on intellectual property, drilling rigs for water wells).

- an adequate human resources policy, in order to improve the quality of research personnel and simultaneously to offer the personnel a career in research;

In this regard, the institute's personnel attended the courses / training activities to increase the qualification level for the mutual benefit of the individual and the institute, but also attended training internships; The "master" and "doctorate" institutions plays a central role in preparing the research personnel for science.

Herein, through our policy of personnel, we answered multiple goals of the institute strategy: we engaged youngsters not only to ensure the continuity of our laboratories, but also for the generalization of modelling and numerical simulation of the studied phenomena and manufactured products, thinking to streamline the work time and diminish the research costs. Such arrangements are doubled by the acquisition of some appropriate calculation software.

- supporting the young researchers to get knowing the use of the R&D equipment purchased by the institute in recent years, maintain them into operation and also introducing of a policy of maintenance;

- participation of our researchers in international conferences organized in the country and abroad, brings an important contribution in the formation of the research partnerships;

- dissemination of the scientific results in the main-stream scientific journals is another way to increase.

7

Results of R&D activities



Results of R&D activities _____ 154

7. Results of the research-development activities:

7.1. Structure of the achieved research results (according to the table):

		No. in 2015	No. in 2014
7.1.1	Scientific / Technical papers published in the ISI professional journals (<i>Annex 2</i>)	46	38
	Scientific / Technical papers published in the ISI conference proceedings	19	22
	Scientific / Technical papers <i>under publication</i> in the ISI professional journals	29	28
7.1.2	Cumulative impact factor of the ISI papers	73.227	47.358
	Published books / book chapters	4	9
7.1.3	Citations in ISI journals	400	391
7.1.4	Patents ¹ (submitted requests /granted) (<i>Annex 3</i>)	7 / 12	11 / 16
7.1.5	Scientific / Technical papers ² published in the non-ISI professional journals (<i>Annex 4</i>)	43	21
7.1.6	Scientific papers ³ presented in the international conferences (<i>Annex 5</i>)	103	103
7.1.7	Members of the editorial board of ISI journals (or included in the international data bases) and of the international editorial board	77	58
7.1.8	Members of the editorial board of national journals (B class in CNCSIS classification)	11	10
7.1.9	International awards	18	25
7.1.10	National awards	3	2
7.1.11	Number of Doctoral coordinators	3	3
7.1.12	Number of Doctors of Science	62	61

¹ it is presented in *Annex 3* of the activity report [title, official journal, inventors]

² it is presented in *Annex 4* of the activity report [title, journal, authors]

³ it is presented in *Annex 5* of the activity report [title, conference, authors]



8

Measures to increase the prestige and visibility of INCDIE ICPE-CA



Presenting the partnerships collaborative activities	158
Presenting the results of national and international fairs and exhibitions	174
Awards received by the selection process / honours etc.	190
Presentation of media activity	198

8. Measures to increase the prestige and visibility of INC DIE ICPE-CA

8.1. Presenting the partnerships collaborative activities:

- Developing partnerships at the national and international levels (with personalities / institutions / professional associations) in order to participate in specific national and European programs:

	No. 2015	No. 2014
developing partnerships at the national level	76	66
developing partnerships at the international level	5 1	45

a. At the national level, INC DIE ICPE-CA has concluded cooperation agreements with the following national entities:

- ✎ Romanian Academy – Timișoara Branch;
- ✎ Military Technical Academy of Bucharest;
- ✎ North West Regional Development Agency – ADR North-West - partnership for the implementation of the project under COSME-EEN program, “*BISNET Transylvania - Support and Innovation Network for SMEs in Transylvania*”, Contract No. 649534/2015, the implementation period 2015-2020, having as partners: Agency for Center Regional Development, Technical University of Cluj-Napoca, National Institute of Research and Development for Optoelectronics INOE 2000, Center for Technology Transfer CENTI, Chamber of Commerce and Industry Brasov, Romanian Association for Electronic and Software Industry;
- ✎ ALTIUS Fotovoltaic;
- ✎ Romanian Electrotechnical Committee - CER;
- ✎ Sibiu Local Council;
- ✎ Technology Transfer Center - CENTI Cluj-Napoca;
- ✎ Consultancy Center for Road Victims;
- ✎ Epstein Architecture & Engineering SRL;
- ✎ Institute for Electrotechnical Research - ICPE SA, Bucharest;
- ✎ National R&D Institute Turbomotoare - COMOTI, Bucharest;
- ✎ National R&D Institute for Industrial Ecology - ECOIND Bucharest;
- ✎ National R&D Institute for Physics and Nuclear Engineering Horia Hulubei - IFIN HH;
- ✎ National R&D Institute for Microtechnology - IMT Bucharest;
- ✎ National R&D Institute for Mechatronics and Measurement Technique – INC DMTM Bucharest;
- ✎ National R&D Institute for Textile and Leather (INC DTP) Bucharest;
- ✎ National R&D Institute for Energy ICEMENERG Bucharest;
- ✎ National R&D Institute for Biological Sciences;
- ✎ Institute for Studies and Design in Power Engineering (ISPE) SA Bucharest;
- ✎ Municipality of Avrig;
- ✎ SC ADDA SRL Târgoviște;
- ✎ SC All Green SRL, Iași;
- ✎ SC AMPLO Ploiesti;
- ✎ SC CEPROCI SA Bucharest;
- ✎ SC Chemi Ceramic SRL;
- ✎ SC Explorări SRL Târgoviște;
- ✎ S.C. Imtech Technology S.A;
- ✎ SC ICEFSCOM SRL Săvinești;
- ✎ SC INTELECTRO SRL Iași;
- ✎ SC Innovative Green Power SRL;
- ✎ SC IPA CIFATT Craiova;
- ✎ SC MEDAPTEH SRL Bacău;
- ✎ SC MONOFIL SRL Săvinești;
- ✎ SC MGM STAR CONSTRUCT SRL Bucharest;

- ✿ SC METAV Research-Development SA;
- ✿ SC NET SYSTEM SRL Bucharest;
- ✿ Electric Products Certification Independent Body – OICPE SRL;
- ✿ SC „Q” SRL Iași;
- ✿ SC PLUS CERT MEDAPTEH SRL Bucharest;
- ✿ SC PRODIN SA;
- ✿ SC Purtech SRL Bucharest;
- ✿ SC ROSEAL SA Odorheiu Secuiesc;
- ✿ SC ROMNEOMAG SRL Bucharest;
- ✿ SC ROFEP SA Urziceni;
- ✿ STS Bucharest;
- ✿ S.C. Syscom Process Control S.R.L.;
- ✿ S.C. Smart Mechanics S.R.L.;
- ✿ S.C. STRAERO S.A. Bucharest;
- ✿ SC Trading SRL;
- ✿ University Politehnica of Bucharest – Faculty of Electrical Engineering;
- ✿ University Politehnica of Bucharest – Faculty of Electronics, Telecommunications and Informational Technology;
- ✿ University Politehnica of Bucharest – Faculty of Mechanics and Mechatronics;
- ✿ University Politehnica of Bucharest – Faculty of Applied Chemistry and Materials Sciences;
- ✿ University Politehnica of Bucharest – Faculty of Biology, Department of Microbiology;
- ✿ University Politehnica of Bucharest –CCDSB (Center for Research-Development in Biotechnical Systems);
- ✿ University Politehnica of Bucharest – Center for Surfaces Science and Nanotechnology;
- ✿ Technical University of Civil Engineering Bucharest;
- ✿ Technical University “Gh. Asachi” of Iași;
- ✿ Technical University of Cluj-Napoca;
- ✿ University Babeș-Bolyai of Cluj-Napoca;
- ✿ University “Ștefan cel Mare” of Suceava;
- ✿ University Transilvania of Brașov;
- ✿ University of Pitești;
- ✿ University Lucian Blaga of Sibiu;
- ✿ University of Medicine and Pharmacy «Carol Davila» Bucharest;
- ✿ UMF Iași;
- ✿ UMF Cluj-Napoca;
- ✿ University of Agronomic Sciences “Ion Ionescu de la Brad” – Iași;
- ✿ University Politehnica of Timișoara;
- ✿ UPS PILOT ARM Târgoviște.

b. At the international level, INCDIE ICPE-CA has concluded cooperation agreements with the following international entities:

- ✿ Technical Academy of Sciences in Chisinau, Moldova;
- ✿ Regional Agency for Socio-Economic Development - Banat, Serbia;
- ✿ Agency for the Region Economic Development Sarajevo, Bosnia Herzegovina;
- ✿ Chinese Iron & Steel Research Institute Group Beijing, P.R. of China;
- ✿ TUBITAK Research Center- Marmara, Turkey;
- ✿ CuroCon GmbH Germany;
- ✿ CrowdEnergy GmbH Germany;
- ✿ Commissariat a l'Energie Atomique et aux Energies Alternatives, France;
- ✿ Comune di Marsicovetere, Italy;
- ✿ Consiglio Nazionale Delle Ricerche, Italy;
- ✿ CORBY BOROUGH COUNCIL, UK;
- ✿ ELECTRIC CORBY CIC, UK;
- ✿ FAIR GmbH, Germany;
- ✿ Fonds pour le développement du logement et de l'habitat Luxembourg;
- ✿ Fundația Caucaziană de Mediu - Sukhumi, Georgia;
- ✿ GR Enerji A.S. Turkey;
- ✿ Hochschule Trier University of Applied Sciences Germany;
- ✿ ICP “MicroFir Tehnologii Industriale” S.R.L., Republic of Moldova;
- ✿ Im-plan-tat Raumplanungs GmbH & Co KG Austria;
- ✿ Joint Institute for Nuclear Research (IUCN), Dubna, Russia;
- ✿ Institute for Applied Physics Kishinev, Republic of Moldova;

- European Institute of Labour, Bulgaria;
- National Institute for Metrological Research – INRIM Turin, Italy;
- Institute D.Ghiu for Electronics and Nanotechnologies of the Academy of Sciences, Republic of Moldova;
- LFS Tulln, Austria;
- MFTI Kishinev, Republic of Moldova;
- Municipality of Burgas, Bulgaria;
- Northamptonshire County Council, UK;
- OIKOS INSTITUT, Bosnia-Herzegovina;
- Provincia di Potenza, Italy;
- Schneider Electric Industries SAS, France;
- Spectra Today GmbH Austria;
- SuRDEP Varna, Bulgaria;
- Stadtverwaltung Kaiserslautern, Germany;
- Stadtgemeinde Tulln, Austria;
- SWK Stadtwerke Kaiserslautern Versorgungs-AG Germany;
- Technische Universitaet Kaiserslautern, Germany;
- Tofas, Turkey;
- Transport & Mobility Leuven NV, Belgium;
- Tulln Energie GesmbH Austria;
- University “Angel Kanchev” din Ruse, Bulgaria;
- State University of Environment Odessa, Ukraine;
- Technical University Kishinev, Republic of Moldova;
- Technical University Sofia, Bulgaria;
- Technological University Wuhan, National Laboratory of Advanced Technology for Materials Synthesis and Processing, P. R of China;
- University of Cyprus, Cyprus;
- University of Novi Sad, Technical Faculty “Mihajlo Pupin”, Serbia;
- University of Technology and Economics, Budapest, Hungary;
- Universitaet fuer Bodenkultur Wien, Austria;
- Universita degli Studi della Basilicata, Italy;
- Ville de Dudelange, Luxembourg.

- **INCIE ICPE-CA inclusion in international databases that promote partnerships:**

	No. 2015	No. 2014
INCIE ICPE-CA inclusion in international databases that promote partnerships	6	4

Enterprise Europe Network – via the project BISNET TRANSYLVANIA “Business Support and Innovation Network for SMEs in Transylvania”;

European Space Agency (cod ESABD 81118);

ELI-NP (Extreme Light Infrastructure) - Măgurele, Ilfov County;

IFA (Institute for Atomic Physics) – Bucharest - Măgurele;

CORDIS (Community Research and Development Information Service);

ESAS (European Society for Applied Superconductibility) (ICPE-CA Member; Member: Dr. Eng. Ion Dobrin).

- **INCIE ICPE-CA inclusion as a member of research networks/member in professional associations nationally / internationally prestigious:**

	No. 2015	No. 2014
INCIE ICPE-CA inclusion as a member of research networks/ member in professional associations nationally / internationally prestigious	64	45

ICPE-CA operates through its representatives as a member of the European platforms:

EuMaT – Steering Committee;

High Energy Storage Ring HESR;

International Facility for Antiproton and Ion Research FAIR,

and national platforms:

Cluster ***Electrotechnical Regional Cluster ETREC*** – Braşov;

Cluster ***Măgurele High Tech Cluster MHTC*** – Bucharest-Ilfov;

Regional Cluster ***Mechatronics Cluster MECHATREC*** – Bucharest-Ilfov;

Pole of competitiveness cluster ***IND-AGRO-POL*** – Bucharest;

Cluster ***Advanced Materials, Micro and Nanotechnologies ADMATECH*** – Cluj-Napoca;

Cluster in ***Electrical Engineering*** – Bucharest;

Cluster for ***Renewable Energy at the Black Sea and Danube CERMAND*** – Bucharest;

Cluster ***Transylvania Textile and Fashion;***

COST Action CM1101 (Member: Dr. Phys. Jenica Neamţu);

ITPlus Cluster;

National Group for Reflection EuMaT;

EuMaT Platform in Romania,

as well as in other professional associations:

Academy of Technical Sciences of Romania;

International Atomic Energy Agency (Member: Dr. Chem. Traian Zaharescu);

Romanian Association of Materials “Theodor Segărceanu” (Members: Dr. Eng. Phys. Jana Pinte, Dr. Eng. Phys. Delia Pătroi);

Romanian Association of Welding ASR (Member: Dr. Eng. Violeta Tsakiris);

Romanian Association of Materials ARM (Vice-president: Prof. Dr. Phys. Wilhelm Kappel);

General Association Engineers in Romania AGIR (Vice-president of Constanţa Branch: Prof. Dr.Eng. Gheorghe Samoilescu, Members: Prof. Dr. Wilhelm Kappel, Dr. Eng. Sergiu Nicolaie, Dr. Eng. Jana Pinte, Dr. Eng. Mihai Bădic, Dr. Eng. Cristian Morari; Dr. Eng. Florentina Bunea; Dr. Eng. Violeta Tsakiris);

International Association for Hydro-Environment Engineering IAHR (Member: Dr. Eng. Oprina Gabriela);

Romanian Association of Electronic and Software Industry ARIES;

Electromagnetic Compatibility Association in Romania ACER (Members: Dr. Eng. Mihai Bădic, Prof. Dr. Eng. Gheorghe Samoilescu);

Balkan Environmental Association B.E.N.A (Member: Prof. Dr. Eng. Samoilescu Gheorghe);

International Association of Engineers in Machines Developing SAE – USA (member: Prof. Univ. Dr. Eng. Samoilescu Gheorghe);

Professional Association New Energy Sources SunE;

Romanian Association of Drilling Contractors;

Association Club CO₂;

Romanian Electrotechnical Committee CER;

Chamber of Commerce and Industry of Bucharest CCIB;

Commission for the EU Ecolabel (Member: Dr.Eng. Alecu Georgeta, according to Order No..1718/12.07.2013 released by the Ministry of Environment and Climatic Changes);

Romanian Committee for Industry Armatures (CRIA);

Strategic Orientation Committee of Mine-Oil-Geology (Member: Dr. Eng. Marin Georgiana);

Standardization Technical Committees ASRO (Standards Association of Romania) – Technical Committee:

- CT 1 “Rotative Electrical machines” (Member: Dr.Eng. Mihail Popescu);
- CT 19 “Conditions, classification, environmental tests. Standardization on environmental issues for systems and electrical and electronic products. energy management” (Member: Dr.Eng. Georgeta Alecu);
- CT 20 “Ferrite magnetic components ” (Members: Dr. Eng. Mirela Codescu and Prof. Dr. Wilhelm Kappel);
- CT 22 “Electromedical equipment” (Member: Dr. Eng. Cristinel Ilie);
- CT 25 “Magnetic materials” (Members: Dr. Eng. Mirela Maria Codescu and Prof. Dr. Wilhelm Kappel);
- CT 30 “Electromagnetic compatibility and radio disturbances” (Member: Dr.Eng. Georgeta Alecu);
- CT 32 “Technical ceramics” (Member: Eng. Țârdei Christu);
- CT 34 “Superconductibility” (Member: Dr.Eng. Ion Dobrin);
- CT 78 “Road vehicles” (Member: Dr. Eng. Marcel Dorian Marin);
- CT 89 “Industrial fittings” (President: Dr. Eng. Georgiana Marin; Member: Eng. Gheorghe Șontu, Eng. Georgeta Stoianovici);
- CT 109 “Flowmeters” (Members: Eng. Georgeta Stoianovici);
- CT 133 “Hydraulic turbines ” (Member: Dr. Eng. Gabriela Oprina; Eng. Adrian Nedelcu);
- CT 135 “Capacitors and resistors for electronic equipment (Member: Dr.Eng. Jana Pinteaa);
- CT 169 “Materials, equipment and offshore structures for petroleum and natural gas industries ” (Member: Eng. Georgeta Stoianovici);
- CT 174 “Wind turbines and wave & tides energy conversion systems” (Member: Dr.Eng. Mihail Popescu; Dr.Eng. Sergiu Nicolaie);
- CT 279 “Human exposure to electromagnetic fields” (President: Dr. Eng. Phys. Jana Pinteaa);
- CT 333 “Electric vehicles for road traffic, industrial electrical wheelchairs and associated electrical equipment ” (Members: Eng. Adrian Nedelcu; Dr. Eng. Marcel Dorian Marin);
- CT 378 “Nanotechnologies” (expert: Dr. Eng. Gabriela Hristea) – International Electrotechnical Commission;

Egyptian Corrosion Society (member: Dr. Eng. Iosif Lingvay);

Oil and Gas Employers’ Federation;

Romanian Federation of Biomedical Engineering FRIB (INC DIE ICPE-CA – Member in the Board Committee, Permanent Member);

IEEE Society – USA (Members: Enescu Elena, Alecu Georgeta, Lucaci Mariana, Kappel Wilhelm, Nicolaie Sergiu, Bădic Mihai, Chiriță Ionel, Nedelcu Adrian, Tsakiris Violeta, Samoilescu Gheorghe);

IEEE Biomedical Engineering (Members: Dr. Eng. Mircea Ignat);

Institute for Professional Representatives of European Patent Office, Germany (member: Eng. Elena Macamete);

MTA (Hungarian Academy of Sciences) (Member: Dr. Eng. Iosif Lingvay);

National Network of Promoters, Facilitators and Experts in the EU Strategy for the Danube Region PROFEX (member: Dr.Eng. Alecu Georgeta);

SRMM (Romanian Society for Magnetic Materials), (Vice-president: Prof.Dr.Phys. Wilhelm Kappel; treasurer: Dr. Eng. Mirela Maria Codescu; Members: Dr. Eng. Eros Pătroi, Dr. Eng. Georgeta Alecu, Dr. Eng. Delia Pătroi);

Electronic Microscopy Society of Romania SMER (Member: Dr. Eng. Delia Pătroi);

European Electronic Microscopy Society of Romania ESM (Member: Dr. Eng. Delia Pătroi);

Romanian Society of Powder Metallurgy SRMP;

Romanian Society of Carbon Materials SRMC;

Romanian Society of Ceramics CEROM (Member: Eng. Christu Țârdei; Eng. Georgeta Velciu; Dr. Eng. Phys. Jana Pintea);

Romanian Society for Biomaterials SRB (member: Eng. Christu Țârdei; Dr. Eng. Mihai Iordoc);

Romanian Society for Physics;

Society of Electrochemistry ECS (Member: Dr. Eng. Mihai Iordoc);

Romanian Society of Chemistry (Member: Dr. Eng. Carmen Ștefănescu);

Society of the Technical Extrajudicial Experts and Consultants within the General Association of Engineers in Romania SETEC – AGIR (Member: Dr. Eng. Delia Pătroi);

Society for the Promotion of Renewable Energies, Inexhaustible and New SPERIN (Member: Dr. Eng. Sergiu Nicolaie);

European Society of Applied Superconductivity ESAS (Member: Dr. Eng. Ion Dobrin);

Romanian Society for Non-Ionizing Electromagnetic Radiation Protection SRPRNI (Founding member: Prof. Dr. Gheorghe Samoilescu, members: Dr. Eng. Phys. Jana Pintea, Dr. Eng. Mihai Bădic);

Romanian Society for Quality Assurance SRAC (Auditor, Product expert: Eng. Sorina Mitrea);

Computer Assisted Engineering Society SIAC (Member: Prof. Univ. Dr. Eng. Samoilescu Gheorghe);

Employers Union of the Units for Research, Development and Design Centers in Romania;

Verein Deutscher Ingenieure VDI (Member: Prof. Dr. Wilhelm Kappel);

WEB Romanian National Committee of the World Energy Council (Collective member INCDIE ICPE-CA),

thus contributing to the harmonization of policies of Romanian and European research.

- participation in evaluation commissions for national and international competitions

	No. 2015	No. 2014
participation in evaluation commissions for national and international competitions	29	12

No.	Surname, name	Evaluation commissions for national and international competitions
1	Dr. Eng. Bădic Mihai	Member of doctoral committee – Faculty of Electrotechnics
2	Dr. Eng. Băra Adela	Commission for scientific events and exhibitions
3	Dr. Eng. Băra Adela	ERA Net RUS Plus Program evaluator
4	Dr. Eng. Băra Adela	Evaluator Expert Sectoral Operational Program
5	Dr. Chem. Budrugaec Petru	Doctoral coordinator
6	Dr. Eng. Bunea Florentina	Reviewer in the evaluation commission for the thesis “Investigations of Transient Pressure Loading on a High Head Francis Turbine”, by Trivedi Chirag, Division: Fluid and Experimental Mechanics, Department of Engineering Sciences and Mathematics, Luleå University of Technology, 26.03.2015, Sweden . Thesis coordinator - prof. Michel Cervantes. Minutes from meeting TFN-DB/12.02.2015.
7	Dr. Eng. Codescu Mirela Maria	ERA Net RUS Plus Program evaluator

8	Dr. Eng. Codescu Mirela Maria	Fulbright Senior Postdoctoral Award Competition for 2016 - 2017
9	Dr. Eng. Codescu Mirela	Doctoral commission reviewer
10	Dr. Eng. Dobrin Ion	Doctoral commission reviewer
11	Dr. Eng. Enescu Elena	Doctoral commission reviewer
12	Prof. Dr. Phys. Kappel Wilhelm	Doctoral PhD thesis reviewer
13	Prof. Dr. Phys. Kappel Wilhelm	Commission for scientific events and exhibitions
14	Dr. Eng. Lingvay Iosif	Doctoral commission reviewer
15	Dr. Eng. Lucaci Mariana	Doctoral commission reviewer
16	Dr. Eng. Lungu Magdalena-Valentina	Evaluator Expert / Rapporteur for research projects within the Human Resources Programme, sub-program "Young research teams" Call Number: PN-II-RU-TE-2014-4, coordinated by the Executive Unit for Financing Higher Education, Research, Development and Innovation (UEFISCDI), Romania
17	Dr. Eng. Lungu Magdalena-Valentina	Technical Program Committee Member of the "Second International Conference on Engineering and Application Materials (ICME 2015)", Oct. 17-18, 2015, Wuhan, China http://icmea2015.com/committees.html
18	Dr. Eng. Phys. Pătroi Eros Alexandru	Evaluator Expert Sectoral Operational Program
19	Dr. Eng. Pîslaru-Dănescu Lucian	Committee guidance member in the Doctoral School of Electrical Engineering, field of Engineering / Electrical Engineering doctoral Field
20	Dr. Eng. Samoilescu Gheorghe	Doctoral coordinator
21	Dr. Eng. Samoilescu Gheorghe	UPB Rector's Decision No.11 of 06.01.2015 Competition for employment of position 16 associate professor
22	Dr. Eng. Samoilescu Gheorghe	UPB Rector's Decision No.11 of 06.01.2015 Competition for employment of position 9 professor
23	Dr. Eng. Samoilescu Gheorghe	Maritime University of Constanța Rector's Decision No. 3 of 05.01.2015 Competition for employment of position 33 associate professor
24	Dr. Eng. Samoilescu Gheorghe	Maritime University of Constanța Rector's Decision No. 3 of 05.01.2015 Competition for employment of position 34 associate professor
25	Dr. Eng. Samoilescu Gheorghe	Maritime University of Constanța Rector's Decision No. 3 of 05.01.2015 Competition for employment of position 4 professor
26	Dr. Eng. Samoilescu Gheorghe	Maritime University of Constanța Rector's Decision No. 3 of 05.01.2015 Competition for employment of position 14 associate professor
27	Dr. Eng. Tsakiris Violeta	Competition commission for the post of assistant professor, position 6 of the Department of Materials, Equipment, Systems and Robots, Faculty of Materials Engineering and Mechanics, University Valahia of Targoviste (Decision No. 763/09.06.2015).
28	Dr. Zaharescu Traian	Projects for young researchers – UEFISCSU
29	Dr. Zaharescu Traian	UEFISCSU Romania - France Collaborative projects

▪ **scientific personalities who visited INC DIE ICPE-CA:**

	No. 2015	No. 2014
scientific personalities who visited INC DIE ICPE-CA	32	25

1. Prof. Dr. Gabriel Ciocan – Associate professor at University Laval, Canada and project manager at ALSTOM Hydro (General Electric) France, work visits in 20-25.10.2015 and 17-22.11.2015;
2. Prof. Dr. Cornel Ioana Gipsa-lab, Grenoble Institute of Technology, France, work visit: 24-26.07.2015;
3. Dr. Christian Tanguy, PIV expert, Dantec Dynamics, France, work visit: 17 – 19.11.2015;
4. Acad. Prof. Dr. Ion Tighineanu, Academy of Sciences of Moldova, Republic of Moldova, collaboration visit, 2 days;
5. PhDs. Tudor Braniște, Academy of Sciences of Moldova, Republic of Moldova, collaboration visit, 2 days;
6. PhDs. Vladimir Ciobanu, Academy of Sciences of Moldova, Republic of Moldova, collaboration visit, 2 days;
7. Dr. Take Constantinescu, Heidelberg / Germany;
8. Matveev V.A., Director of IUCN Dubna, Russia, collaboration visit, 2-5 Nov. 2015;
9. Matveeva R.V., Councillor of the Director of IUCN Dubna, Russia, collaboration visit, 2-5 Nov. 2015;
10. Itkis M.G., Vice-Director of IUCN Dubna, Russia, collaboration visit, 2-5 Nov. 2015;
11. Shcherbinina N.I., Russia, collaboration visit, 2-5 Nov. 2015;
12. Trubnikov G.V., Vice-Director of IUCN Dubna, Russia, collaboration visit, 2-5 Nov. 2015;
13. Trubnikov L., Russia, collaboration visit, 2-5 Nov. 2015;
14. Arbuzov A.B., Deputy Director of BLTP, Russia, collaboration visit, 2-5 Nov. 2015;
15. Stratan Gh., senior researcher, IUCN Dubna, Russia, collaboration visit, 24 Oct. – 14 Nov. 2015;
16. Nedelko S.N., Scientific Secretary of BLTP, Russia, collaboration visit, 2-5 Nov. 2015;
17. Bednyakov V.A., Director of DLNP, Russia, collaboration visit, 2-5 Nov. 2015;
18. Naumov D.V., Deputy Director of DLNP, Russia, collaboration visit, 2-5 Nov. 2015;
19. Popeko A.G., Deputy Director of FLNR, Russia, collaboration visit, 2-5 Nov. 2015;
20. Gulbekyan G.G., Chief Engineer FLNR, Russia, collaboration visit, 2-5 Nov. 2015;
21. Lisy V., Deputy Director of LBR, Russia, collaboration visit, 2-5 Nov. 2015;
22. Shvetsov V.N., Director of FLNP, Russia, collaboration visit, 2-5 Nov. 2015;
23. Culicov O.A., Deputy Director of FLNP, Russia, collaboration visit, 2-5 Nov. 2015;
24. Korenkov V.V., Director of LIT, Russia, collaboration visit, 26-27 Oct. 2015;
25. Korenkov V.V., Director of LIT, Russia, collaboration visit, 31 Oct. - 6 Nov. 2015;
26. Adam Gh., Deputy Director of LIT, Russia, collaboration visit, 19 Oct. - 12 Nov. 2015;
27. Adam S., senior researcher LIT, Russia, collaboration visit, 19 Oct. - 12 Nov. 2015;
28. Sorin A.S., Deputy Director of VBLHEP, Russia, collaboration visit, 2-5 Nov. 2015;
29. Khodjibagiyan G.G., Deputy Director of VBLHEP, Russia, collaboration visit, 2-5 Nov. 2015;
30. Kotova A.A., Department of International Affairs, Russia, collaboration visit, 2-5 Nov. 2015;



Visit of the Russian delegation from JINR Dubna, on 4 November 2015

31. Dr. Markus Meyer, Netzsch Gerätebau, Selb, Germany, Netzsch Company;
32. Prof. Dr. Ata Karavana, Üniversitesi Mühendislik Fakültesi Deri İzmir – Turkey, Romania – Turkey bilateral project, Contract No. 7097/2014 “Comparative characterization techniques for naturally and artificially aged leather”;

- invited lectures, courses and seminars held by the invited scientific personalities:

	No 2015	No. 2014
invited lectures, courses and seminars held by the invited scientific personalities	31	32

- Dr. Take Constantinescu, Heidelberg, Germany, *"The role and effectiveness of research, innovation and development in the modern society"*, 29 June 2015;
- Dr. Lukasz Wilk, Regional Sales Manager of ETS-Lindgren, accompanied by Mr. Andrei Șerbănescu, Distribution Director of Romtek Electronics SRL, presentation of equipment and systems for Electromagnetic Compatibility (EMC) - anechoic and semi-anechoic rooms, shielded rooms, measuring antennae EMC test systems and filtering, 26 February 2015;
- Dr. Andreas Stamm, Oxford Instruments, technical solution of providing a PECVD-type systems - plasma enhanced chemical vapour deposition, 26 February 2015;
- Radu Cosma, Alin Mihăilă, Vlad Mosseshon - Center for the Youngsters Initiation in Scientific Research ICPE-CA, Tudor Vianu College, Bucharest, *"Bioengineering of upper limb rehabilitation,"* INGIMED XVI - Biomedical Engineering 2015: European guidelines, Bucharest, 26 Nov. 2015;
- Prof. Dr. Constantin Bogdan (MD) – Psychiatry Clinical Hospital „Alexandru Obregia”, *"In memoriam of POMILIU MANEA: 40 years of medical engineering in Transilvania"*, INGIMED XVI – Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- Prof. Dr. Radu Negoescu – National Institute for Public Health, *"Biomedical Engineering 2015: quo vadis Europe?"*, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- Conf. Dr. Manole Cojocaru (MD), Dr. Cristina Mocanu (MD) – University Titu Maiorescu Romania, Mapamond/Diacor/Carpatia Group Finland, *"Plasmapheresis 2015: technology and therapeutic spectrum"*, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- Prof. Dr. Andrei Marinescu, Prof. Dr. Mihai Tărăță, Prof. Dr. Mihai Iordache – INCD-ICMET Craiova, UMF Craiova/Department of Medical Informatics and Biostatistics, University Politehnica of Bucharest/Faculty of Electrical Engineering, *"Current status and prospects of WiTricity technology application to medical implants"*, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- Prof. Assoc. Dr. Vitalie Scripnic, Prof. Dr. Leonid Churilov (MD), Dr. Valeriu Cobeț (MD), Prof. Dr. Aurel Saulea (MD), Conf. Dr. Vasile Socolov (MD), Corneliu Scripnic (MD) – CRRMS Kishinev, Saint Petersburg State University Russia, Institute of Cardiology Kishinev, CRRMS Kishinev, ULIM Kishinev, CRRMS Kishinev, Republic of Moldova, *"Systems rennin - angiotensin and kinnin - kallikrein between the industrial society and the information society. Conflict defensive programs: pathogenic or sanogenous?"*, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- Assist. Dr. Corina Cîrcei, Prof. Dr. Ciprian Răcuciu; Dr. Ion Tiseanu, Eng. Adrian Sima - University Titu Maiorescu; National Institute for Laser, Plasma and Radiation, *"Study regarding the fidelity imaging in dental medicine"*, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- PhDs. Laurențiu-Cristian Burcoș (MD) - University Politehnica of Bucharest/Faculty of Electronics, *"Current status in neuro handwriting analysis with applications in diagnostics"*, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- Assist. Dr. Cristina Stoica (MD) – University Titu Maiorescu, *"The imagistic correlations - current approach to diagnosis"*, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;

- Carmen Popa, Andra Ciutac - Center for the Youngsters Initiation in Scientific Research ICPE-CA, George Coșbuc College, Bucharest, „*Study on motility of the ocular system with applications in non-conventional electromechanical drives*”, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- Ana Maria Tudorache, Miruna Ojoga - Center for the Youngsters Initiation in Scientific Research ICPE-CA, International Highschool of Informatics, Bucharest „*Sensors and systems for monitoring and evaluation of upper limb after the recovery procedures*”, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- Prof. Dr. Eng. Nicolae Golovanov (UPB – Faculty of Energetics), PhDs. Eng. Andreea El-Leathey (INCIE ICPE-CA), „*Research at the national and international level related to Smart Grid for the period 2016-2020*” Round Table “*Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020*”, 18 November 2015;
- Dr. Eng. Dan Teodoreanu (SunE), Ion Murgescu (Altius Fotovoltaic), „*Research at the national and international level related to Solar Power for the period 2016-2020*”, Round Table “*Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020*”, 18 November 2015;
- Dr. Eng. Marian Dobrin (ISPE), „*Priority directions of research in transport and energy distribution. Smart Grids*”, Round Table “*Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020*”, 18 November 2015;
- Dr. Eng. Vasile Rugină (INCIE ICEMENERG), „*Priority directions of research to increase energy efficiency by using renewable energy sources - INCIE ICEMENERG*”, Round Table “*Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020*”, 18 November 2015;
- PhDs. Eng. Mihai Bălan (ICSI Rm. Vâlcea), „*Priority directions of research in renewable energy storage*”, Round Table “*Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020*”, 18 November 2015;
- Prof. Dr. Eng. Florin Teodor Tănăsescu, CER, „*ICPE-CA at the 65th Anniversary “Closing Conference of the PROMETEU project*”, 25 November 2015;
- Prof. Dr. Eng. Florin Teodor Tănăsescu, CER, „*ICPE-CA at the 65th Anniversary*”, Seminar for the History of the Romanian Electrical Engineering, the 7th edition, 29 October 2015;
- Dr. Eng. Dorin Poenaru, IFIN-HH, „*Personality of the great scientist Alexandru Proca*”, Seminar for the History of the Romanian Electrical Engineering, the 7th edition, 29 October 2015;
- Eng. Ioniță Dăescu, UPB, „*Dragomir Hurmuzescu, the parent of the Romanian radiophony*”, Seminar for the History of the Romanian Electrical Engineering, the 7th edition, 29 October 2015;
- Student Tudor Vișan Miu, University of Bucharest, Faculty of History, „*Lascăr Duiliu Zamfirescu: from a diplomat father and grandfather, to an exceptional engineer*”, Seminar for the History of the Romanian Electrical Engineering, the 7th edition, 29 October 2015;
- Student Tudor Vișan Miu, Faculty of History, University of Bucharest, „*From Aristotel’s Organon to the New Organon or a fundamental change of consciousness in two millennia*”, The 2nd Scientific Session of Young Olympians, September 11, 2015;
- Student Luca Florescu, Center for the Youngsters Initiation in Scientific Research ICPE-CA (CITCS), National College of Informatics „Tudor Vianu”, „*A formulation of the problem of energy produced in a membrane nanopores by electrokinetic effect*”, The 2nd Scientific Session of Young Olympians, September 11, 2015;
- Student Ana Maria Tudorache, student Miruna Ojoga, Center for the Youngsters Initiation in Scientific Research ICPE-CA (CITCS), Theoretical Highschool of Informatics Bucharest, „*Aspects regarding the monitoring of the upper limb*”, The 2nd Scientific Session of Young Olympians, September 11, 2015;

- Student Andrei Corbeanu, student Maria Velicu, Center for the Youngsters Initiation in Scientific Research ICPE-CA (CITCS), National College of Informatics „Tudor Vianu”, *“Some applications of microwires”*, The 2nd Scientific Session of Young Olympians, September 11, 2015;
- Student Elena Yuan, student Ionuț Costin, Center for the Youngsters Initiation in Scientific Research ICPE-CA (CITCS), Theoretical Highschool of Informatics Bucharest, *“A bionic study on bacteria magnetic. Applications”*, The 2nd Scientific Session of Young Olympians, September 11, 2015;
- Student Matei Simtinică, Center for the Youngsters Initiation in Scientific Research ICPE-CA (CITCS), National College „Mihai Viteazul”, *“Harvesting microsources based on the mechanical vibration conversion”*, The 2nd Scientific Session of Young Olympians, September 11, 2015;
- Student Alin Mihăilă, student Vlad Mosseshon, student Radu Cosma, Center for the Youngsters Initiation in Scientific Research ICPE-CA (CITCS), National College of Informatics „Tudor Vianu”, *“Devices for upper limb rehabilitation procedures”*, The 2nd Scientific Session of Young Olympians, September 11, 2015;

INVITED LECTURES / courses and seminars held by the INC DIE ICPE-CA researchers

- ◆ Dr. Eng. Mihai Bădic, *Selective Fractioning - Principles and achievements*, Workshop *“Innovative Electro-Technologies for Metal Recovery by Waste Processing”*, 30 October 2015, ICPE-CA Bucharest;
- ◆ Dr. Eng. Phys. Jana Pintea, *Waste and specific legislation*, Workshop *“Innovative Electro-Technologies for Metal Recovery by Waste Processing”*, 30 October 2015, ICPE-CA Bucharest;
- ◆ Dr. Traian Zaharescu, *Course of Polymers radiochemistry*, University of Sao Paulo, Brazil;
- ◆ Dr. Traian Zaharescu, *Course of “The effect of ionizing radiation on aging of polymeric materials”*, University Naval of Sao Paulo, Brazil;
- ◆ Dr. Traian Zaharescu, *„Irradiation Processing - from academic studies to industrial applications”*, 18 May 2015, INC DIE ICPE-CA;
- ◆ PhDs. Eng. Dan Daniel, PhDs. Eng. Nicolae Tanase, *“Analysis, characterization and optimization of electromagnet Steerer for the project FAIR”*, 18 May 2015, INC DIE ICPE-CA;
- ◆ Dr. Eng. Carmen Mateescu, Seminar *“Research at the national and international level related to Biomass for the period 2016-2020”* Round Table *“Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020”*, 18 November 2015, INC DIE ICPE-CA;
- ◆ Dr. Iosif Lingvay, Dr. Magdalena-Valentina Lungu, Seminar *“Phenomena of wear, erosion and corrosion (tribocorrosion) and their prevention in the industry”*, organized by Meda Consulting Company, on 27 May 2015 at Phoenicia Grand Hotel Bucharest;
- ◆ Dr. Eng. Simona Apostol, PhDs. Eng. Dan Daniel, PhDs. Eng. Adrian Nedelcu, *“Comsol - Mediu Software for the Multiphysics Modelling”*, 19 May 2015, INC DIE ICPE-CA;
- ◆ Dr. Eng. Iosif Lingvay, *“Corrosion management”*, 25 February 2015, INC DIE ICPE-CA;
- ◆ Dr. Eng. Iosif Lingvay, *“Degradation by corrosion of metallic structures. Corrosion protection methods”*, 25 February 2015, INC DIE ICPE-CA;
- ◆ Dr. Eng. Mircea Ignat, *“Case Study - ISEF competition - INTEL 2015 Occidental mentalities”*, 3 June 2015, INC DIE ICPE-CA;
- ◆ Dr. Eng. Mircea Ignat, *„Biomedical engineering programs under the center for students initiating in scientific research ICPE-CA”*, INGIMED XVI - Biomedical Engineering 2015: European directions, Bucharest, 26 Nov. 2015;
- ◆ Dr. Eng. Mircea Ignat – INC DIE ICPE-CA, *„Manners in scientific research”*, INC DIE ICPE-CA seminar, 4 March 2015;
- ◆ Dr. Eng. Mircea Ignat, *„Seven people looking for scientific research or a challenge: initiating in scientific research at the high school level”*, debating on the theme *“Initiation in scientific research at high school level”*, 7 October, 2015, Group for Social Dialogue;

- ◆ PhDs. Eng. Dan Daniel, *"Magnetic measurements with Hall probe"*, 13 July 2015, ICPE-CA;
- ◆ Dr. Eng. Emilia-Simona Apostol, *"Moving from the determinism of classical physics to the non-determinism of the quantum mechanics"*, Seminar for the History of the Romanian Electrical Engineering, the 7th edition, 29 October 2015;
- ◆ Dr. Eng. Mircea Ignat, *"Electrical engineering during the monarchy"*, Seminar for the History of the Romanian Electrical Engineering, the 7th edition, 29 October 2015;
- ◆ Prof. Dr. Phys. Wilhelm Kappel, Eng. Ion Ivan, *"ICPE-CA: 65 years of technological transfer"*, *"Closing Conference of the PROMETEU project"*, 25 November 2015;
- ◆ Dr. Eng. Elena Enescu, *"Presentation of the PROMETEU project"*, *"Closing Conference of the PROMETEU project"*, 25 November 2015;
- ◆ Dr. Eng. Georgiana Marin, Conference *"The history of the Romanian electromechanical equipment used in offshore and land drilling"*, 17 September 2015, organized by ISPE SA (Amphitheatre Acad. Martin Bercovici), paper: *"Romanian tradition and competences in designing of the equipments used in offshore and land drilling"*;
- ◆ Dr. Eng. Georgiana Marin, CIEM 2015, *"Preliminary Report on the priorities and strategic directions for research - development and innovation in energy in the period 2016 - 2020, detailed on the types of energy sources and categories of producers, transporters and consumers"* – Priority direction: Recovery of fossil fuels as a primary energy sources;
- ◆ PhDs. Eng. Andreea El-Leathay (INCDIE ICPE-CA), Prof. Dr. Eng. Nicolae Golovanov (UPB – Faculty of Energetics), *"Research at the national and international level related to Smart Grid for the period 2016-2020"*, Round Table *"Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020"*, 18 November 2015 ICPE-CA;
- ◆ Dr. Eng. Sergiu Nicolaie, *"Research at the national and international level related to Wind Power for the period 2016-2020"*, Round Table *"Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020"*, 18 November 2015;
- ◆ Dr. Eng. Gimi Rîmbu (INCDIE ICPE-CA), Dr. Eng. Ionel Chiriță (INCDIE ICPE-CA), *"Research at the national and international level related to Energy Storage for the period 2016-2020"*, Round Table *"Establishing the strategic directions and priority objectives of the research - development and innovation in the field of microgeneration from renewable energy sources, for the period 2016-2020"*, 18 November 2015;
- ◆ Eng. Christu Țârdei, *"Experimental study on efficiency of different synthetic hydroxyapatite powders for lead removal from aqueous solutions"*, The 8th International Conference on Advanced Materials ROCAM 2015, 7-10 July 2015, Bucharest;
- ◆ Eng. Gabriela Telipan, *"Synthesis and characterization of cobalt oxide Ca₃Co₄O₉ used as thermoelectric material"*, The 8th International Conference on Advanced Materials ROCAM 2015, 7-10 July 2015, Bucharest;
- ◆ Dr. Eng. Teodora Mălăeru, *"Prepared and electrical characterization of flexible piezoelectric bt/silicone rubber nanocomposite"*, The 8th International Conference on Advanced Materials ROCAM 2015, 7-10 July 2015, Bucharest;
- ◆ Dr. Eng. Teodora Mălăeru, *"Synthesis and characterization of hydrophobic superparamagnetic Fe₃O₄ nanoparticles"*, The 8th International Conference on Advanced Materials ROCAM 2015, 7-10 July 2015, Bucharest;
- ◆ Dr. Eng. Jana Pinte, *"Variation of the magnetic and electrical properties in (1-x)BiFeO₃-xBaTiO₃ solid solutions"*, The 8th International Conference on Advanced Materials ROCAM 2015, 7-10 July 2015, Bucharest;
- ◆ PhDs. Eng. Florentina Grigore, *"Hydroxyapatite prepared by spark plasma sintering"*, The 8th International Conference on Advanced Materials ROCAM 2015, 7-10 July 2015, Bucharest;
- ◆ Dr. Eng. Cristiana Cîrstea, *"Characterization of TiNi shape memory alloys obtained by spark plasma sintering process"*, The 8th International Conference on Advanced Materials ROCAM 2015, 7-10 July 2015, Bucharest;
- ◆ Dr. Eng. Elena Chițanu, *"Synthesis by chemical method of Zn-Ni-Fe mixed spinel nanoferrites"*, The 8th International Conference on Advanced Materials ROCAM 2015, 7-10 July 2015, Bucharest.



Course of Radiation Processing held by Dr. Traian Zaharescu at the Maritime Academy of Sao Paulo, Brazil



Course of Radiation Processing of Polymers held by Dr. Traian Zaharescu at the University of Sao Paulo, Brazil

- members of the editorial board of ISI-acknowledged journals (or included in the international data bases) and of the international editorial board

	No. in 2015	No. in 2014
members of the editorial board of ISI-acknowledged journals (or included in the international data bases) and of the international editorial board	77	58
A. Specialist reviewers in ISI-acknowledged journals	54	44
B. Members of the editorial board of ISI-acknowledged / BDI journals	12	4
members of the editorial board of acknowledged national journals (B class in CNCSIS classification)	11	10

A. SPECIALIST REVIEWERS IN ISI-ACKNOWLEDGED JOURNALS

Year 2015

Ref. No.	Journal	Surname and name of the specialist reviewer
1	Journal of Thermal Analysis and Calorimetry, <i>edited by Springer Verlag</i>	Budrugeac Petru
2	Thermochimica Acta, <i>edited by Elsevier Science</i>	Budrugeac Petru
3	International Journal of Conservation Science, <i>edited by „Alexandru Ioan Cuza” Publishing Home, Iasi - Romania</i>	Budrugeac Petru
4	Chemical Papers, <i>edited by Springer Verlag</i>	Budrugeac Petru
5	Polymer Degradation and Stability, <i>edited by Elsevier Science</i>	Budrugeac Petru
6	International Journal of Innovation and Applied Studies	Codescu Mirela Maria
7	Horizon Research Publishing	Codescu Mirela Maria
8	Metallurgical and Materials Transactions A	Codescu Mirela Maria
9	Energy & Fuels	Cucoş Andrei
10	Journal of Alloys and Compounds	Lucaci Mariana
11	IEEE Sensors	Ignat Mircea
12	IEEE Power	Ignat Mircea
13	Optoelectronics and Advanced Materials – Rapid Communications	Kappel Wilhelm
14	Korróziós figyel ISSN: 0133-2546	Lingvay Iosif
15	Journal of Environmental Management ISSN: 0301-4797	Lingvay Iosif
16	Biomedical Materials	Lungu Magdalena
17	Journal of Nanoparticle Research	Lungu Magdalena
18	RSC Advances	Lungu Magdalena
19	Advanced Materials Research	Lungu Magdalena
20	New Journal of Chemistry	Lungu Magdalena
21	Metallurgical and Materials Transactions A	Lungu Magdalena
22	Nanotechnology	Lungu Magdalena
23	Chemical Industry & Chemical Engineering Quarterly	Lungu Magdalena
24	Optoelectronics and Advanced Materials – Rapid Communications	Lungu Magdalena
25	Journal of Physics D: Applied Physics	Lungu Magdalena
26	International Journal of Nanomedicine	Lungu Magdalena
27	Journal of Alloys and Compounds	Lungu Magdalena
28	Physics B	Pintea Jana
29	Progress in Electromagnetic Research	Pintea Jana
30	Journal of Mechanical Engineering Science	Pîslaru-Dănescu Lucian
31	Nondestructive Testing and Evaluation	Pîslaru-Dănescu Lucian
32	IEEE IAS Publications, Industry Applications Magazine	Pîslaru-Dănescu Lucian
33	Journal of Magnetism and Magnetic Materials	Pîslaru-Dănescu Lucian
34	Revue Roumaine des Sciences Techniques, Série Électrotechnique et Énergétique	Samoilescu Gheorghe
35	Chemical Industry & Chemical Engineering Quarterly (CICEQ)	Setnescu Radu
36	J Applied Polymer Science	Setnescu Radu
37	Journal of Materials Chemistry A	Telipan Gabriela
38	New Journal of Chemistry	Telipan Gabriela
39	RCS Advances	Telipan Gabriela
40	Materials Research Innovations	Tsakiris Violeta
41	Journal of Alloys and Compounds	Tsakiris Violeta
42	Journal of Applied Polymer Science	Zaharescu Traian

Ref. No.	Journal	Surname and name of the specialist reviewer
43	Radiation Physics and Chemistry	Zaharescu Traian
44	Polymer Testing	Zaharescu Traian
45	Polymer	Zaharescu Traian
46	Polymer Degradation and Stability	Zaharescu Traian
47	Polymer Bulletin	Zaharescu Traian
48	Materiale Plastice	Zaharescu Traian
49	Journal of Polymers	Zaharescu Traian
50	European Polymer Journal	Zaharescu Traian
51	Nuclear Instruments and Methods in Physical Research	Zaharescu Traian
52	Progress in Nuclear Science	Zaharescu Traian
53	Materials Chemistry and Physics	Zaharescu Traian
54	Materials Letters	Zaharescu Traian

B. MEMBERS OF THE EDITORIAL BOARD OF ISI-ACKNOWLEDGED / BDI JOURNALS

Year 2015

Ref. No.	Journal	Surname, name
1	Journal of Thermal Analysis and Calorimetry, <i>edited by Springer Verlag</i>	Budrugaec Petru
2	International Journal of Conservation Science, <i>edited by „Alexandru Ioan Cuza” Publishing Home, Iasi - Romania</i>	Budrugaec Petru
3	Electrotechnics, Electronics, Automatics (EEA)	Bădic Mihai
4	Scientific Bulletin of UPB	Dobrin Ion
5	Journal of Chemical Engineering and Materials Science	Iordoc Mihai
6	American Journal of Energy Engineering	Iordoc Mihai
7	Journal of Materials and Design (referent)	Iordoc Mihai
8	Optoelectronics and Advanced Materials – Rapid Communications	Kappel Wilhelm
9	Scientific Bulletin – Maritime Academy “Mircea cel Bătrân”	Samoilescu Gheorghe
10	Journal of Marine Technology and Environment	Samoilescu Gheorghe
11	Journal of Science and Arts (JOSA)	Setnescu Radu
12	Journal of Chemistry (Revista de Chimie)	Zaharescu Traian

- **members of the editorial board of acknowledged national journals (B class in CNCSIS classification)**

Year 2015





Ref. No.	Journal	Surname, name
1	Journal of Policy Science and Scientometrics (Revista de Politica Științei și Scientometrie)	Kappel Wilhelm
2	Bulletin of Micro and Nanoelectrotechnology <i>June 2015, vol. VI, No. 1-2</i>	Ignat Mircea – Editor in Chief
3	Bulletin of Micro and Nanoelectrotechnology <i>June 2015, vol. VI, No. 1-2</i>	Obreja Ani Gabriela
4	Bulletin of Micro and Nanoelectrotechnology <i>June 2015, vol. VI, No. 1-2</i>	Morari Cristian
5	Electrotechnics (Electrotehnica)	Ignat Mircea

Ref. No.	Journal	Surname, name
6	Journal of the Romanian Electrotechnics History (Revista de Istoria Electrotehnicii Românești), <i>June 2015, Vol. 2, No. 1</i>	Tănăsescu Florin Teodor – Honorary Editor in Chief
7	Journal of the Romanian Electrotechnics History (Revista de Istoria Electrotehnicii Românești), <i>June 2015, Vol. 2, No. 1</i>	Ignat Mircea – Editor in Chief
8	Journal of the Romanian Electrotechnics History (Revista de Istoria Electrotehnicii Românești), <i>June 2015, Vol. 2, No. 1</i>	Iosif Olguța Gabriela
9	Journal of the Romanian Electrotechnics History (Revista de Istoria Electrotehnicii Românești), <i>June 2015, Vol. 2, No. 1</i>	Tănase Iulia Petruța
10	Journal of the Romanian Electrotechnics History (Revista de Istoria Electrotehnicii Românești), <i>June 2015, Vol. 2, No. 1</i>	Obreja Ani Gabriela
11	Proceeding of the “International Conference on Sustainable Solutions for Energy and Environment EENVIRO 2015”, 18-20 November 2015, Bucharest, Romania, indexed Thompson Reuters Web of Science, SCOPUS and Science Direct	Reviewer: Pîslaru-Dănescu Lucian





8.2. Presenting the results at national and international fairs and exhibitions




		Number of, in 2014	Number of, in 2015
8.2.1	Results at the national fairs and exhibitions	<ul style="list-style-type: none"> - 10 Diplomas for patents - 1 Medal and Diploma of participation at the Romanian Research Salon 2014 	<ul style="list-style-type: none"> - Diploma of participation at the Romanian Research Salon 2015 - Diploma of Appreciation at ATEE Exhibition 2015, Bucharest
8.2.2	Results at the international fairs and exhibitions	<ul style="list-style-type: none"> - 9 Diplomas - 4 Gold Medals - 3 Silver Medals - 2 Bronze Medals - Grand Prize of the Technical University of Cluj-Napoca - 2nd Prize awarded by UPB 	<ul style="list-style-type: none"> - 13 Diplomas - 8 Gold Medals - 4 Silver Medals - 1 Bronze Medal - Excellence Diploma awarded to Mr. Prof. Dr. Wilhelm Kappel




INTERNATIONAL FAIRS AND EXHIBITIONS

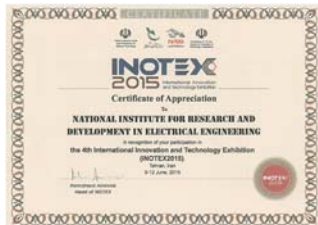
Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
1	International Salon of Inventions, Geneva - Switzerland	<p>The 42nd International Salon of Inventions, 2-6 April 2014, Geneva - Switzerland</p> <p>Bonze Medal for the invention <i>Installation for the active protection of the superconducting coil in the superconducting motors</i> (Instalație pentru protecția activă a bobinei supraconductoare la motoare supraconductoare)</p> <p>Authors: Pislaru-Dănescu Lucian, Dobrin Ion, Stoica Victor, Lipan Laurențiu Constantin, Pisciă Ioana</p>  <p>Bronze Medal for the invention <i>Inertial electromagnetic microgenerator</i> (Microgenerator electromagnetic inertial)</p> <p>Authors: Cătănescu Alexandru-Laurențiu, Ignat Mircea, Puflea Ioan, Tinca Ion</p> 	<p>The 43rd International Salon of Inventions, 15 - 19 April 2015, Geneva - Switzerland</p> <p>Silver Medal for the invention <i>Material for orthopaedic implant</i> (Material pentru implant orthopedic)</p> <p>Authors: lordoc Mihai, Codescu Mirela Maria, Teişanu Aristofan Alexandru, Prioteasa Paula</p>  <p>Bronze Medal for the invention <i>High magnetic field superconducting generator</i> (Generator supraconductor de câmp magnetic intens)</p> <p>Authors: Dobrin Ion, Nedelcu Adrian, Stoica Victor, Tănase Nicolae, Dan Daniel-Vasile</p>  <p>INC DIE ICPE-CA also attended with the following inventions:</p> <ul style="list-style-type: none"> ♦ Inductor-induced structure without ferromagnetic core for electrical machines with permanent magnets (<i>Structura inductor-indus fără miez magnetic pentru mașini electrice cu magneți permanenți</i>) <p>Authors: Kappel Wilhelm, Mihaiescu Gheorghe Mihai, Ilie Cristinel Ioan, Gavrilă Horia Cătălin, Vasile Iulian</p>


Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
			<p>♦ Process for obtaining planar junctions of carbonic material-steel type (<i>Procedeu de obținere joncțiuni planare de tip material carbonic-oțel</i>) Authors: Lungu Magdalena Valentina, Ion Ioana, Tsakiris Violeta, Enescu Elena, Lucaci Mariana, Grigore Florentina, Brătulescu Alexandra</p> <p>♦ Equipment for the conversion of the hydraulic energy obtained from the water streams (<i>Hidroagregat de conversie a energiei hidraulice extrase din cursurile de apă curgătoare</i>) Authors: Mihaiescu Ghe. Mihai, Popescu Mihail, Nicolaie Sergiu, Oprina Gabriela, Chiriță Ionel, Tănase Nicolae, Chihaia Rareș Andrei, Mituleț Lucia Andreea, Nedelcu Adrian</p> <p>♦ Magnetostrictive sonic motor with electronic drive module (<i>Motor sonic magnetostrictiv cu modul electronic de actionare</i>) Authors: Pîslaru Dănescu Lucian, Morega Alexandru Mihail, Morega Mihaela, Lipan Laurentiu Constantin, Bunea Florentina</p>



Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
2	The International Contest Brussels – EUREKA , dedicated to inventics, organized within the INNOVA Salon , Brussels - Belgium	<p>The 63rd edition of the International Contest Brussels – EUREKA, dedicated to inventics, organized within the INNOVA Salon on 13-15 November 2014, Brussels – Belgium</p> <p>Gold Medal for the invention Orthopaedic implant material (<i>Material pentru implant ortopedic</i>) Authors: Iordoc Mihai, Teişanu Aristofan, Prioteasa Paula, Codescu Mirela</p>  <p>Silver Medal for the invention Equipment for the conversion of the hydraulic energy obtained from the water streams (<i>Hidroagregat de conversie a energiei hidraulice extrase din cursurile de apă curgătoare</i>) Authors: Mihaiescu Ghe. Mihai, Popescu Mihail, Nicolaie Sergiu, Oprina Gabriela, Chiriță Ionel, Tănase Nicolae, Chihaia Rareș Andrei, Mituleț Lucia Andreea, Nedelcu Adrian</p>  <p>Silver Medal for the invention High magnetic field superconducting generator (<i>Generator supraconductor de câmp magnetic intens</i>) Authors: Dobrin Ion, Nedelcu Adrian, Stoica Victor, Tănase Nicolae, Dan Daniel Vasile</p>	<p>The 64th edition of the International Contest Brussels – EUREKA, dedicated to inventics, organized within the INNOVA Salon on 19-21 November 2015, Brussels – Belgium</p> <p>Gold Medal for the invention Process for obtaining of a carbon-carbon type composite (<i>Procedeu de obținere compozit carbon-carbon</i>) Authors: Băra Adela, Banciu Cristina, Pătroi Delia, Leonat Lucia Nicoleta, Rîmbu Gimi Aurelian</p>  <p>Silver Medal for the invention Security paper with electronic detection and validation (<i>Hârtie securizată cu detectare și validare electronică</i>) Authors: Codescu Mirela Maria, Erdei Remus, Iorga Alexandru, Kappel Wilhelm, Manta Eugen, Oprea Florentina, Pătroi Eros Alexandru, Pătroi Delia, Midoni Valentin, Zapodeanu Ion, Burlacu Maricica, Buteică Dan, Nechita Petronela</p>  <p>Silver Medal for the invention Carbon material for capacitive water deionization and obtaining method (<i>Material carbonic pentru deionizarea capacitivă a apei și procedeu de obținere</i>) Authors: Hristea Gabriela, Leonat Lucia</p>

Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
			 <i>Metallic microwire for electromagnetic shield fabrics</i> (<i>Microfir metalic pentru țesături de ecranare electromagnetică</i>) Authors: <i>Pătroi Eros Alexandru, Erdei Remus, Codescu Mirela Maria, Manta Eugen, Pătroi Delia, Iorga Alexandru, Morari Cristian, Loghin Carmen</i>
3	The International Salon of the Croatian Inventors– ARCA, Zagreb - Croatia	<p>The International Salon of the Croatian Inventors– ARCA 2014, 15-18 October 2014, Zagreb – Croatia</p> <p>Silver Medal for the invention <i>Installation for the active protection of the superconducting coil in the superconducting motors</i> (Instalație pentru protecția activă a bobinei supraconductoare la motoare supraconductoare) Authors: Pislaru-Dănescu Lucian, Dobrin Ion, Stoica Victor, Lipan Laurențiu Constantin, Pisiță Ioana</p> 	-

Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
4	European Exhibition of Creativity and Innovation EUROINVENT (Expoziția Europeană a Creativității și Inovării) Iasi, Romania	<p>European Exhibition of Creativity and Innovation EUROINVENT 2014 (Expoziția Europeană a Creativității și Inovării) 22-24 May 2014, Iasi, Romania</p> <p>Gold Medal for the invention <i>Automated nondestructive examination system for heat exchanger tubes</i> Authors: Nicolae Farbaș, Raimond Grimberg, Iuliu Popovici</p> 	
5	International Conference of Hydraulics and Pneumatics HERVEX (Conferința Internațională de Hidraulică și Pneumatică) Călimănești – Căciulata	<p>The XXI edition of the International Conference of Hydraulics and Pneumatics HERVEX 2014, Călimănești – Căciulata, 05 – 07 November 2014, in COZIA hotel resort</p> <p>It was presented the paper <i>"Improving the efficiency of the energy conversion for the contrarotating wind generators by using innovative power generators"</i></p> <p>and within the exhibition there were presented the products:</p> <ul style="list-style-type: none"> a. Submersible microhydrogenerator with signalling light; b. Vertical axis wind turbine with double effect.  	

Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
6	International Innovation and Technology Exhibition INOTEX , <i>Teheran, Iran</i>	-	<p>The 4th International Innovation and Technology Exhibition INOTEX 2015, <i>Teheran, Iran, 9 – 12 June 2015</i></p>  <p>INC DIE ICPE-CA attended with the following posters:</p> <ul style="list-style-type: none"> - Research areas in the field of electrical engineering; - General presentation of INC DIE ICPE-CA; - Microstructured materials and their applications; nanostructured materials and their applications; - Cylindrical superconducting coils for particle accelerators; - Electrical contact materials for vacuum contactors; - Granular product based on β-TCP for bone reconstruction; - Water drilling rigs – IPCUP Ploiesti; - Activities, equipment, devices and tools – IPCUP Ploiesti; - Superconducting electrical generator; - Supercapacitor based on hybrid electroactive polymer-carbon nanostructures.

Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
7	International Specialized Exhibition „INFOINVENT”, Kishinev, Republic of Moldova	-	<p>The XIVth edition of the International Specialized Exhibition „INFOINVENT 2015”, 25-28 November, Kishinev, Republic of Moldova</p>  <p>Gold Medal for the invention Securized paper with electronic detection and validation (<i>Hârtie securizată cu detectare și validare electronică</i>) Authors: Codescu Mirela Maria, Erdei Remus, Iorga Alexandru, Kappel Wilhelm, Manta Eugen, Oprea Florentina, Pătroi Eros Alexandru, Pătroi Delia, Midoni Valentin, Zapodeanu Ion, Burlacu Maricica, Buteică Maricica, Nechita Petronela</p> <p>Silver Medal for the invention Aerial electric conductor with self-protection against deposits of frost and ice (<i>Conductor electric aerian cu autoprotecție la depunerile de chiciură/ gheață</i>) Authors: Palii Liviu Sorin, Kappel Wilhelm, Codescu Mirela Maria, Pătroi Eros Alexandru, Iorga Alexandru, Ionescu Ioan, Racovițeanu Irina</p> <p>INCDIE ICPE-CA also attended with posters for the following inventions:</p>







Ref. No.	Name of the international fair/exhibition	The results with which the institute attended	
		2014	2015
			<p>Process for obtaining of a carbon-carbon type composite (Procedeu de obținere compozit carbon-carbon)</p> <p>Authors: Băra Adela, Banciu Cristina, Pătroi Delia, Leonat Lucia Nicoleta, Rîmbu Gimi Aurelian</p> <p>Carbon material for capacitive water deionization and obtaining method (Material carbonic pentru deionizarea capacitivă a apei și procedeu de obținere)</p> <p>Authors: Hristea Gabriela, Leonat Lucia</p>
8	International Salon of Research, Innovation and Inventics PRO INVENT, Cluj-Napoca	<p>The XII edition of the International Salon of Research, Innovation and Inventics PRO INVENT, Cluj-Napoca, 19-21 March 2014</p> 	<p>The XIII edition of the International Salon of Research, Innovation and Inventics PRO INVENT, Cluj-Napoca, 25-27 March 2015</p> 


Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
		 <p> - Grand Prize of the Technical University of Cluj-Napoca - Excellence Diploma and Gold Medal for: Material for storing hydrogen in allied intermetallic compounds type AB_5 and obtaining process; - Excellence Diploma and Gold Medal for: Process for making an inductor for the synchronous motor with permanent magnets and self-starting; - Second Prize awarded by the University Politehnica of Bucharest: Material for storing hydrogen in allied intermetallic compounds type AB_5 and obtaining process; </p>	  <p> - Excellence Diplomas and Gold Medals for: Magnetostrictive sonic motor with electronic drive module, High magnetic field superconducting generator, Authors: <i>Pîslaru-Dănescu Lucian, Morega Alexandru Mihail, Morega Mihaela, Lipan Laurentiu Constantin, Bunea Florentina;</i> - Excellence Diplomas and Gold Medals with special mention for: Inductor-induced structure without ferromagnetic core for electrical machines with permanent magnets, Authors: <i>Kappel Wilhelm, Mihăiescu Gheorghe Mihai, Ilie Cristinel Ioan, Gavrilă Horia Cătălin, Vasile Iulian;</i> Process for obtaining planar junctions of carbonic material-steel type, Authors: <i>Lungu Magdalena-Valentina, Ion Ioana, Tsakiris Violeta, Enescu Elena, Lucaci Mariana, Grigore Florentina, Brădulescu Alexandra;</i> Orthopaedic implant material, Authors: <i>lordoc Mihai, Codescu Mirela-Maria, Teişanu Aristofan Alexandru, Prioteasa Paula;</i> Metallic microwire for electromagnetic shield fabrics Authors: <i>Pătroi Eros Alexandru, Erdei Remus, Codescu Mirela-Maria, Manta Eugen, Pătroi Delia, Iorga Alexandru, Morari Cristian, Loghin Carmen,</i> as well as: - Excellence Diploma awarded to Mr. <i>Prof. Dr. Wilhelm Kappel</i> in gratitude for his contribution to the development of inventics activity in Romania (awarded by the Academy of Technical Sciences of Romania) </p>

Ref. No.	Name of the international fair/ exhibition	The results with which the institute attended	
		2014	2015
			<p>INC DIE ICPE-CA also attended with the following posters:</p> <p>◆ Equipment for the conversion of the hydraulic energy obtained from the water streams, Authors: Mihaiescu Gheorghe Mihai, Popescu Mihail, Nicolaie Sergiu, Oprina Gabriela, Chiriță Ionel, Tănase Nicolae, Chihaia Rareș-Andrei, Mituleț Lucia-Andreea, Nedelcu Adrian;</p> <p>◆ High magnetic field superconducting generator, Authors: Dobrin Ion, Stoica Victor, Tănase Nicolae, Dan Daniel– Vasile.</p>

NATIONAL FAIRS AND EXHIBITIONS


Ref. No.	Name of the national fair/ exhibition	The results with which the institute attended	
		2014	2015
1	INVENTIKA, Bucharest	<p>INVENTIKA 2014, Pavilion C2, Bucharest, 15-18 October 2014</p> <p>INC DIE ICPE-CA attended with the following ten patents:</p> <ul style="list-style-type: none"> - Magnetostrictive sonic motor with electronic module drive, Authors: Pîslaru-Dănescu Lucian, Morega Alexandru Mihail, Morega Mihaela, Lipan Laurentiu Constantin, Bunea Florentina - Process for obtaining carbonic material-steel type planar junctions, Authors: Lungu Magdalena Valentina, Ion Ioana, Enescu Elena, Lucaci Mariana, Grigore Florentina, Brătulescu Alexandra - High magnetic field superconducting generator, Authors: Dobrin Ion, Nedelcu Adrian, Stoica Victor, Tănase Nicolae, Dan Daniel-Vasile - Process for making an inductor for the synchronous motor with permanent magnets and self-starting, Authors: Popescu Mihail, Kappel Wilhelm, Nicolaie Sergiu, Mihaiescu Gheorghe Mihai - Installation for the active protection of the superconducting coil in the superconducting motors, Authors: Pîslaru Dănescu Lucian, Dobrin Ion, Stoica Victor, Lipan Laurențiu Constantin, Pisica Ioana - Inductor – induced structure without magnetic core for electrical machines with permanent magnets, Authors: Kappel Wilhelm, Mihaiescu Gheorghe Mihai, Ilie Cristinel Ioan, Gavrilă Horia Cătălin, Vasile Iulian 	The INVENTIKA did not take place in 2015

Ref. No.	Name of the national fair/exhibition	The results with which the institute attended	
		2014	2015
		     	

Ref. No.	Name of the national fair/ exhibition	The results with which the	
		2014	
2	Romanian Research Salon, Bucharest	<p>Romanian Research Salon 2014 Bucharest, 15-18 October 2014</p> <p>INCDIE ICPE-CA attended with the following products/technologies/ services:</p> <ul style="list-style-type: none"> - Polymer composite nanofibers (Băra Adela, Chițanu Felicia); - Supercapacitors with electrodes of hybrid polymer-CNT electroactive materials (Băra Adela); - Carbon fibers (Băra Adela); - Light composite structure based on carbon fibers for the enclosure to protect the electronics in satellites (Băra Adela, Teișanu Aristofan); - Carbon-steel type advanced composite materials achieved by physical-mechanical junctions (Lungu Magdalena); - Flexible screens for electromagnetic protection (Codescu Mirela); - Soft magnetic materials based on $\text{FeNi}_3/\text{Al}_2\text{O}_3$ and $\text{FeCo}/\text{Al}_2\text{O}_3$ nanoparticles (Codescu Mirela); - Graphite-ceramics junctions (Tsakiris Violeta) - Steel/DLC planary junctions (Lucaci Mariana); - Amorphous metallic glass (Lucaci Mariana); - Microporous microspheres based on calcium phosphate for bones repairing (Țârdei Christu); - Granular product based on -TCP for bones reconstruction (Țârdei Christu); - Active elements (discs) for viscosity sensors from piezoceramic material of Pb $(\text{Ti,Zr})\text{O}_3$ zirconate titanate system modified with niobium (Nb), (Dumitru Alina); - Active elements (rings) for pressure sensors from piezoceramic material of Pb $(\text{Ti,Zr})\text{O}_3$ zirconate titanate system modified with niobium (Nb), (Dumitru Alina); - 3D ceramic structures based on calcium phosphate (Grigore Florentina); - Functionalized graphene colloidal solutions (Ion Ioana); - Graphene colloidal solutions (Ion Ioana); - Permanent magnets without rare earth (Pătroi Eros); 	 <p>INCDIE ICPE-CA attended with the following products:</p> <ul style="list-style-type: none"> ♦ Antimicrobial nanopowders of zinc oxide and titanium dioxide doped with silver (product achieved under the project PNII, contract 215/2014) Authors: M. Lungu, D. Pătroi, F. Grigore, M. Lucaci, V. Tsakiris, S. Mitrea, A. Brătulescu, C.D. Cîrstea, V. Marinescu, M-C. Chifiriuc, M. Popa ♦ Tablets for thermal evaporation and coatings of antimicrobial zinc oxide and titanium dioxide nanopowders doped with silver (product achieved under the project PNII, contract 215/2014) Authors: M. Lungu, D. Pătroi, F. Grigore, M. Lucaci, A. Brătulescu, C.D. Cîrstea, V. Marinescu, A. Sobetskii, A.A. Sobetskii, M-C. Chifiriuc, M. Popa ♦ Sputtering targets and coatings of antimicrobial zinc oxide and titanium dioxide nanopowders doped with silver (product achieved under the project PNII, contract 215/2014) Authors: M. Lungu, D. Pătroi, F. Grigore, M. Lucaci, D. Tălpeanu, V. Tsakiris, S. Mitrea, A. Brătulescu, C.D. Cîrstea, N. Stancu, V. Marinescu, A. Sobetskii, A.A. Sobetskii, M-C. Chifiriuc, M. Popa ♦ HAP-based cranial synthetic implant Authors: Christu Țârdei, Alina Dumitru, Dorinel Tălpeanu, Georgeta Velciu, Florentina Grigore ♦ Soft magnetic materials based on $\text{FeNi}_3/\text{Al}_2\text{O}_3$ and $\text{FeCo}/\text{Al}_2\text{O}_3$ nanoparticles Author: Codescu Mirela ♦ Filtration membranes of polymeric nanofibers Authors: Băra Adela, Chițanu Elena

Ref. No.	Name of the national fair/ exhibition	The results with which the institute attended	
		2014	2015
		<ul style="list-style-type: none"> - Shape memory NiTi type materials made by powder metallurgy (Cîrstea Diana); - Pressure sensor (Iordache Iulian); - HAP-functionalized nanocomposites based on Ti for medical applications – Preliminary results (Tâlpeanu Dorinel); - Piezoelectric transducer for measuring mechanical vibrations (Accelerometer) (Dumitru Alina); - Electrical contacts for low voltage vacuum contactors (Tsakiris Violeta); - Process for obtaining a composite material based on wolfram for electrical contacts (Tsakiris Violeta); - Microsensors matrices for specific procedures and medical evaluations in the areas of lower limb medical rehabilitation and sports (Ignat Mircea); - Acceleration transducer (Popovici Iuliu, Lipcinski Daniel, Dumitru Alina, Ilie Cristinel, Popa Marius); - Functional model – Desalination module (Hristea Gabriela); - System for electricity generation using the double effect wind turbine for ensuring energy autonomy in specific applications (Nicolae Sergiu, Popescu Mihail, Mihăiescu Mihai, Chiriță Ionel, Oprina Gabriela, Mîtuț Andreea, Chihaia Rareș, Nedelcu Adrian); - Magnetostrictive sonic motor with electronic module drive (Pîslaru-Dănescu Lucian, Morega Alexandru Mihail, Morega Mihaela, Lipan Laurențiu Constantin, Bunea Florentina); - Device for the in-situ measuring the resistivity of the concrete from reinforced concrete structures (Pîslaru-Dănescu Lucian, Lingvay Iosif, Lingvay Carmen, Velciu Georgeta); - Microelectromechanical components and systems made by specific technologies with applications in medicine and microfluidics (Ilie Cristinel, Popa Marius, Tănase Nicolae, Chiriță Ionel, Iordache Iulian, Nedelcu Adrian); 	<ul style="list-style-type: none"> ◆ Supercapacitors with electrodes of hybrid polymer-CNT electroactive materials Author: Băra Adela ◆ Carbon fibers Author: Adela Băra ◆ Graphite-ceramics junctions for applications at high temperatures Author: Tsakiris Violeta ◆ Ultrafast solidified steel Author: Lucaci Mariana ◆ Microporous microspheres based on calcium phosphate for bones repairing Author: Christu Țârdei ◆ Active elements (discs) for viscosity sensors from piezoceramic material of Pb (Ti,Zr)O₃ zirconate titanate system modified with niobium (Nb; Active elements (rings) for pressure sensors from piezoceramic material of Pb (Ti,Zr)O₃ zirconate titanate system modified with niobium (Nb) Author: Alina Dumitru ◆ 3D ceramic structures based on calcium phosphate Author: Florentina Grigore ◆ Graphenes colloidal solutions Author: Ion Ioana ◆ Functionalized graphenes with silver nanoparticles Author: Ion Ioana ◆ Permanent magnets without rare earth Author: Pătroi Eros ◆ β-TCP-based granular product for bone reconstruction Author: Christu Țârdei ◆ Technology for phototransducer with thin layer of CdS Author: Iordache Iulian ◆ Pressure sensor Author: Iordache Iulian ◆ HAP-functionalized nanocomposites based on Ti for medical applications Author: Tâlpeanu Dorinel


Ref. No.	Name of the national fair/ exhibition	The results with which the institute attended	
		2014	2015
		<ul style="list-style-type: none"> - Superconducting AC power generator with permanent magnets (Dobrin Ion, Pîslaru-Dănescu Lucian, Popescu Mihai, Cîrnaru Radu, Popovici Iuliu, Stoica Victor); - Superconducting generator of high magnetic field (Dobrin Ion, Nedelcu Adrian, Dan Daniel, Popovici Iuliu, Stoica Victor, Tănase Nicolae); - Light plant of drilling water wells FA 100 (Fica Sorin Alexandru, Marin Georgiana).   <p>Medal and Diploma of participation in the Romanian Research Salon 2014</p>	<ul style="list-style-type: none"> ♦ Carbon fiber based planary heater for the thermal management in space vehicles Author: Teişanu Aristofan ♦ Cube-geometry system for the recovery of residual energy Result of the Center for the Youngsters Initiation in Scientific Research within INCDIE ICPE-CA Authors: Luca Florescu, Andrei Corbeanu ♦ Glove with sensors for the evaluation after the recovery medical procedures of the upper limb Result of the Center for the Youngsters Initiation in Scientific Research within INCDIE ICPE-CA Authors: Ana Maria Tudorache, Miruna Ojoga ♦ Micro electromechanical conversion equipment for assessment and analysis of vibration (acceleration transducer) Authors: Iuliu Popovici, Daniel Lipcinski, Alina Dumitru, Cristinel Ilie, Marius Popa ♦ Cylindrical superconducting coils for particle accelerators Authors: Ion Dobrin, Iuliu Popovici, Andrei Dobrin, Dan Enache ♦ Superconducting generator of high and uniform magnetic field Authors: Ion Dobrin, Iuliu Popovici, Andrei Dobrin, Dan Enache, Adrian Nedelcu, Simona Apostol ♦ Magnetostrictive linear motor for space applications Authors: Pîslaru-Dănescu Lucian, Popa Marius, Chihaiia Rareş, Bunea Florentina ♦ Device for the in-situ measuring the resistivity of the concrete from reinforced concrete structures Authors: Pîslaru-Dănescu Lucian, Lingvay Iosif, Lingvay Carmen, Velciu Georgeta ♦ Immuno-Biosensors for the rapid detection of carbamate pesticide residues in horticultural products Project Manager: Gabriela Hristea ♦ Electric generator with two mobile armatures for the double effect wind turbines Author: Nicolaie Sergiu ♦ Light plant of drilling water wells FA 100 Authors: Sorin Alexandru Fica, Georgiana Marin ♦ Manometers with elastic element for special fluids Author: Georgiana Marin

Ref. No.	Name of the national fair/ exhibition	The results with which the institute attended	
		2014	2015
3	ATEE Exhibition Bucharest	-	<p>ATEE Exhibition 2015 Bucharest, 5-7 May 2015</p>  <p>INC DIE ICPE-CA attended with 8 posters and a roll-up for the institute's general presentation</p>

8.3. Awards received by the selection process/honours etc.

		No. 2015	No. 2014
8.3.1	International Awards obtained by a selection process	18	25
8.3.2	National Awards (granted by the Romanian Academy, CNCSIS, others)	3	2

INTERNATIONAL AWARDS OBTAINED BY THE SELECTION PROCESS IN THE YEAR 2014

Ref. No.	Award	The authority that granted	Authors
1.	<p>Grand Prix of the Technical University of Cluj-Napoca is granted to the National Institute for Research and Development in Electrical Engineering ICPE-CA for the inventions participating at the International Salon of Inventions Pro Invent 2014</p> 	International Salon of Inventions Pro Invent 2014 – Technical University of Cluj-Napoca - Rector	INC DIE ICPE-CA

Ref. No.	Award	The authority that granted	Authors
2.	<p>Excellence Diploma and Gold Medal at the International Salon of Inventics PRO INVENT Cluj-Napoca 2014, for the invention <i>Process for making an inductor for the synchronous motor with permanent magnets and self-starting</i></p> 	International Salon of Inventics PRO INVENT Cluj-Napoca – President of the Jury	<p>Popescu Mihail Kappel Wilhelm Nicolaie Sergiu Mihaiescu Gheorghe Mihai</p>
3.	<p>Excellence Diploma and Gold Medal at the International Salon of Inventics PRO INVENT Cluj-Napoca 2014, for the invention <i>Material for storing hydrogen in allied intermetallic compounds type AB_5 and obtaining process</i></p> 	International Salon of Inventics PRO INVENT Cluj-Napoca – President of the Jury	<p>Lucaci Mariana Enescu Elena Lungu Magdalena Valentina</p>
4.	<p>Gold Medal at the International Salon of Inventics PRO INVENT Cluj-Napoca 2014, for the invention <i>Installation for the active protection of the superconducting coil in the superconducting motors</i></p>	International Salon of Inventics PRO INVENT Cluj-Napoca – President of the Jury	<p>Pîslaru-Dănescu Lucian Dobrin Ion Stoica Victor</p>
5.	<p>Gold Medal at the International Salon of Inventics PRO INVENT Cluj-Napoca 2014, for the invention <i>Inertial electromagnetic microgenerator</i></p>	International Salon of Inventics PRO INVENT Cluj-Napoca – President of the Jury	<p>Cătănescu Alexandru Laurențiu Ignat Mircea Puflea Ion Tinca Ion</p>
6.	<p>Diploma – IInd Prize – granted by the University Politehnica of Bucharest at the International Salon of Inventics PRO INVENT Cluj-Napoca 2014, for the invention <i>Material for storing hydrogen in allied intermetallic compounds type AB_5 and obtaining process</i></p>	International Salon of Inventics PRO INVENT Cluj-Napoca – University Politehnica of Bucharest	<p>Lucaci Mariana Enescu Elena Lungu Magdalena Valentina</p>
7.	<p>Bronze Medal, International Salon of Inventions, Geneva 2014, for the invention <i>Installation for the active protection of the superconducting coil in the superconducting motors</i></p>	International Salon of Inventions, Geneva – President of the Jury	<p>Pîslaru-Dănescu Lucian Dobrin Ion Stoica Victor</p>

Ref. No.	Award	The authority that granted	Authors
8.	Bronze Medal , International Salon of Inventions, Geneva 2014, for the invention <i>Inertial electromagnetic microgenerator</i>	International Salon of Inventions, Geneva – President of the Jury	Cătănescu Alexandru Laurențiu Ignat Mircea Puflea Ion Tinca Ion
9.	Diploma and Gold Medal at the European Exhibition of Creativity and Innovation EUROINVENT , Iași 2014, for the invention <i>Automated nondestructive examination system for tubular plates pipes</i>	European Exhibition of Creativity and Innovation, Iași –President of the Jury	Farbas Nicolae Grimberg Raimond Popovici Iuliu
10.	Gold Medal at the International Salon of Inventions - IWIS 2014 Warsaw, granted to the National Institute for Research and Development in Electrical Engineering ICPE-CA	International Salon of Inventions Warsaw – President of the Jury	INC DIE ICPE-CA
11.	Diploma granted to the National Institute for Research and Development in Electrical Engineering ICPE-CA on the occasion of the Romanian Research Salon, Bucharest, 15-18 October 2014 – Bucharest International Technical Fair	Ministry of the National Education, Delegate Minister	INC DIE ICPE-CA
12.	Gold Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Inductor-induced structure without ferromagnetic core for electrical machines with permanent magnets</i>	Ministry of the National Education, Delegate Minister	Kappel Wilhelm Mihaiescu Gheorghe Mihai Ilie Cristinel Gavrila Horia Cătălin Vasile Iulian
13.	Gold Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Material for storing hydrogen in allied intermetallic compounds type AB₅ and obtaining process</i>	Ministry of the National Education, Delegate Minister	Lucaci Mariana Enescu Elena Lungu Magdalena Valentina
14.	Gold Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Equipment for the conversion of the hydraulic energy obtained from the water streams</i>	Ministry of the National Education, Delegate Minister	Mihaiescu Gheorghe Mihai Popescu Mihail Nicolae Sergiu Oprina Gabriela Chiriță Ionel Tănase Nicolae Chihaia Rareș Andrei Mituleț Lucia Andreea Nedelcu Adrian
15.	Gold Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Magnetostrictive sonic motor with electronic drive module</i>	Ministry of the National Education, Delegate Minister	Pîslaru Dănescu Lucian Morega Alexandru Morega Mihaela Lipan Laurențiu Constantin Bunea Florentina

Ref. No.	Award	The authority that granted	Authors
16.	Gold Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>High magnetic field superconducting generator</i>	Ministry of the National Education, Delegate Minister	Dobrin Ion Nedelcu Adrian Stoica Victor Tănase Nicolae Dan Daniel Vasile
17.	Silver Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Process for obtaining planar junctions of carbonic material-steel type</i>	Ministry of the National Education, Delegate Minister	Lungu Magdalena Valentina Ion Ioana Tsakiris Violeta Enescu Elena Lucaci Mariana Grigore Florentina Brătulescu Alexandra
18	Silver Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Process for making an inductor for the synchronous motor with permanent magnets and self-starting</i>	Ministry of the National Education, Delegate Minister	Popescu Mihail Kappel Wilhelm Nicolai Sergiu Mihaiescu Gheorghe Mihai
19.	Silver Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Metallic microwire for electromagnetic shield fabrics</i>	Ministry of the National Education, Delegate Minister	Pătroi Eros Alexandru Erdei Remus Codescu Mirela Maria Manta Eugen Pătroi Delia Iorga Alexandru Morari Cristian Loghin Carmen
20.	Silver Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Installation for the active protection of the superconducting coil in the superconducting motors</i>	Ministry of the National Education, Delegate Minister	Pislaru-Dănescu Lucian Dobrin Ion Stoica Victor Lipan Laurențiu Constantin Pisică Ioana
21.	Silver Medal at the Salon of Inventions and Innovations INVENTIKA – TIB, 15-18 October 2014, Bucharest, for the invention <i>Inertial electromagnetic generator</i>	Ministry of the National Education, Delegate Minister	Cătănescu Alexandru Laurențiu Ignat Mircea Puflea Ioan Tinca Ion
22.	Gold Medal at the International Salon of Inventions – Brussels 2014, for the invention <i>Orthopaedic implant material</i>	International Salon of Inventions, Brussels – President of the Jury	Iordoc Mihai Nicolae Codescu Mirela Maria Teişanu Aristofan Alexandru Prioteasa Paula
23.	Silver Medal at the International Salon of Inventions – Brussels 2014, for the invention <i>Equipment for the conversion of the hydraulic energy obtained from the water streams</i>	International Salon of Inventions, Brussels – President of the Jury	Mihaiescu Gheorghe Mihai Popescu Mihail Nicolai Sergiu Oprina Gabriela Chiriță Ionel Tănase Nicolae Chihaia Rareș Andrei Mituleț Lucia Andreea Nedelcu Adrian

Ref. No.	Award	The authority that granted	Authors
24.	Silver Medal at the International Salon of Inventions – Brussels 2014, for the invention <i>High magnetic field superconducting generator</i>	International Salon of Inventions, Brussels – President of the Jury	Dobrin Ion Nedelcu Adrian Stoica Victor Tănase Nicolae Dan Daniel Vasile
25.	Silver Medal at the 12 th edition of The International Salon of the Croatian Inventors– ARCA 2014 , 15-18 October 2014, Zagreb – Croatia, for the invention <i>Installation for the active protection of the superconducting coil in the superconducting motors</i>	Union of Croatian Innovators (<i>Asociația Inventatorilor din Croația</i>)	Pîslaru-Dănescu Lucian Dobrin Ion Stoica Victor Lipan Laurențiu Constantin Pisică Ioana



NATIONAL AWARDS (GRANTED BY THE ROMANIAN ACADEMY, CNCSIS, OTHERS) IN THE YEAR 2014

Ref. No.	Award	The authority that granted	Authors
1.	Plaque awarded by the municipality of Avrig - Centre for Renewable Energy	Municipality of Avrig	INC DIE ICPE-CA
2.	Silver Medal at the 12th edition of <i>the International Innovation Exhibition in Croatia ARCA 2014</i> (12 th International Innovation Exhibition ARCA 2014), 15-18 October 2014, Zagreb – Croatia	Union of Croatian Innovators	Pîslaru-Dănescu Lucian Dobrin Ion Stoica Victor Lipan Laurențiu Constantin Pisică Ioana



INTERNATIONAL AWARDS OBTAINED BY THE SELECTION PROCESS IN THE YEAR 2015

Ref. No.	Award	The authority that granted	Authors
1	Excellence Diplomas and Gold Medal with special mention at the International Salon of Inventics PRO INVENT Cluj-Napoca 2015, for the invention: <i>Inductor-induced structure without ferromagnetic core for electrical machines with permanent magnets</i>	International Salon of Inventics PRO INVENT Cluj-Napoca - President of the Jury	Kappel Wilhelm Mihaiescu Gheorghe Mihai Ilie Ioan Cristinel Gavrilă Horia Cătălin Vasile Iulian

Ref. No.	Award	The authority that granted	Authors
2	Excellence Diplomas and Gold Medal with special mention at the International Salon of Inventics PRO INVENT Cluj-Napoca 2015, for the invention <i>Process for obtaining planar junctions of carbonic material-steel</i>	International Salon of Inventics PRO INVENT Cluj-Napoca - President of the Jury	Lungu Magdalena Valentina Ion Ioana Tsakiris Violeta Enescu Elena Lucaci Mariana Grigore Florentina Brătulescu Alexandra
3	Excellence Diplomas and Gold Medal with special mention at the International Salon of Inventics PRO INVENT Cluj-Napoca 2015, for the invention <i>Metallic microwire for electromagnetic shield fabrics</i>	International Salon of Inventics PRO INVENT Cluj-Napoca - President of the Jury	Pătroi Eros Alexandru Erdei Remus Codescu Maria Mirela Manta Eugen Pătroi Delia Iorga Alexandru Morari Cristian Loghin Carmen
4	Excellence Diplomas and Gold Medal with special mention at the International Salon of Inventics PRO INVENT Cluj-Napoca 2015, for the invention <i>Orthopaedic implant material</i>	International Salon of Inventics PRO INVENT Cluj-Napoca - President of the Jury	Iordoc Mihai Codescu Maria Mirela Teişanu Aristofan Alexandru Prioteasa Paula
5	Excellence Diplomas and Gold Medal at the International Salon of Inventics PRO INVENT Cluj-Napoca 2015, for the invention <i>Magnetostrictive sonic motor with electronic drive module</i>	International Salon of Inventics PRO INVENT Cluj-Napoca - President of the Jury	Pîslaru-Dănescu Lucian Bunea Florentina Morega Alexandru Morega Mihaela Lipan Laurențiu Constantin
6	Excellence Diplomas and Gold Medal at the International Salon of Inventics PRO INVENT Cluj-Napoca 2015, for the invention <i>High magnetic field superconducting generator</i>	International Salon of Inventics PRO INVENT Cluj-Napoca - President of the Jury	Dobrin Ion Nedelcu Adrian Stoica Victor Tănase Nicolae Dan Daniel-Vasile
	Excellence Diploma awarded to Mr. Prof. Dr. Wilhelm Kappel in gratitude for his contribution to the development of inventics activity in Romania	Academy of Technical Sciences of Romania – President of the Academy of Technical Sciences of Romania International Salon PRO INVENT Cluj-Napoca	Kappel Wilhelm
7	Silver Medal at the International Salon of Inventions, Geneva 2015, for the invention <i>Orthopaedic implant material</i>	International Salon of Inventions Geneva – President of the Jury	Iordoc Mihai Codescu Mirela Maria Teişanu Aristofan Alexandru Prioteasa Paula
8	Bronze Medal at the International Salon of Inventions, Geneva 2015, for the invention <i>Orthopaedic implant material High magnetic field superconducting generator</i>	International Salon of Inventions Geneva – President of the Jury	Dobrin Ion Nedelcu Adrian Stoica Victor Tănase Nicolae Dan Daniel-Vasile

Ref. No.	Award	The authority that granted	Authors
9	Certificate of Appreciation granted to the National Institute for Research and Development in Electrical Engineering ICPE-CA on the occasion of attendance the 4 th edition of the International Innovation and Technology Exhibition (INOTEX 2015), Tehran, Iran, 9 – 12 June 2015	INOTEX 2015 Tehran, Iran – President of the Jury	Institutul Național de Cercetare-Dezvoltare în Inginerie Electrică ICPE-CA
10	Gold Medal at the International Salon of Inventions – Brussels 2015, for the invention <i>Process for obtaining of a carbon-carbon type composite</i>	International Salon of Inventions, Brussels – President of the Jury	Bara Adela Banciu Cristina Pătroi Delia Leonat Lucia Nicoleta Rîmbu Gimi Aurelian
11	Silver Medal at the International Salon of Inventions – Brussels 2015, for the invention <i>Security paper with electronic detection and validation</i>	International Salon of Inventions, Brussels – President of the Jury	Codescu Mirela Maria Erdei Remus Iorga Alexandru Kappel Wilhelm Manta Eugen Oprea Florentina Pătroi Eros Alexandru Pătroi Delia Midoni Valentin Zapodeanu Ion Burlacu Maricica Buteica Dan Nechita Petronela
12	Silver Medal at the International Salon of Inventions – Brussels 2015, for the invention <i>Carbon material for capacitive water deionization and obtaining method</i>	International Salon of Inventions, Brussels – President of the Jury	Hristea Gabriela Leonat Lucia Nicoleta
13	Gold Medal at the International Salon of Inventions EIS-INFOINVENT 2015, Kishinev 2015, for the invention <i>Security paper with electronic detection and validation</i>	International Salon of Inventions Kishinev – President of the Jury	Codescu Mirela Maria Erdei Remus Iorga Alexandru Kappel Wilhelm Manta Eugen Oprea Florentina Pătroi Eros Alexandru Pătroi Delia Midoni Valentin Zapodeanu Ion Burlacu Maricica Buteica Dan Nechita Petronela
14	Silver Medal at the International Salon of Inventions EIS-INFOINVENT 2015, Kishinev 2015, for the invention <i>Aerial electric conductor with self-protection against deposits of frost and ice</i>	International Salon of Inventions Kishinev – President of the Jury	Palii Liviu Sorin Kappel Wilhelm Codescu Mirela Maria Pătroi Eros Alexandru Iorga Alexandru Ionescu Ioan Racoviteanu Irina

Ref. No.	Award	The authority that granted	Authors
15	Prize RINNO awarded to the Romania-Bulgaria cross-border project REACT – „ <i>Integrated system for the dynamic monitoring and warning for technological risks in the Romania-Bulgaria border</i> ” (MIS-ETC CODE 144), for recognizing of the most innovative partnership in the industry and environmental protection, 30 October 2015	Ministry of Education and Scientific Research	Alecu Georgeta
16	Prize RINNO awarded to the Romania-Bulgaria cross-border project „ <i>Romanian - Bulgarian cooperation for a long-term and sustainable development of the young human resources in renewable energy technologies in order to overcome the socio-cultural barrier and open common opportunities to get a job and ensure the employment along the border area</i> ” (MIS-ETC CODE 222), for recognizing of the most innovative partnership in culture and education, 30 October 2015	Ministry of Education and Scientific Research	Rîmbu Gimi Aurelian
17	Prize RINNO granted to the National Institute for Research and Development in Electrical Engineering ICPE-CA, for recognizing the most active national research and development institute in Romania-Bulgaria cross-border RDI partnerships, 26 November 2015	Ministry of Education and Scientific Research	INCDIE ICPE-CA

NATIONAL AWARDS (GRANTED BY THE ROMANIAN ACADEMY, CNCSIS, OTHERS) IN THE YEAR 2015

Ref. No.	Award	The authority that granted	Authors
1	AWARD FOR SCIENCE to Dr.Eng. Ignat Mircea for establishment of the Centre and qualification of some research teams at the international competitions	Gala of Radio Cultural, 26 March 2015, Bucharest	Ignat Mircea
2	Diploma granted to the National Institute for Research and Development in Electrical Engineering ICPE-CA on the occasion of participation in the in the Research Salon 2015, 14 – 17 October 2015, Bucharest	Ministry of Education and Scientific Research	INCDIE ICPE-CA
3	Excellence Diploma granted to the National Institute for Research and Development in Electrical Engineering ICPE-CA on the occasion of celebrating 65 years of activity, 25 November 2015	University Valahia of Târgoviște	INCDIE ICPE-CA

8.4. Presentation of media activity

- extracts from press releases (interviews)
- participation at radio / TV debates

ICPE-CA IN MEDIA OF THE YEAR 2015

Media coverage of the institute and of the most representative achievements was carried out in 2015 by approaching of several directions.

On the one hand, weekly press releases were sent. They were visible in the files of the largest news agencies such as Agerpres, Mediafax, Promptmedia, Amos News, HotNews, Moldpres, Rador, Deca News, Romanian Global News, Good Agency, RNews.

Information transmitted through press releases were related to national or international projects in which the institute was involved, their status and achievements, or they revealed some events and activities organized by the institute. To be mentioned: "The infrastructure to promote competitiveness through innovation in electrical engineering intended to a sustainable increase of the energy security – PROMETEU", the institute involvement in the program "Alternative school", organizing the debate "The initiation of the high schools in scientific research", organizing "The 2nd Scientific Communication Sessions of the Young Olympians", "INGIMED XVIth, Biomedical Engineering 2015: European tendencies", the 7th edition of "Romanian Electrical Engineering History Seminar", qualification of two teams of the Centre for Youth Initiation in Scientific Research to participate in the Olympian competition ISEF-INTELL in Pittsburgh, USA, participation of this Centre to the national competition for Science and Technology for Students - RoSEF 2015, participation of this centre team to the Science Cafe house, awarding this Centre for initiation of youth in scientific with the gold medal. The Center was awarded with the gold medal at Infomatrix contest - national stage and the prize for Science section awarded by Radio Romania Cultural, the institute won two medals in the framework of the XIV edition of International Specialized Exhibition "INFOINVENT 2015".

In order to increase the impact of the press releases in media, they were posted on well known press releases or news websites. To be mentioned here: ecomunicare.ro, comunicatedepresa.ro, comunicatemedias.ro, comunicare-de-presa.ro, webpr, stiriro.com, ecomagazin.ro, niuzer.ro, recolta.eu, panoramamedia.ro, bioproduct.ro, stiinta.info, asiromani.com, stiriro.com, monitorulsb.ro, stiriazi.ro, rsshunt.ro, roportal.ro, ziare-pe-net.ro, ziare.realitatea.net, ziare.ro, ziarulstiintelor.eu, stiintaazi.ro, asinfo.ro, roportal.ro, agentiadecarte.ro, ziareaz.ro, stiam.ro, cluj-am.ro, ccib.ro, ultimelestiri.com, stiri-financiare.ro, ziarero.antena3.ro, napocanews.ro, e-stireazilei.ro, atitudinea.ro, confluenta.ro, discard.ro, newsring.ro, scienceline.ro, braila247.com, stirinoi.com, napocanews, asinfo.ro, rsshunt.ro, haga.mae.ro, scientia.ro, saptamana.com, antena3.ro, viatavalcii.ro, ancs.ro, asinfo.ro, stiri-din-romania.com, ghidelectric.com, promoafaceri.com, ultima-ora.ro, administratie.ro, newsbucovina.ro, afacerilaminut.ro, suceava1.ro, capitalul.ro, agora.ro, stiri.rol.ro, sursadestiri.ro, indexstiri.ro, stirilemedia.ro, ziaregratis.ro, infoziare.ro, paginadestiri.ro, pescurt.ro, 1stiri.ro, bucharestherald.ro, evz.ro, ro-afaceri.ro, scoalaedu.ro, dezvaluiri.ro, ziarebusiness.com, banknews.ro, stirideromania.ro, revistapresei.businessline.ro, allnews4all.ro, financiarul.ro, bursa.ro, revista-presei.com, stiri.astazi.ro, observator.ro, ziarelive.ro, ziuconstantina.ro, marketingromania.ro, ziar.com, ziarulprofit.ro, scientia.ro, ziarulfacila.ro, presa-online.ro, presaonline.com, get.ro, infosanata.ro, stirea.com, money.ro, ziuacargo.ro, instalnews.ro, adevarul.ro, realitatea-ialomiteana.ro, actualitati.net, calificativ.ro, agora.ro, stiriong.ro, stiri-itc.ro, star-storage.ro, digi24.ro, curentul.ro, jurnalul.ro, agir.ro, diacaf.com, stirilepescurt.ro, goldfmromania.ro, enational.ro, curierulnational.ro, jurnalulbucurestiului.ro, infoportal.rtv.net, 008.ro, stiintasitehnica.com, edu.ro, feliciter.net, esimplu.ro, obiectiv.net, opiniagiurgiu.ro, stirimuntania.net, giurgiuonline.net, presaonline.eu, index-stiri.ro, ziarullumina.ro, gazetadeagricultura.info, ziarulfermierului.ro, i-ziare.ro, timpromanesc.ro, telegrafonline.ro.

On the other hand, in some magazines such as Market Watch, Economistul, Școala Edu, Univers Ingineresc, Știință&Tehnică, Viața Medicală, Ziarul Științelor, Recreația as well as in the sites: mariustuca.ro, goodagency.ro, agerpres.ro, articles about the institute were found: "ICPE-CA - the place where the steel is transformed into permanent magnets", "ICPE-CA has the ability to detect the biodegradability of some mineral oils", "ICPE-CA – a reference center for science and technology of carbon materials", "ICPE-CA Excellence Center in Radiochemistry, for the service of applied research and training of specialists", "Innovative Implant for oralo-maxillofacial surgery based on a biomaterial ceramic developed by ICPE-CA", "Romanians can make electric motors with minimum energy waste". "ICPE-CA has already achieved the prototype", "IPCUP Ploiesti is drilling for the market", "ICPE-CA technologies for innovative SMEs", "Diffusion Welding, an innovative method controlled by ICPE-CA", "The story of the golden Romanian girls. The invention with which Ana and Miruna bring comfort to those affected by paresis", "Supercapacitors - new devices to store electricity", "Electromagnetism and the mind power", "ICPE-CA strengthens



its role in the nuclear physics excellence research", "Infomatrix World Final", "ICPE-CA, engaged in the development of next generation devices for energy storage", "Chemistry - Physics Students will be able to conduct laboratory lectures at ICPE-CA", "Start this summer, ICPE-CA will own ten modern laboratories for scientific research", "PROMETEU gives new energy for the ICPE-CA future, an institute that is celebrating 65 years of excellence in research", "Metallic microwires isolated in glass, developed in ICPE-CA for industrial applications", "Laboratories and new research purchases, conducted with European money", "Infrastructure for energy security", "Great promises of permanent magnets", "Initiation in research-projects competition", "Research centers for students affiliated to the profile institutes", "ICPE-CA celebrates 65 years of existence under technology transfer", "Within the National Plan III there is a special call for competitions and for the creation of research and development entities".

Also, some news about the institute was issued in newspapers as well. Adevărul, Impact, Obiectiv, Bursa, Business Point, Business Adviser, Curentul, EcoMagazin, Financiarul, Curierul Zilei, Curierul Național, Făclia, Monitorul de Sibiu, Viața Vâlci, Ziua de Constanța, Cultura Valceană, Realitatea Ialomițeană are only few examples.

Moreover, there have been given more than 20 interviews, broadcasted live on Radio Bucharest FM, Radio Romania News, Radio Romania Bucharest but most of them were broadcasted on Radio Romania Cultural in programs like: "Science in the right words", "The explorers of the tomorrow world", "Science at home", "Scientific univers", "Science café", "Radio planet - Scientific Universe", "Born in Romania".

Certainly, the television appearances have not been omitted. Within the programs "Time News", "News bulletins" and "My Europe" or Speranta TV, programme "Make a change", the TVR television channel presented news and reports about impact projects developed by the institute, such as the modernization and the development of the research infrastructure of the institute under the PROMETEU project, organization of the 2nd Scientific Session of the Youth Olympian teams but also about the awards that the Centre for Initiation of Youth in the Scientific Research got at the international competitions.

Likewise, for raising the research results visibility, the institute was involved in organizing symposiums, conferences, workshops and seminars. To be pointed out: "INGIMED XIV: Biomedical Engineering 2015. European Guidelines", "The 2nd Scientific Communication Session of young Olympians", "The 7th edition of Romanian Electrical Engineering History Seminar", "The initiation of the high schools in scientific research", "Infrastructure to promote competitiveness through innovation in electrical engineering for a sustainable energy security increase - PROMETEU".

On the occasion of these events, the institute has enjoyed appreciation from the participants and journalists as well.

9

Sources of information and documentation of INCDIE ICPE-CA scientific and technical heritage



Books entered in the library in the year 2015 _____202

Romanian and foreign periodicals items received in the ICPE-CA

Technical Library in the year 2015 _____202

9. Sources of information and documentation of ICPE-CA scientific and technical heritage

a. Access to international database networks:

- Springer information network;
- IEEE information network;
- Science Direct information network;
- American Physical Society information network;
- Oxford Journals Collection information network;
- American Institute of Physics information network;
- Thomson ISI - Web of Science information network;
- Thomson ISI - Derwent Innovation Index information network;
- Wiley Online Library information network, via ANELIS PLUS.

b. Access to the economic-library application BiblioPortal - Integrated Economic-Library System Web.

c. Materials to be found in the library:

The total number of Romanian and foreign books and journals which are available in the library: 27 333 books and 26 236 journals issues.

9.1. PERIODICALS ITEMS RECEIVED IN THE LIBRARY IN THE YEAR 2015:

1. JOURNAL OF CHEMISTRY;
2. OPTOELECTRONICS AND ADVANCED MATERIALS – RAPID COMMUNICATIONS;
3. IEEE TRANSACTIONS ON – INDUSTRY;
4. IEEE INDUSTRY APPLICATIONS MAGAZINE;
5. TECHNIQUE AND TECHNOLOGY.

10

Conclusion



10. Conclusion

At present, after twelve years of existence as National Institute for Research and Development in Electrical Engineering ICPE-CA, the institute has had a prestigious group of research and development which consists of 100 certified researchers, respectively research departments and laboratories with a high level technical endowment, recognized nationally and internationally, which conducts a various spectrum of research activities as: advanced materials with applications in energy and electrical engineering, biomaterials, multifunctional materials, efficiency in energy conversion and consumption, use of renewable energy sources in industry and transport; microelectromechanical devices, actuators, electromagnetic compatibility and electrical power pulse technique.

Within the year 2015 INC DIE ICPE-CA managed to keep its assumed "mission ICPE-CA", namely *"applied research in national and international context in electrical engineering for the benefit of private and public companies, in the general benefit of the whole society"*.

In this context, a concentration of the existing potential was initiated for the research directions and activities that directly and immediately respond to the needs of the economy, this reorientation being perceived since the year 2012. Our Nucleu Program 2016-2017 faithfully reflects this reorientation.

Thus, there have been achieved:

- ✎ The continued operation of the institute based on three main research departments:
 - advanced materials: functional and multi functional crystalline and nanostructured materials and composite;
 - new energy sources (wind energy, solar energy, fuel cells, hydrogen storage): conversion, saving and recovery;
 - microelectromechanical technologies and systems;
 - the project SOP IEC "PROMETEU" was completed on 30/11/2015 based on which five new laboratories were created (laboratory of photovoltaic panels; laboratory of electrical testing for intent transient currents for research and development of protection systems for low-medium and high voltage; laboratory of superconductivity applied in electrical engineering; laboratory of electromagnets and electromagnetic measurements; laboratory of residual energy recovery) while other five laboratories were upgraded and rehabilitated (laboratory for electromagnetic compatibility - expanding area of research / testing to very high frequencies and RF powers of 100 W; laboratory of biochemistry and bioresources; laboratory of renewable energy sources; center of excellence in radiochemistry; laboratory of electrical machine dynamics). In this way, an investment of over 20 million lei carried on successfully.
- ✎ Boosting the Office of Knowledge Management, which took over a difficult task: "flooding" the researchers with information about the launch of EU Horizon 2020 calls, presenting the general content of these calls, thus allowing our researchers to save valuable time in the correct orientation of their efforts. In addition, information was screened by various means, for example by the Scientific Secretary of ICPE-CA but also discussed in the meetings of the Scientific Council in order to launch projects of interest.
- ✎ Strengthening the activity of the Scientific Council and its responsible involvement in the whole scientific activity of ICPE-CA.
- ✎ Involvement of our business incubator in Sfântul Gheorghe, as a partner in EEN and in BISNET contract, for finding consortia / partners to participate in Horizon 2020 projects calls.
- ✎ Achieving a synergy between our researchers and those working in IPCUP Ploiesti.
- ✎ Intensification of activity for promoting the institute by:
 - Attending national and international inventions salons, to present inventions obtained under PNCDI II funding, but partly supported by our institute internal financing through Nucleu program;
 - Prestigious technological transfers, some of them made by the partners own effort;
 - Widening the activity of the *Centre of Youth Training in Scientific Research*;
 - Presence in the media: press releases, radio interviews, especially at Radio România Cultural and Radio România Actualități and TV, promotion articles in various journals;
 - Increasing the visibility of the institute through ISI publications and through a large number of patent applications, awards and medals rewarded during the year 2015.
- ✎ Development of infrastructure to achieve objectives of national interest:
 - Material technologies;
 - Establishment and equipping of new laboratories and facilities;
 - Electromagnetic compatibility.



Accessing of other grant funds:

- Structural funds (PROMETEU project) - POS CCE Program – it was launched in 2013 to absorb funds for ensuring the strengthening of RDI infrastructure (equipments, soft, setting);
- România-Bulgaria Cross-Border Program;
- Projects under the programs : South-East Europe, STAR, Clean Sky, ESA, EEA, CEA, Inter-reg, SUERD and others;
- HORIZON 2020 Projects adapted to our all activity domains;
- Under SOP 2015 call, we applied proposals to sections F on creating infrastructures (at us: Centre of numerical modelling for electrical engineering), E (training of foreign specialists in the institute for knowledge transfer), G (knowledge transfer);
- Funds from the Romanian participation in FAIR (continuing the FAIR contract with the value of approx. 4 million euro) and funds from the Romanian fee contribution to Dubna through continuing the implementation of some major contracts signed with IUCN Dubna directly and agreeing others.

Our development strategy has been successfully tested.

In terms of social aspect, ICPE-CA came out of 2015 strengthened: the ICPE-CA employee is confident in its own forces, in ICPE-CA ability to overcome the difficulties, is focused towards solving the economy problems and finds now more connections to the good social.

In conclusion, the submitted report highlights the fulfilment of the activities, respectively of the measures included in the ICPE-CA plan for the year 2015.

11

Perspectives / priorities
for the next reporting period



Perspectives / priorities for the next reporting period _____ 210

11. Perspectives / priorities for the next reporting period¹⁹

The priority of this year is the need to further adapt ICPE-CA to the new requirements of the research market. This market has two components: internal and external. The internal market this year is firstly the economy but without excluding the National Plan and our Nucleu Development Plan. We still perceive the structural program, POC, as very important, being seen as a continuation of the National Program RDI and Nucleu Program. We intend that in our main work groups to promote the knowledge transfer supported by the Competitiveness Operational Programme. This program is friendly for us, the main RDI concerns of ICPE-CA being in the areas of smart specialization which the program explicitly promotes.

The external market is represented for us by ERA, with the main program HORIZON 2020 and, not least, by the cooperation joint programs with Dubna, CERN, FAIR, ESA as well as various bilateral cooperation. The regional cooperation offers many possibilities for collaboration

These markets, either internal or external, are facing increasingly more towards the practical needs of the society. They require competitive products technically and economically.

In order to increase our presence in these markets and to make ourselves visible, we should offer products that can be developed by our skills. We must develop these skills in a multidisciplinary way, according to the complexity of the products.

Following these objectives, taking into account our skills, the specific of the research market, in accordance with the Romanian and European priorities, with the new items arisen in the life and activity of the Institute, and empowering of new capabilities of some research groups but also with the specializations and developing new skills, we have to continue directing our efforts towards achieving those specializations that can be assigned as "smart specialization", to be economy oriented by:

- drawing a new flowchart following the new Government Decision of ICPE-CA, adjusted to the new realities in order to promote research with significance in the internal and international economy;

- establishment of an ICPE-CA branch in Ploiesti by the selection of IPCUP staff, after approval of the Government Decision related to the institute reorganization;

¹⁹ in accordance with the strategy and development Programme of the institute



-
- starting construction – in case of approving for funding the 2015 application in POC - Section F - of the numerical simulation center for electrical engineering;
 - implementation of a new ICPE-CA Labour Agreement and the efficient promoting in this way of the scientific / technical performance;

- fulfilment of the Action Plan 2016 approved in 2016 by the Administration Council of ICPE-CA

By continuing to implement DEP will ensure the efficiency of our activity and will bring great benefit to the overall development of ICPE-CA, ensuring reaching of the expected achievements.

Nowadays we own a relatively young team which is concerned about the progress; still this year, a special emphasis will be placed on employing of young engineers, physicists, chemists, to help implementing within our institute of some modelling and simulation techniques in all our main research areas, including the advanced materials domain. This will lead to a cheapening and develop of our research work. The institute supports this development, morally and materially, by all means.

We will not forget here, as a priority, accessing the all sides of the internal and external markets, the active technology transfers of products and technologies, increasing our internal and external visibility, keeping an optimal average age of the institute personnel, developing our relationship for internal and external collaboration. We will aim as ICPE-CA further represents a desired job for young people with university technical training.



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Annexes



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Annex 2

7.1.1. SCIENTIFIC / TECHNICAL PAPERS PUBLISHED IN THE
ISI PROFESSIONAL JOURNALS¹

year 2014

No.	Title	Journal	Authors	Impact factor of ISI journal in 2013
1	<i>Study of electrode processes and deposition of cobalt thin films from ionic liquid analogues based on choline chloride</i>	Journal of Solid State Electrochemistry, Dec. 2014 Print ISSN: 1432-8488, Online ISSN: 1433-0768 Doi: 10.1007/s10008-014-2711-9	Cojocaru Anca Mareş Lili Mariana Prioteasa Paula Anicăi Liana Vişan Teodor	2.234
2	<i>Quantum optical lithography from 1 nm resolution to pattern transfer on silicon wafer</i>	Journal of Optics and Laser Technology, vol. 60, pp. 80-84, august 2014, ISSN 0030-3992 doi:10.1016/j.optlastec.2014.01.016	Pavel E. Jinga S.I. Vasile B.S. Dinescu A. Marinescu Virgil Trusca R. Tosa N.	1.649
3	<i>Chitosan and Chitosan modified with glutaraldehyde microparticles for Pb(II) biosorption I. Microparticles preparation and characterization</i>	REV. CHIM. (Bucharest), 65, No. 6, p. 627-632, 2014 ISSN 0034-7752	Simonescu Claudia Maria Marin Irina Țârdei Christu Marinescu Virgil Oprea Ovidiu Căpățînă Camelia	0.677
4	<i>Chitosan and Chitosan modified with glutaraldehyde microparticles for Pb(II) biosorption II. Equilibrium and kinetic studies</i>	REV. CHIM. (Bucharest), 65, No.7, p. 750-756, 2014 ISSN 0034-7752	Simonescu Claudia Maria Marin Irina Țârdei Christu Dragne Mioara Căpățînă Camelia	0.677
5	<i>The influence of doping with transition metal ions on the structure and magnetic properties of zinc oxide thin films</i>	The Scientific World Journal, Vol. 2014, Feb. 2014; 7 pages ISSN 1537-744X	Neamțu Jenica Volmer Marius	1.219
6	<i>Simultaneous TG/DTG-DSC-FTIR characterization of collagen in inert and oxidative atmospheres</i>	Journal of Thermal Analysis and Calorimetry, vol. 115, issue 3 (March 2014), pp. 2079-2087 ISSN Print: 1388-6150 ISSN online: 1588-2926	Cucoş Andrei Budrugeac Petru	2.206
7	<i>DMA and DSC studies of accelerated aged parchment and vegetable-tanned leather samples</i>	Thermochimica Acta, vol. 583 (May 2014), pp. 86-93 ISSN 0040-6031	Cucoş Andrei Budrugeac Petru Miu Lucreția	2.105

¹ indexed by Thomson Scientific (former Institute for Scientific Information-ISI) in Science Citation Index Expanded, Social Sciences Citation Index or Arts & Humanities Citation Index.

No.	Title	Journal	Authors	Impact factor of ISI journal in 2013
8	<i>Joining of C/SiC materials by spark plasma sintering</i>	Advanced Materials Research Vol. 1029 (2014) p 200-205, (2014) Trans Tech Publications, Switzerland, web ISSN:1662-8985, ISSN print: 1022-6680 doi:10.4028/www.scientific.net/AMR.1029.200	Tsakiris Violeta Kappel Wilhelm Tălpeanu Dorinel Albu Florentina Pătroi Delia Marinescu Virgil	-
9	<i>Nanostructured W-Cu electrical contact materials processed by hot isostatic pressing</i>	Acta Physica Polonica A, Vol. 125 (2014), No. 2, p. 348-352, ISSN: [e]1898-794X ; [p]0587-4246	Tsakiris Violeta Lungu Magdalena Enescu Elena Pavelescu Dan Dumitrescu Gheorghe Radulian Alexandru Mocioi Nicolae	0.604
10	<i>Development of W-Cu-Ni electrical contact materials with enhanced mechanical properties by spark plasma sintering process</i>	Acta Physica Polonica A, vol. 125, nr. 2, Feb. 2014, p. 327-3330 DOI:10.12693/APhysPolA.125.327 ISSN 0587-4246	Lungu Magdalena Tsakiris Violeta Enescu Elena Pătroi Delia Marinescu Virgil Tălpeanu Dorinel Pavelescu Dan Dumitrescu Gheorghe Radulian Alexandru	0.604
11	<i>Synthesis and characterization of a Ni/Ag nanomaterial</i>	Revista Română de Materiale (Romanian Journal of Materials), 2014, Volume: 44, Issue: 2, pages: 167-177 ISSN 1583-3186	Stroia Adrian Covaliu Cristina Ileana Căpitănescu Cristian Georgescu Gabriela Jitaru Ioana	0.538
12	<i>Sinteza și caracterizarea unor electroliți solizi pe bază de CeO₂ pentru celule de combustie de temperatură intermediară</i>	Revista Română de Materiale (Romanian Journal of Materials), 2014, 44 (2), pg. 131-140 ISSN 1583-3186	Velciu Georgeta Melinescu Alina Marinescu Virgil Fruth Victor Scurtu Rareș Preda Maria	0.538
13	<i>Thermal and radiation stability of polyolefins modified with silica nanoparticles</i>	Journals of Optoelectronics and Advanced Materials, Vol. 16, No. 5-6, p.719-725, 2014 ISSN 1454-4164	Lungulescu Marius Eduard Zaharescu Traian Pleșa Ilona Podina C.	0.563

No.	Title	Journal	Authors	Impact factor of ISI journal in 2013
14	<i>Characterization of some therapeutic muds collected from different sites in Romania</i>	Revue Roumaine de Chimie, 58(7-8), 599-610 ISSN 0035-3930	Setnescu Tanța Băncuță I. Setnescu Radu Băncuță R. Chilian A. Bumbac M. Chelărescu E.D. Culicov Otilia Frontasyeva M.V.	0.393
15	<i>Study of chromium adsorption onto activated carbon</i>	Water Air and Soil Pollution 01/2014; 225(3):1889- 1894 ISSN 0049-6979	Zinicovscaia I. Mitina T. Lupașcu T. Duca Gh. Frontasyeva M. V. Culicov Otilia Ana	1.685
16	<i>Nostoc Linckia as biosorbent of Chromium and Nickel from electroplating industry wastewaters</i>	Journal of Materials Science and Engineering B – Advanced Functional Solid-State Materials, vol. 4 (8) (2014), pp. 242-247 ISSN 0921-5107	Zinicovscaia I. Cepoi L. Valuta A. Rudi L. Culicov Otilia Ana Frontasyeva M.V. Kirkesali E.I. Pavlov S.S. Mitin T.	2.122
17	<i>System for diagnosis of rolling profiles of the railway vehicles (Sistem pentru diagnostic de profile de rulare ale vehiculelor feroviare)</i>	Mechanical Systems and Signal Processing, Vol. 48, Aspects 1-2, 03 October 2014, Pages 153-161 ISSN 0888-3270	Medianu Silviu Octavian Rîmbu Gimi Aurelian Lipcinski Daniel Popovici Iuliu Strâmbeanu Dumitru	2.465
18	<i>Preparation of electromechanically active silicone composites and some evaluations of their suitability for biomedical applications</i>	Materials Science & Engineering C - Materials For Biological Applications, vol. 43, Oct. 2014, pp. 392-402 doi:10.1016/j.msec.2014.07.031 ISSN 0928-4931	Iacob Mihail Bele Adrian Patras Xenia Pasca Sorin Butnaru Maria Alexandru Mihaela Ovezea Dragoș Cazacu Maria	2.736
19	<i>Study on the electromechanical properties of polyimide composites containing TiO₂ nanotubes and carbon nanotubes</i>	Journal of Polymer Research, vol. 21, issue 8, august 2014 ISSN 1022-9760 (print) ISSN 1572-8935 (online)	Ignat Mircea Ovezea Dragoș Hamciuc Elena Hamciuc Corneliu Dimitrov Lubomir	1.897
20	<i>Well-defined silicone-titania composites with good performances in actuation and energy harvesting</i>	Journal of Composite Materials, col. 48, 13, pp.1533-1545, June 2014 ISSN 0021-9983	Cazacu Maria Ignat Mircea Racles Carmen Cristea Mariana Musteață Valentina Ovezea Dragoș Lipcinski Daniel	1.257

No.	Title	Journal	Authors	Impact factor of ISI journal in 2013
21	<i>Thermo and electro insulating protective layers with ceramic additives</i>	Korroziós figyelő, Vol. 53. 2. 2013, pp. 50-55 (printed in 2014) ISSN 0133-2546	Velciu Georgeta Krammer A. Stancu C. Lingvay C. Szatmári I. Lingvay J.	0.143
22	<i>Underground power cables ageing. Case study – results of 5 year monitoring</i>	Korróziós figyel , vol. 53, no.3, 2013, pp. 71-80 (printed in 2014) ISSN 0133-2546	Lingvay J. Szatmári I. Lingvay M.	0.143
23	<i>Aspergillus niger filamentous fungi initiated corrosion of S235J2G3 carbon steel</i>	Korróziós figyel , vol. 54, no.1, 2014, pp. 15-21 ISSN 0133-2546	Lingvay J. Szatmári I. Prioteasa P. Lingvay M.	0.143
24	<i>Thermal decomposition kinetics of bis(pyridine) manganese(III) chloride</i>	Journal of Thermal Analysis and Calorimetry, 115 (2014) 1999-2005 ISSN 1388-6150 (print version) ISSN 1588-2926 (electronic version)	Badea Mihaela Budrugaec Petru Cucoş Andrei Segal Eugen	2.206
25	<i>Use of thermal analysis methods to asses the damage in the bookbindings of some religious books from XVIII century, stored in Romanian libraries</i>	Journal of Thermal Analysis and Calorimetry, 116 (2014) 141-149 ISSN 1388-6150 (print version) ISSN 1588-2926 (electronic version)	Budrugaec Petru Cucoş Andrei Miu Lucreția	2.206
26	<i>Study of crystallization process of soda lead silicate glasses by thermal and spectroscopic methods</i>	Journal of Thermal Analysis and Calorimetry, 117 (2014) 131-139 ISSN 1388-6150 (print version) ISSN 1588-2926 (electronic version)	Mocioiu Oana Cătălina Zaharescu Maria Atkinson Irina Mocioiu Ana-Maria Budrugaec Petru	2.206
27	<i>International comparison of measurements of hard magnets with the Vibrating Sample Magnetometer</i>	International Journal of Applied Electromagnetics and Mechanics, Volume 44, Issue 3-4, Pages: 245-252 ISSN print 1383-5416 ISSN online 1875-8800	Fiorillo F. Beatrice C. Son D. Ahlers H. Groessinger R. Albertini F. Liu Y.P. Lin A. Pătroi Eros Alexandru Shull R. Thomas. O. Hall M.J.	0.737

No.	Title	Journal	Authors	Impact factor of ISI journal in 2013
28	<i>The influence of the metal sheet cutting technologies on the energy losses in non-oriented silicon iron alloys</i>	Revue Roumaine des Sciences Techniques - Serie Electrotechnique et Energetique, Volume 59, Issue 1, January-March 2014, Pages 47-55 ISSN 0035-4066	Păltânea V. Păltânea G. Gavrilă H. Pătroi Eros Alexandru Peter I.	0.368
29	<i>Improvement in the degradation resistance of LDPE for radiochemical processing</i>	Radiation Physics and Chemistry, 94, 151-155 (2014)	Zaharescu Traian Pleșa Ilona Jipa Silviu	1.189
30	<i>Radiation stability of polypropylene/lead zirconate composites</i>	Radiation Physics and Chemistry, 94, 156-160 (2014)	Burnea L. C. Zaharescu Traian Dumitru Alina Pleșa Ilona Ciuprina F.	1.189
31	<i>Radiation effects in polyisobutylene succinic anhydride modified with silica and magnetite nanoparticles</i>	Radiation Physics and Chemistry, 105, 22-25 (2014)	Zaharescu Traian Borbath I. Vékás L.	1.189
32	<i>Elemental content of edible oils studies by neutron activation analysis</i>	Revue Roumaine de Chimie, vol. 59 (8), p.663-667, 2014	Culicov Otilia Zinicovscaia I. Setnescu Tanța Setnescu Radu Frontasyeva M.V.	0.393
33	<i>Evaluation of powdered activated carbon performance for wastewater treatment containing inorganic pollutants</i>	Environmental Engineering and Management Journal, vol. 13, no. 9, 2014	Matei E. Covaliu C.I. Georgescu Gabriela Mălăeru Teodora Stoian O.	1.258
34	<i>Spin physics in few body systems at Nuclotron</i>	Physics of Particles and Nuclei Letters, vol. 45, p.327-329, Jan. 2014	Ladygin V.P. Uesaka T. Glagolev V.V. Gurchin Y.V. Isupov A.Y. Itoh K. Janek M. Karachuk J.T. Kawabata T. Khrenov A.N. etc.	0.743
35	<i>Few-body studies at Nuclotron – JINR</i>	Few-Body Systems Journal, vol. 55, issue: 8-10, p.709-712, Aug.2014	Ladygin V.P. Gurchin Y.V. Piyadin S.M. Terekhin A.A. Isupov A.Y. Janek M. Karachuk J.T. Khrenov A.N. etc.	1.508

No.	Title	Journal	Authors	Impact factor of ISI journal in 2013
36	<i>Method for lifetime estimation of power transformer mineral oil</i>	Fuel Journal, 117 (2014), p.756-762	Dumitran Laurențiu Marius Setnescu Radu Notingher Petru V. Badicu Laurențiu Viorel Setnescu Tanța	3.406
37	<i>Thermal lifetime of cellulose insulation material evaluated by an activation energy based method</i>	Cellulose Chemistry and Technology Journal, vol. 21, 1, p. 823-833, 2014 DOI: 10.1007/s10570-013-0087-0	Setnescu Radu Badicu Laurențiu Viorel Dumitran Laurențiu Marius Notingher Petru V. Setnescu Tanța	0.833
38	<i>Thermal oxidation of irradiated magnetic fluids and their component surfactants and dispersing oils</i>	Central European Journal of Chemistry, vol. 12 (7), p. 782-787, 2014	Zaharescu Traian Setnescu Radu Borbath Istvan	1.329
Cumulative impact factor of the ISI professional journals				47.358

SCIENTIFIC / TECHNICAL PAPERS PUBLISHED IN THE ISI CONFERENCE PROCEEDINGS

year 2014



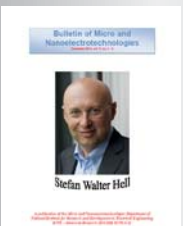
No.	Title	ISI conference proceedings	Authors
1	<i>Influence of concentration on thermal and mechanical properties of elastomeric polyamide blends for industrial applications</i>	Proceeding THERMAM 2014 – Izmir, Turkey, 3 rd Rostocker Symposium on Thermophysical Properties for Technical Thermodynamics, June 12-1, 2014, Cesme, Turkey ISBN: 978-605-84726-1-7, Page(s): 279-283	Caramitu A.R. Zaharescu T. Tsakiris V. Avădanei L. Mitrea S.
2	<i>Thermal resistance of EPDM/IIR systems under γ-irradiation</i>	International Nuclear Chemistry Conference, Maresias, Brazil, Sept. 14-19, 2014	Zaharescu T. Cardoso E.C.L. Scagliusi S.R. Zen H.A. Lugão A.B.
3	<i>Influence of antioxidant loading on the -exposure on ethylene-propylene terpolymer</i>	International Nuclear Chemistry Conference, Maresias, Brazil, Sept. 14-19, 2014	Zaharescu T. Marinescu M. Zen H.A. Scagliusi S.R. Cardoso E.C.L. Lugão A.B.
4	<i>Radiation effects in PA6/EPDM blends</i>	International Nuclear Chemistry Conference, Maresias, Brazil, Sept. 14-19, 2014	Zaharescu T. Lungulescu M. E. Caramitu A. R. Marinescu V.

No.	Title	ISI conference proceedings	Authors
5	<i>Improvement in the radiation stability of EPDM/incorporated EPDM powder/carbon black compounds</i>	International Nuclear Chemistry Conference, Maresias, Brazil, Sept. 14-19, 2014	Kayan L.I.P. Zaharescu T. Parra D.F. Lugão A. B.
6	<i>EPDM composite membranes modified with cerium doped lead zirconium titanate</i>	International Conference on Irradiation of Polymers, Jeju, South Korea, Oct. 5-9, 2014	Zaharescu T. Dumitru A. Lungulescu M. E. Velciu G.
7	<i>Effect of γ-irradiation on the copolymerization of bis-GMA/TEGDMA modified with MMT nanoparticles</i>	International Conference on Irradiation of Polymers, Jeju, South Korea, Oct. 5-9, 2014	Campos L.M.P. Zaharescu T. Boaro L.C. Santos L.K.G. Ferreira H.P. Parra D.F.
8	<i>Influence of ferromagnetic liquids on γ-irradiation behaviour of some polymeric materials</i>	The 11 th Meeting of the Ionizing Radiation and Polymers Symposium – IraP, Jeju, South Korea, Oct. 5-9, 2014	Lungulescu Eduard-Marius Zaharescu Traian Marinescu Mădălina
9	<i>Synthesis and characterization of some composite materials obtained from electronic recycling waste, with intersectorial applications</i>	Proceeding vol. 1, The 5 th International Conference on Advanced Composite Materials Engineering „COMAT 2014”, Oct. 16-17, 2014, Braşov, Romania Page(s): 24-28, ISBN: 978-606-19-0411-2	Caramitu A.R. Mitrea S. Pătroi D. Tsakiris V. Marinescu V. Ursan G.A. Tugui C. Banciu C.
10	<i>Hydrogen gas sensors based on silicon carbide (SiC) MOS capacitor structure</i>	Proceeding of E-MRS Fall Meeting, Sept. 15-18, 2014, Warsaw, Poland	Pascu Răzvan Neamţu Jenica Crăciunoiu Florea Brezeanu Gheorghe Ovezea Dragoş
11	<i>Structural and physical properties of semiconductor oxide thin films doped with transition metals</i>	Proceeding of 22 nd Int. Conf. on Composites/Nano Engineering (ICCE-22), Malta, July 13-19, 2014	Neamţu Jenica
12	<i>Passive Magnetic Bearings For Flywheel Energy Storage - Numerical Design (Lagăre magnetice pasive pentru sisteme de stocare a energiei cu volantă – modelare numerică)</i>	12 th International Conference on Applied and Theoretical Electricity, University of Craiova (IEEE proceedings for ICATE 2014) 978-1-4799-4161-2/14, 2014 IEEE	Tănase Nicolae Morega A.M.
13	<i>Electrostatic discharge testing of several ESD protective textiles used in electronic Industry</i>	Proceedings of the 2014 International Conference and Exposition on Electrical and Power Engineering, Oct. 16-18, 2014, Iaşi, Romania, pp. 602-605	Telipan Gabriela Mircea Ignat Cătănescu Alexandru-Laurenţiu Beatrice Moasa
14	<i>Detection of cavitation vortex in hydraulic turbines using acoustic techniques</i>	IOP Conf. Series: Earth and Environmental Science, vol. 22, Issue 5 (2014) 052007, UK, E-ISSN: 1755-1315, doi:10.1088/1755-1315/22/5/052007, http://iopscience.iop.org/1755-1315/22/5/052007	Candel I. Bunea F. Dunca G. Bucur D.M. Ioana C. Reeb B. Ciocan G.D.

No.	Title	ISI conference proceedings	Authors
15	<i>Experimental research on dissipative textile structures</i>	IEEE Proceedings 2014, 14 th International Conference on Optimization of Electrical and Electronic Equipment OPTIM 2014, May 22-24, 2014, Braşov, Romania, 155-160	Moasa Beatrice Helerea Elena Ignat Mircea Telipan Gabriela
16	<i>Electrostatic discharge testing of several ESD protective textiles used in electronic industry</i>	IEEE Proceedings of 8 th International Conference and Exposition on Electrical and Power Engineering EPE-Iasi, Oct. 16-18, 2014, Iasi, Romania, 602-605	Telipan Gabriela Ignat Mircea Cătănescu Laurențiu Moasa Beatrice
17	<i>New energy harvesting systems, designed for new piezoelectric transducers, with charging energy management</i>	8 th International Conference and Exposition on Electrical and Power Engineering EPE-Iasi DOI: 10.1109/ICEPE.2014.6969989 Publication Year: 2014 , Page(s): 646 – 651 IEEE CONFERENCE PUBLICATIONS	Pîslaru-Dănescu Lucian Lipan L.C. Pisica I. Ilina I. D. Dumitru Alina
18	<i>A conduction cooled high temperature superconductor quadrupolar superferric magnet, design and construction</i>	Journal of Physics: Conference Series, Volume 507, Issue 3, article ID. 032014 DOI: 10.1088/1742-6596/507/3/032014	Dobrin Ion Morega A. M. Nedelcu Adrian Morega M. Neamțu Jenica
19	<i>Investigation of the dp – non-mesonic breakup reaction data at 300-500 MeV at Nuclotron</i>	XXII International Baldin Seminar on High Energy Physics Problems Sept. 15-20, 2014, Dubna, Russia	Ladygin V.P. Janek M. Gurchin Y.V. Isupov A.Y. Karachuk J.T.
20	<i>Investigation of the light nuclei spin structure from hadronic channels at NUCLOTRON</i>	XXII International Baldin Seminar on High Energy Physics Problems Sept. 15-20, 2014, Dubna, Russia	Kurilkin P.K. Dobrin I. Filmushkin V.V. Karachuk J.T. Lipchinski D. Popovichi J.
21	<i>Experimental and simulated dp breakup reaction data at 300, 400 and 500 MeV</i>	MESON 2014 - 13 th International Workshop on Production, Properties and Interactions of Mesons, Krakow, Poland EPJ Web of Conferences Vol. 81, article number 06005 Doi: 10.1051/epjconf/20148106005 Published Nov.2014	Ladygin V.P. Janek M. Gurchin Y.V. Isupov A.Y. Karachuk J.T.
22	<i>Lifetime estimation of vegetable oil for transformers</i>	IEEE International Conference on High Voltage Engineering and Application Sept. 8-11, 2014, Poznan, Poland	Ciuriuc A. Notingher P.V. Setnescu R. Dumitran L.M. Setnescu T.

PUBLISHED BOOKS / BOOK CHAPTERS

Year 2014

No.	Book / Chapter title	Publisher, ISBN, year of publication	Authors
1	Revista de Istoria Electrotehnicii Românești <i>(Journal of Romanian Electrical Engineering History)</i> 	INCDIE ICPE-CA Publishing House <i>October 2014, Vol. I, No. 1</i> ISSN 2066-7965	Honorary Chief Editor Prof. Florin Teodor Tănăsescu Chief Editor Dr.Eng. Mircea Ignat Editorial staff Ec. Clara Hender Eng. Cristian Morari Eng. Gabriela Obreja Matilda Gheorghiu
2	Bulletin of Micro and Nanoelectrotechnologies 	<i>A publication of the Department for Micro and Nanoelectrotechnologies from INCDIE ICPE-CA</i> INCDIE ICPE-CA Publishing House <i>March 2014, vol. V, no. 1-2</i> ISSN 2069-1505	Executive Staff Ec. Clara Hender Eng. Cristian Morari Eng. Gabriela Obreja Matilda Gheorghiu Editor in chief Dr. Eng. Mircea Ignat, INCDIE ICPE-CA, Dep. MNE, mircea.ignat@icpe-ca.ro
3	Bulletin of Micro and Nanoelectrotechnologies 	<i>A publication of the Department for Micro and Nanoelectrotechnologies from INCDIE ICPE-CA</i> INCDIE ICPE-CA Publishing House <i>December 2014, vol. V, no. 3 - 4</i> ISSN 2069-1505	Executive Staff Ec. Clara Hender Eng. Cristian Morari Eng. Gabriela Obreja Matilda Gheorghiu Editor in chief Dr. Eng. Mircea Ignat, INCDIE ICPE-CA, Dep. MNE, mircea.ignat@icpe-ca.ro
4	Air pollution and vegetation: ICP Vegetation Annual Report 2013/2014	Edited by H. Harmens, G. Mills, F. Hayes, K. Sharps, M. Frontasyeva, 09/2014; ICP Vegetation Programme Coordination Centre, Centre for Ecology and Hydrology, Environment Centre, Bangor, Gwynedd, UK, Moss Survey Coordination Centre, Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Moscow, Russia	Harmens H. Norris D. Mills G. Aboal Viñas J. Alber R. Aleksiyenak Y. Baceva K. Barandovski L. Berg T. Blum O. Ocaña A. Carballeira Chilian A. Cucu-Man S.-M. Culicov O. A. Dam M. et.al.

No.	Book / Chapter title	Publisher, ISBN, year of publication	Authors
5	Curgerea fluidului real prin canale și conducte (<i>The real fluids flow through channels and pipes</i>)	AGIR Publishing House, 2014 ISSN 978-973-720-520-9	Bunea Florentina Cazacu Mircea Dimitrie
6	Metanogeneza în procese naturale și antropice (<i>Methanogenesis in natural and anthropic processes</i>)	Printech Publishing House, 2014 ISBN 978-606-23-0295-5	Mateescu Carmen
7	Compatibilitate Electromagnetică / Cercetări și dezvoltări în domeniul electromagnetic în România – Materiale compozite bazate pe silicon utilizate pentru ecranare electromagnetică (Electromagnetic compatibility / Electromagnetic field research and development in Romania - <i>Composite materials based on silicone rubber used for electromagnetic shielding</i>)	AGIR Publishing House, 2014 ISBN 978-973-720-521-6	Pintea Jana Morari Cristian Bălan Ionuț Chițanu Elena Stoian Valentina Elena
8	Compatibilitate Electromagnetică / Cercetări și dezvoltări în domeniul electromagnetic în România – Tendințe și aspecte în standardizare cu privire la expunerea la radiațiile electromagnetice în câmp apropiat (Electromagnetic compatibility / Electromagnetic field research and development in Romania - <i>Current aspects and trends in standardization with reference to general exposure in near field electromagnetic radiation</i>)	AGIR Publishing House, 2014 ISBN 978-973-720-521-6	Pintea Jana Marinescu Andrei Morega Mihaela
9	Electromagnetic compatibility / Electromagnetic field research and development in Romania – „Shielding effectiveness determination for conductive electromagnetic slab”	AGIR Publishing House, 2014 ISBN 978-973-720-521-6	Bădic Mihai

Annex 2

7.1.1. SCIENTIFIC / TECHNICAL PAPERS PUBLISHED IN THE ISI¹ PROFESSIONAL JOURNALS

Year 2015

No.	Title	Journal	Authors	Impact factor of ISI journal in 2014
1	<i>Neutron depolarization investigations of spring exchange interaction nanocomposites</i>	Optoelectronics and Advanced Materials, vol.9, nr. 9-10, pp. 1328-1331	Pătroi D. Zhaketov V. D. Nikitenko Yu. V. Codescu M. M. Pătroi E. A. Manta E.	0.394
2	<i>Functionalized bicomponent polymer membranes as supports for covalent immobilization of enzymes</i>	Reactive and Functional Polymers, Vol. 96, pp. 5–13 doi:10.1016/j.actfunctpolym.2015.09.001	Sandu T. Sârbu A. Damian C.M. Pătroi D. Iordache T.V. Budovina T. Tsytarski B. Yardim M.F. Sirkecioglu A.	2.515
3	<i>Graphene and gold nanoparticles based reagentless biodevice for phenolic endocrine disruptors monitoring</i>	Microchemical Journal, Vol. 121, pp.130-135, Publisher Elsevier Inc., DOI: 10.1016/j.microc.2015.03.002, ISSN: 0026265X	Penu R. Obreja A.C. Pătroi D. Diaconu M. Radu G.L.	3.583
4	<i>Electrochemical synthesis of nanosized TiO₂ nanopowder involving choline chloride based ionic liquids</i>	Materials Science and Engineering B, 199, pp.87–95, Publisher Elsevier Ltd, DOI: 10.1016/j.mseb.2015.05.005, ISSN: 09215107	Anicăi L. Petică A. Pătroi D. Marinescu V. Prioteasa P. Costovici Șt.	2.122
5	<i>LaCoO₃ synthesis by intensive mechanical activation</i>	Ceramics International	Velciu G. Melinescu A. Marinescu V. Preda M.	2.605
6	<i>Biochemical changes in some cultures of cyanobacteria at the synthesis of silver nanoparticles</i>	Can J Microbiol., 2015, Jan; 61(1):13-21	Cepoi L. Rudi L. Chiriac T. Valuta A. Zinicovscaia I. Duca Gh. Kirkesali E. Frontasyeva M.V. Culicov O. Pavlov S.S. Bobrikov I.	1.18

¹ indexed by Thomson Scientific (former Institute for Scientific Information-ISI) in Science Citation Index Expanded, Social Sciences Citation Index or Arts & Humanities Citation Index.

No.	Title	Journal	Authors	Impact factor of ISI journal in 2014
7	<i>Synthesis, structural and electrical properties of BNT-BTCe@SiO₂ Core-Shell heterostructure</i>	Science of Advanced Materials	Cernea Marin Vasile Bogdan Ştefan Ciuchi Ioana Veronica Iuga Alin Alexandrescu Elvira Pintea Jana Galassi Carmen	2.6
8	<i>Preliminary results on the electromagnetic shielding effectiveness of organic fabrics silver coated by high voltage anodic plasma</i>	Optoelectronics and Advanced Materials- Rapid Communications (OAM-RC), vol. 9, no. 9-10, pp. 1230-1233	Bădulescu M. Anghel A. Surdu-Bob C.C. Bădic M. Morari C. Bălan I.	0.394
9	<i>Study on radiation aging of PA6/EPDM blends</i>	Iranian Polymer Journal, 2015, 67 (3), pp. 1138-1151	Zaharescu T. Lungulescu E.-M. Caramitu A. Marinescu V.	1.806
10	<i>FT-IR and UV-Vis characterization of grape extracts used as antioxidants in polymers</i>	Revue Roumaine de Chimie, 2015, 60 (5-6), pp. 571-577	Bancuta O.R. Bancuta I. Chilian A. Setnescu R. Setnescu T. Gheboianu A. Lungulescu M.	0.311
11	<i>Study of electrode processes and deposition of cobalt thin films from ionic liquid analogues based on choline chloride</i>	Journal of Solid State Electrochemistry, 19(2015) , pp. 1001-1014	Cojocaru A. Mareş M.L. Prioteasa P. Anicăi L. Vişan T.	2.446
12	<i>Electropolymerization of conducting polypyrrole on carbon nanotubes / silicon composite for supercapacitor applications</i>	Revista de Chimie, vol. 66, no. 2 (2015), pp.196-200	Iordoc M. Băra A. Prioteasa P. Teişanu A. Marinescu V.	0.81
13	<i>Electrodeposition of polypyrrole on carbon nanotubes/Si in the presence of Fe catalyst for application in supercapacitors</i>	Revista de Chimie, vol. 66, no. 6, (2015), pp. 820-824	Prioteasa P. Marinescu V. Băra A. Iordoc M. Teişanu A. Banciu C. Meltzer V.	0.81
14	<i>Improved stability of alkyd resin by modification with TiO₂ nanoparticles</i>	Journal of Optoelectronics and Advanced Materials, Vol. 17, No. 9-10, September – October 2015, pp.1482-1486	Mitrea S. Zaharescu T. Caramitu A.R. Borbath I.	0.43
15	<i>Hydrothermal ageing of metallocene polyethylene films in presence of grafted amine stabilizers</i>	Arabian Journal for Science and Engineering, 40 , 69-80 (2015)	Setnescu R. Kaci M. Dehouche N. Setnescu T. Nasri L. Zaharescu T.	0.367

No.	Title	Journal	Authors	Impact factor of ISI journal in 2014
16	<i>Study of the gamma-irradiation effect on some polypropylene biocomposites</i>	Industrial & Engineering Chemistry Research, 54 , 2404-2413 (2015)	Părpăriță E. Zaharescu T. Darie R. Vasile C.	2.587
17	<i>Antioxidant activity of rosemary extract in solution and embedded in polymers</i>	Chemical papers, 69 , 872-880 (2015)	Ioniza P. Dinoiu V. Munteanu R. Tîrcu M. Tecuceanu V. Zaharescu T. Oprea E. Ilie C.	1.468
18	<i>Copper diffusion in cable-insulating materials by chemiluminescence and DSC techniques</i>	Journal of Thermal Analysis and Calorimetry, 122 , 251-259 (2015)	Setnescu R. Jipa S. Zaharescu T. Setnescu T. Gorghiu L. Băncuță I. Chelărescu E.D.	2.042
19	<i>Radiation effects in PA6/EPDM blends</i>	Iranian Polymer Journal, 24 , 883-889 (2015)	Zaharescu T. Lungulescu M.E. Caramitu A.R. Marinescu V.	1.806
20	<i>Dielectric silicone elastomers with mixed ceramic nanoparticles</i>	Materials Research Bulletin, volume: 71, pages: 67-74, published: NOV 2015	Stiubianu George Ignat Mircea Bele Adrian Cazacu Maria	2.368
21	<i>Silicone dielectric elastomers based on radical crosslinked high molecular weight polydimethylsiloxane co-filled with silica and barium titanate</i>	Journal of Materials Science, volume: 50, Issue: 20, pages: 6822-6832, published: Oct. 2015	Bele Adrian Stiubianu George Varganici Cristian-Dragoș Ignat Mircea	2.371
22	<i>Tuning the Electromechanical Properties of Silicones by Crosslinking Agent</i>	Advanced Engineering Materials, volume: 17, issue: 9, pages: 1302-1312, published: SEP 2015	Bele Adrian Cazacu Maria Ignat Mircea Racles Carmen et al.	1.758
23	<i>Electromechanical properties of polyimide composites containing titanium dioxide nanotubes</i>	High Performance Polymers, volume: 27, issue: 5, special Issue: SI, pages: 590-598, published: AUG 2015	Ignat Mircea Hamciuc Elena Hamciuc Corneliu et al.	1.151
24	<i>Goethite nanorods as a cheap and effective filler for siloxane nanocomposite elastomers</i>	RSC ADVANCES, volume: 5, issue: 56, pages: 45439-45445, published: 2015	Iacob M. Stiubianu G. Ignat M. Tugui C. et al.	3.242
25	<i>Polydimethylsiloxane-barium titanate composites: Preparation and evaluation of the morphology, moisture, thermal, mechanical and dielectric behaviour</i>	Composites Part B - Engineering, volume: 68, pages: 237-245, published: JAN 2015	Bele Adrian Cazacu Maria Stiubianu George Ignat M.	2.983

No.	Title	Journal	Authors	Impact factor of ISI journal in 2014
26	<i>Mathematical approach of hysteresis phenomenon and energy losses in non-oriented silicon iron sheets</i>	UPB Scientific Bulletin, Series A: Applied Mathematics and Physics, 77 (3), pp. 241-252	Păltânea V.M. Păltânea G. Gavrilă H. Ionescu G. Pătroi E.	0.405
27	<i>Microstructure evolution and tribological properties for new $AlSi_9Cu_3/5\%GrCu$ composite</i>	Composites Part B: Engineering, Vol. 81, pp. 141-148, DOI: 10.1016/j.compositesb.2015.07.006, Published: August 2015	Moldovan Petru Csaki Ioana Popescu Gabriela Lucaci Mariana Lungu Magdalena Butu Mihai	2.983
28	<i>Investigation of microstructure and tribological properties of $Al/Al_2O_3 + Gr$ hybrid composite</i>	Journal of Optoelectronics and Advanced Materials, Vol. 17, no: 11-12, pp. 1849-1854, Published: Nov.-Dec. 2015	Matara M.A. Csaki I. Popescu G. Lucaci M. Lungu M.	0.429
29	<i>Influence of process parameters on the morphology of polyacrylonitrile electrospun fibers</i>	Industria Textila, no. 4, pp. 232-239, 2015	Băra Adela Marinescu Virgil Chițanu Elena Banciu Cristina Clicinschi Florentina	0.570
30	<i>Electrically renewable carbon fibers composites for CO_2 adsorption</i>	Optoelectronics and Advanced Materials – Rapid Communications, vol. 9, no. 9-10, pp. 1160-1163, 2015	Banciu C. Băra A. Rîmbu G. A. Teişanu A. Leonat L.	0.394
31	<i>New Zn(II) coordination polymers constructed from amino-alcohols and aromatic dicarboxylic acids: synthesis, structure, photocatalytic properties and solid-state conversion to ZnO</i>	Crystal Growth & Design 2015 (2); 15, pp. 799-811	Paraschiv Carmen Cucoş Andrei Madalan Augustin Maxim Catalin Visinescu Diana Cojocaru Bogdan Parvulescu Vasile I. Andruh Marius	4.891
32	<i>A two-dimensional supramolecular Zn(II) system assembled via hydrogen bonds established between the terephthalate dianion and the triethanolamine ligand</i>	Revue Roumaine de Chimie 2015 (10); 60, pp. 997-1004	Cucoş Andrei Paraschiv Carmen Maxim Cătălin Sbârcea Gabriela Tudor Violeta Andruh Marius	0.311

No.	Title	Journal	Authors	Impact factor of ISI journal in 2014
33	<i>Interplay of hydrogen bond and stacking interactions in the crystal structure of a new mononuclear zinc complex</i>	Revue Roumaine de Chimie 2015 (10); 60, pp. 1005-1013	Cucoş Andrei Paraschiv Carmen Shova Sergiu Madalan Augustin Sbârcea Gabriela Marinescu Virgil Andruh Marius	0.311
34	<i>Phase transitions of a parchment manufactured from deer leather. A calorimetric and kinetic analysis</i>	Journal of Thermal Analysis and Calorimetry, 120 (3), (2015) 103-112	Budrugeac Petru	2.042
35	<i>Editorial</i>	Journal of Thermal Analysis and Calorimetry, 120 (3) (2015) 255-256	Alfred Kallay-Menyhard Petru Budrugeac Peter Simon Jaroslav Sestak Imre Miklos Szilagyi I.	2,042
36	<i>Applicability of some approximations of the temperature integral used for heating processes to processes taking place on cooling</i>	Journal of Thermal Analysis and Calorimetry, 2015	Budrugeac Petru	2.042
37	<i>Thermal behaviour studies of the homopolynuclear coordination compound iron(III) polyoxalate</i>	Thermochimica Acta, 2015	Mircea Niculescu Viorel Sasca Cornelia Munteana Marius-Silviu Milea Dan Ros Mihai-Cosmin Pascariu Eugen Sisuf Ioan Ursoiu Vasile Pode Petru Budrugeac	2.184
38	<i>Magnetic field distribution inside the aperture of a steerer magnet prototype</i>	Physica Scripta Phys. Scr. T 166 (2015) 014055	Chiriță Ionel Dan Vasile-Daniel Tănase Nicolae	1.296
39	<i>Numerical multiscale modelling of the metal-insulator-metal structures</i>	International Journal for Multiscale Computational Engineering, vol. 13, pp. 321-337, 2015, doi:10.1615/intjmultcompeng.2015012588	Apostol E.S. Andrei M.I. Ioan D. Dan D.	0.800

No.	Title	Journal	Authors	Impact factor of ISI journal in 2014
40	<i>Nano and Micro-hydroxyapatite Particles for Lead Removal from Wastewater</i>	REV. CHIM. (Bucharest) ♦ 66♦ No.5 ♦pp. 732-742, 2015 ISSN: 0034-7752	Simonescu C. M. Tatarus A. Țârdei C. Pătroi D. Dragne M. Culita D.C. Patescu R.E. Busuioc L.T. Melinte I.	0.677
41	<i>Hydroxyapatite nanopowders obtained by sol-gel method synthesis and properties</i>	Optoelectronics and Advanced Materials-Rapid Communications, Vol. 9, No. 11-12, November–December 2015, p.1415-424 ISSN: 1842-6573	Sava B. A. Țârdei C. Simonescu C. M. Boroica L. Melinescu A.	0.394
42	<i>Shape memory NiTi and NiTiCu alloys obtained by spark plasma sintering process</i>	Advanced Engineering Forum, Vol. 13, pp 83-90, 2015, ISI indexed	Cîrstea C. D. Lungu M. Balagurov A. M. Marinescu V. Culicov O. Sbârcea G.	0.500
43	<i>Influence of Ta and Nb on the hydrogen absorption kinetics in Zr-based alloys</i>	International Journal of Hydrogen Energy, Vol. 40, Iss. 16, (2015), 5677–5682	Conic D. Gradisek A. Radakovic J. Iordoc M. Mirkovic M. Cebela M. K. Batalovic	3.313
44	<i>Study of influence of Zn concentration on the absorption and transport of Fe in maize by AAS and EDXRF analysis techniques</i>	Rom. Reports in Physics, 67(3), 1138-1151	Chilian A. Bancuta O.R. Bancuta I. Setnescu R. Ion R.M. Radulescu C. Stihi C. Popescu I.V. Cimpoca Gh. V. Gheboianu A.	1.517
45	<i>Characterization of ZnO and SnO₂:F materials by SEM for their use in the manufacture of DSSC</i>	Rev. Roum. Chim., 60(5-6), 549-554	Chilian A. Bancuta O.R. Bancuta I. Ion R.M. Setnescu R. Setnescu T. Gheboianu A. Marinescu V. Radulescu C.	0.311
46	<i>Non-polluting medical technology for environment and patient used in inflammatory diseases monitoring</i>	Environmental Engineering and Management Journal April 2015, Vol.14, No. 4, 763-768	Bondarciuc Ala Ravariu Cristian Bondarciuc Vlad Alecu Georgeta	1.065
Cumulative impact factor of the ISI professional journals				72.626

**SCIENTIFIC / TECHNICAL PAPERS PUBLISHED IN THE ISI
CONFERENCE PROCEEDINGS**

Year 2015

<i>No.</i>	<i>Title</i>	<i>ISI conference proceeding</i>	<i>Authors</i>
1	<i>Joining of Y_2O_3-doped Aluminium Nitride with High Density Graphite by Spark Plasma Sintering</i>	Advanced Materials Research, Vol. 1111 (2015) pp 260-265, (2015) Trans Tech Publications, Switzerland, doi:10.4028/www.scientific.net/AMR.1111.260	Tsakiris V. Kappel W. Velciu G. Seitan C. Talpeanu D. Clicinschi F. Hajdu C. Marinescu V.
2	<i>Contribution for reducing the magnetic field created by an equipment component of a ship</i>	The 9 th International Symposium on Advanced Topics in Electrical Engineering, Bucharest, Romania, 7 – 9 May, 2015, The Symposium Proceedings included in the IEEE Xplore database - indexed Thomson - Reuters ISI - CPCI	Samoilescu Ghe. Constantinescu M. Rosu G. Bordianu A.
3	<i>Assessment of the ellipsoidal shell model for ship magnetic signature</i>	The 9 th International Symposium on Advanced Topics in Electrical Engineering, Bucharest, Romania, 7 – 9 May, 2015 - The Symposium Proceedings included in the IEEE Xplore database - indexed Thomson - Reuters ISI - CPCI	Rosu G. Samoilescu Ghe. Baltag O. Bordianu A. Ciuculin A.
4	<i>Irradiation effect on PA6 properties of electrical insulation</i>	IEEEEXPLORE	Caramitu Alina Ruxandra Zaharescu Traian Mitrea Sorina
5	<i>The structure and the essential methodology of an Excellency Centre to the Initiation on the Engineering Scientific Research</i>	Book Group Author(s): Destech Publicat Inc. Conference: International Conference on Social Science, Management and Economics (SSME), Location: Guangzhou, PEOPLES R CHINA, Date: MAY 09-10, 2015 Sponsor(s): Int Assoc Cyber Sci & Engr INTERNATIONAL CONFERENCE ON SOCIAL SCIENCE, MANAGEMENT AND ECONOMICS (SSME 2015), pages: 833-839, published: 2015	Ignat Mircea
6	<i>The vibration conversion energy harvesting on a building</i>	Sustainable Energy in the Built Environment-Steps Towards nZEB, September 2014, Brasov Proceedings of the Conference for Sustainable Energy (CSE), Springer, 2014, pp.87- 97	Ignat Mircea Corbeanu A. Florescu L. Turcu R.
7	<i>Studies on Fe-Cr-Ni-Si-B bulk metallic glass for automotive applications</i>	Advanced Materials Research Vol. 1114, pp. 68-75, 2015	Lucaci Mariana Pătroi Delia Tsakiris Violeta Lungu Magdalena V. Manta Eugen Iorga Alexandru

No.	Title	ISI conference proceeding	Authors
8	<i>Al/Al₂O₃ + Gr hybrid composite compacting behaviour</i>	Advanced Materials Research, Vol. 1114, pp. 86-91, July 2015	Matara Mihăiță Adrian Csáki Ioana Lucaci Mariana Lungu Magdalena Popescu Gabriela Iacob Gheorghe
9	<i>Applications of thermal analysis methods in the investigation of cultural and historical objects manufactured from leather</i>	Proceeding: 3-rd Leather and Engineering Congress, Izmir, Turkey, pp. 101-108. 2015 ISBN: 978-605-338-130-3	Budrugaec Petru Carsote Cristina Cucoș Andrei Badea Elena Miu Lucreția
10	<i>Analysis, Characterization and Optimization of a Steerer Magnet Prototype</i>	IEEE Proceedings of The 9 th International Symposium on Advanced Topics In Electrical Engineering ATEE 2015 ISBN: 978-1-4799-7514-3, ISSN: 2068-7966, DOI: 10.1109 / ATEE.2015.7133889	Dan D. Chiriță I. Tănase N. Mălureanu S. (Apostol)
11	<i>Magnetic And Mechanical Optimization of a Sextupole Magnet Prototype</i>	IEEE Proceedings of The 9 th International Symposium on Advanced Topics In Electrical Engineering ATEE 2015	Chiriță I. Dan D. Tănase N.
12	<i>Bending Mode Cantilever Actuators for Micro-Electromechanical Systems</i>	IEEE Proceedings of The 9 th International Symposium on Advanced Topics In Electrical Engineering ATEE 2015	Morega A.M. Tănase N. Morega M. Comeagă D. Ilie C.
13	<i>Radial–Axial Passive Magnetic Bearing System –Numerical Simulation Aided Design Solutions</i>	IEEE Proceedings of The 9 th International Symposium on Advanced Topics In Electrical Engineering ATEE 2015	Tănase N. Morega A.M. Nedelcu A. Ilie C.
14	<i>Determining the Young modulus of electroplated Ni using modal</i>	Romanian Review Precision Mechanics, Optics & Mechatronics	Gheorghe Viorel Popescu-Cuta Alina Comeaga Constantin Daniel Ilie Cristinel
15	<i>Copper removal from synthetic aqueous solutions by chemically modified beads of chitosan</i>	International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM, Conference Proceeding, ISSN: 13142704, Volume 1, Issue 5, 2015, Pages 169-176	Simonescu C.M. Busuioc L.T. Lilea V. Dragne, M. Țârdeș C.
16	<i>Electronic Drive System of a Linear Magnetostrictive Motor Designed for Outer Space Applications</i>	The 9th International Symposium on ADVANCED TOPICS IN ELECTRICAL ENGINEERING 2015, May 2015	Pîslaru-Dănescu Lucian Morega Alexandru Morega Mihaela Chihaia Rareș Popa Marius Flore Lica
17	<i>Characterization of TiNi shape memory alloys obtained by spark plasma sintering process</i>	Book of Abstracts of The 8 th International Conference on Advanced Materials, (ROCAM 2015) , Bucharest, Romania, pg. 166	Cîrstea C.D. Lungu M. Tsakiris V. Cucoș A. Tolea F.

No.	Title	ISI conference proceeding	Authors
18	<i>A new electronic active system for protection to quench hazard in high temperature superconducting coils</i> (Un nou sistem de protecție activă la quench în bobine supraconductoare de mare temperatură)	Proceedings of the International Symposium on Advanced Topics in Electrical Engineering (ATEE 2015) 2015, pp. 692-697, ISBN: 978-1-4799-7514-3, ISSN: 2068-7966, DOI: 10.1109/ATEE.2015.7133878, (indexed on: IEEE Xplore, SCOPUS)	Pîslaru-Dănescu L. Morega A. M. Stoica V. Morega M. Dobrin I.
19	<i>Design and numerical simulations of a superconducting dipolar electromagnet, conduction cooled</i> (Proiectare și simulare numerică a unui electromagnet supraconductor dipolar, răcit prin conducție)	Proceedings of the 9 th International Symposium on ADVANCED TOPICS IN ELECTRICAL ENGINEERING (ATEE 2015) 7-9 May, 2015, Bucharest, Romania ISBN 978-1-4799-7514-3, ISSN 2068-7966, Pages: 79 - 83, DOI: 10.1109/ATEE.2015.7133680	Morega Alexandru Dobrin Ion Morega Mihaela Nedelcu Adrian Stoica Victor

**SCIENTIFIC / TECHNICAL PAPERS UNDER PUBLICATION
IN THE ISI PROFESSIONAL JOURNALS**

year 2015

No.	Title of scientific paper	ISI Journal	Authors	Impact factor of ISI journal in 2014
1	<i>Az AlNiCo és NbFeB mágneses anyagok korróziós viselkedése sósavban – Corrosion behaviour of AlNiCo and NdFeB magnetic materials in hydrochloric acid</i>	Korróziós figyelő Journal	Pătroi Delia Pătroi Eros Radu Elena Udrea Oana Lingvay József	0.143
2	<i>Comparative studies on Aspergillus niger biocorrosion of Alnico and NdFeB magnetic materials</i>	Revista de Chimie	Radu E. Pătroi D. Oprina G. Voina A. Lingvay I.	0.810
3	<i>Az Aspergillus niger fonalas penészgomba kihatásai az AISI 304 rozsdamentes acél korróziójára- Aspergillus niger filamentous fungi initiated corrosion of AISI 304 stainless steel</i>	Korróziós figyelő Journal	Radu E. Lingvay M. Szatmári I. Lingvay J.	0.143
4	<i>On the geochemistry of the Late Quaternary loess deposits of Dobrogea (Romania)</i>	Quaternary International, DOI:10.1016/j.quaint.2015.06.062; 2015	Tugulan L.C. Duliu O.G. Bojar A.-V. Dumitras D. Zinicovskaia I. Culicov O.A. Frontasyeva M.V.	2.13



No.	Title of scientific paper	ISI Journal	Authors	Impact factor of ISI journal in 2014
5	<i>Spirulina platensis</i> as biosorbent of chromium and nickel from industrial effluents	Desalination and Water Treatment, DOI: 10.1080/19443994.2015.104206; 2015	Zinicovscaia I. Cepoi L. Chiriac T. Culicov O.A. Frontasyeva M. Pavlov S. Kirkesali E. Akshintsev A. Rodlovskaya E.	1.17
6	<i>Moldavian wine analysis by ICP-AES and NAA techniques: comparison study</i>	Revue Roumaine de Chimie, 2015, 60(11)	Sturza R. Bilici C. Zinicovscaia I. Culicov O.A. Gundorina S. Duca Ghe.	0.393
7	<i>Active Sphagnum girgensohnii Rusow moss biomonitoring of an industrial site in Romania: temporal variation in element contents</i>	Bulletin of Environmental Contamination and Toxicology	Culicov O.A. Zinicovscaia I. Duliu O.G.	1.255
8	<i>Preparation and characterization of CeO₂-Y₂O₃ binary-oxides and their CO₂ gas-sensing properties</i>	Sensor Letters, Vol. 13, pp. 1–8, 2015, ISSN: 1546-198X (Print): EISSN: 1546-1971 (Online), doi:10.1166/sl.2015.3604, (indexed on: Chemical Abstracts, Cambridge Scientific Abstracts/METADEx-Engineered Materials Abstracts, SCOPUS, Compendex)	Telipan G. Pâslaru-Dănescu L. Marinescu V. Prioteasa P. I. Ovezia D.	0.558
9	<i>EIS study on biocorrosion of some steels and copper in Czapek-Dox medium with Aspergillus niger filamentous fungus</i>	Revista de Chimie	Cojocaru A. Prioteasa P. Radu E. Udrea O. Szatmari I. Vişan T.	0.81
10	<i>Studies of animony-tellurium and copper-tellurium films electrodeposition from choline chloride-containing ionic liquids</i>	Thin Solid Films	Cojocaru A. Catrangu A.S. Sin I. Prioteasa P. Cotarta A. Anicăi L. Vişan T.	1.759
11	<i>Thermal and spectroscopic analysis of stabilization effect of copper complexes in EPDM</i>	Journal of Thermal Analysis and Calorimetry, 123 , 231-239 (2016)	Zaharescu T. Ilieş D.-C. Roşu T.	2.042
12	<i>EPDM composite membranes modified with cerium doped zirconate titanate</i>	Radiation Physics and Chemistry, 118 , 133-137 (2016)	Zaharescu T. Dumitru A. Lungulescu M.E. Velciu G.	1.380
13	<i>Improved performances of EPDM for nuclear applications</i>	Chemical papers, DOI 10.1515/chempap-2015-0214	Zaharescu T. Zen H. A. Marinescu M. Scagliusi S. R. Cardoso E.C.L. Lugão A.B.	1.468

No.	Title of scientific paper	ISI Journal	Authors	Impact factor of ISI journal in 2014
14	<i>Influence of POSS on the radiation degradation of polyurethane substrate</i>	Journal of Thermal Analysis and Calorimetry, DOI: DOI: 10.1007/s10973-015-5191-y	Zaharescu T. Pielichowski K.	2.042
15	<i>Influence of the hydrostatic pressure on biogas production in anaerobic digesters</i>	Romanian Biotechnological Letters, ISSN 1224 – 5984	Mateescu Carmen	0.412
16	<i>Methanogens response on the pressure influence in vertical bioreactors</i>	Romanian Biotechnological Letters, ISSN 1224 – 5984	Mateescu Carmen Butoi Nicoleta	0.412
17	<i>Experimental assessment of wind energy potential by using the weibull distribution function (Evaluarea experimentală a potențialului energetic eolian prin utilizarea funcției distribuției de probabilitate Weibull)</i>	Revue Roumaine des sciences techniques Série Électrotechnique et Énergétique ISSN: 0035-4066	Mituleț Lucia-Andreea Pîslaru-Dănescu Lucian Nedelcu Adrian Nicolaie Sergiu Chihaiia Rareș-Andrei	0.333
18	<i>Numerical modelling and theoretical characterization of experimental procedures of steerer magnets for particle accelerators</i>	U.P.B. Sci. Bull., Series A	Dan Daniel Ioan Daniel Apostol Simona Chiriță Ionel	0.400
19	<i>Obținerea hidroxiapatitei dense prin sinterizare în plasma de scânteie (Obtaining The Dense Hydroxyapatite by Spark Plasma Sintering)</i>	Revista Română de Materiale / Romanian Journal of Materials, ISSN: 1583-3186 2015, Vol. 45, Issue 2, pp. 155-159	Grigore F. Lungu M. Talpeanu D. Melinescu A. Velciu G.	0.538
20	<i>Testing to characterize a MEMS device (Încercări de performanță pentru caracterizarea unui dispozitiv MEMS)</i>	Romanian Review Precision Mechanics, Optics & Mechatronics	Tănăsescu Florin Teodor Ștefănescu Gheorghe Ilie Cristinel Marius Popa Sergiu Dumitru	0
21	<i>Characterization of TiNi shape memory alloys obtained by spark plasma sintering process</i>	JOAM	Cîrstea C.D. Lungu M. Tsakiris V. Cucoș A. Tolea F.	0.500
22	<i>Two Zn(II) distortion isomers in a single crystal. Synthesis, supramolecular interactions and thermal analysis</i>	Rev. Roum. Chim.	Cucoș Andrei Paraschiv Carmen Shova Sergiu Andruh Marius	0.311

No.	Title of scientific paper	ISI Journal	Authors	Impact factor of ISI journal in 2014
23	<i>Thermal characterization of the resveratrol</i>	Revista de Chimie	Bancuta O.R. Bancuta I. Chilian A. Ion R.M. Setnescu R. Setnescu T. Gheboianu A.	0.810
24	<i>Improvement of spectrophotometric method for quantitative determination of phenolic compounds by statistical investigation</i>	Rom. Journ. of Physics – accepted 2015 http://www.nipne.ro/rjp/accepted_papers.html	Bancuta O.R. Chilian A. Bancuta I. Ion R.M. Setnescu R. Setnescu T. Gheboianu A.	0.924
25	<i>Electrical characterization of transparent conducting materials</i>	Rom. Reports in Physics	Chilian A. Bancuta O.R. Bancuta I. Ion R.M. Setnescu R. Setnescu T. Gheboianu A. Popescu I.V.	1.517
26	<i>Comparative Study of the Thermo-Oxidative Stability of Some Electro-insulating Oils</i>	Revista de Chimie, Bucuresti	Lingvay Iosif Budrugaec Petru Voina Andreea Cucoş Andrei Moscaliuc Hermia	0.810
27	<i>A 4T HTS magnetic field generator, conduction cooled, for condensed matter studies by neutron scattering</i> (Un generator de câmp magnetic de 4T, răcit prin conducție, pentru studiul materiei condensate prin împrăștierea de neutroni)	Applied Superconductivity, IEEE Transactions on	Dobrin I. Chernikov A. Kulikov S. Buzdavin A. Culicov O. Morega A. Nedelcu A. Morega M. Popovici I. Dobrin A.	1.235
28	<i>Hybrid bionic coating on Ti with TiO₂ nanotubes, hydroxyapatite and iron</i>	Revista de Chimie	Ichim Luiza Sbârcea Beatrice- Gabriela Pătroi Delia Dumitriueste Cristine	0.81
29	<i>Design and testing of flexible carbon nanocomposites for resistive force sensing applications</i>	Romanian Reports in Physics ISSN 1221-146X	Zevri L. Iordache I. Teişanu A. Ioniță Ghe.	

PUBLISHED BOOKS / BOOK CHAPTERS

Year 2015

No.	Book / Chapter title	Publisher, ISBN, year of publication	Authors
1	Energie pentru viitor (<i>Energy for the Future</i>)	"Mircea cel Bătrân" Naval Academy Publishing House, 2015, ISBN 978-606-642-087-7, 266 pages	Gheorghe Samoilescu Alina Barbu Laura Cizer
2	Bulletin of Micro and Nanoelectrotechnologies 	<i>A publication of the Department for Micro and Nanoelectrotechnologies from INCDIE ICPE-CA</i> INCDIE ICPE-CA Publishing House June 2015, vol. VI, no. 1-2 ISSN 2069-1505	Executive Staff Eng. Cristian Morari Eng. Gabriela Obreja Editor in chief Dr. Eng. Mircea Ignat, INCDIE ICPE-CA, Dep. MNE, mircea.ignat@icpe-ca.ro
3	Revista de Istoria Electrotehnicii Românești (<i>Journal of Romanian Electrical Engineering History</i>) 	INCDIE ICPE-CA Publishing House June 2015, Vol. 2, No. 1 ISSN 2066-7965	Honorary Chief Editor Prof. Florin Teodor Tănăsescu Chief Editor Dr. Eng. Mircea Ignat Editorial staff Dr. Gabriela Iosif Iulia Tănase Eng. Gabriela Obreja
4	Radiation effects on polymer-based systems	Thermal Degradation of Polymer Blends, Composites and Nanocomposites. Book Series: Engineering Materials Springer Verlag, 2015: pages 121-156; ISBN: 978-3-319-03463-8	T. Zaharescu

7.1.4. PATENT APPLICATIONS REGISTERED AT THE STATE OFFICE FOR INVENTIONS AND TRADEMARKS (OSIM) – TO BE EVALUATED

Year 2014

No.	Title of submitted patent / registration no.	Inventors / Applicants
1	<i>Carbon dioxide sensor with sensitive element and organo-siloxanic supramolecular polymer</i> (Senzor de concentrație CO_2 cu element sensibil cu polimer supramolecular organo-siloxanic) Registration no. A/00510/2014	Pîslaru-Dănescu Lucian Telipan Gabriela Racleș Carmenus
2	<i>Planar junctions with functional gradient and obtaining procedure</i> (Joncțiuni planare cu gradient funcțional și procedeu de obținere) Registration no. A/00581/2014	Lungu Magdalena Valentina Ion Ioana Lucaci Mariana Tălpeanu Dorinel Marinescu Virgil Tsakiris Violeta Cîrstea Cristiana Diana Brătulescu Alexandra
3	<i>Composite material for supercapacitors</i> (Material compozit pentru supercapacitori) Registration no. A/00643/2014	Băra Adela Iordoc Mihai Nicolae Prioteasa Paula Teișanu Aristofan Alexandru
4	<i>Hybrid wind generator with radial magnetic flux and external rotor</i> (Generator eolian hibrid cu flux magnetic radial și rotor exterior) Registration no. A/00838/2014	Nicolaie Sergiu Popescu Mihail
5	<i>Hybrid wind generator with radial magnetic flux and internal rotor</i> (Generator eolian hibrid cu flux magnetic radial și rotor interior) Registration no. A/00839/2014	Nicolaie Sergiu Popescu Mihail
6	<i>Hybrid wind generator with axial magnetic flux</i> (Generator eolian hibrid cu flux magnetic axial) Registration no. A/00840/2014	Nicolaie Sergiu Popescu Mihail
7	<i>Procedure of obtaining nanostructured Ag based conductive adhesive composition</i> (Procedeu de obținere a compoziției adezive conductive pe bază de Ag nanostructurat) Registration no. A/00857/2014	Mălăeru Teodora Neamțu Jenica Georgescu Gabriela Marinescu Virgil Pătroi Delia
8	<i>Magnetostrictive linear motor</i> (Motor liniar magnetostrictiv) Registration no. A/00879/17.11.2014	Pîslaru- Danescu Lucian Popa Marius Bunea Florentina Chihăia Rareș Andrei Morega Alexandru Mihail Morega Mihaela Gabor Dumitrița Flore Lica Popescu Ionel

No.	Title of submitted patent / registration no.	Inventors / Applicants
9	<i>Auto-assembled films obtaining procedure</i> (Procedeu de obținere filme auto-asamblate) Registration no. A/00929/2014	Hristea Gabriela Iordoc Mihai Prioteasa Paula
10.	<i>NiTi type shape memory half-finished materials and obtaining procedure</i> (Materiale semifabricate cu memoria formei de tipul NiTi și procedeu de obținere) Registration no. A/00930/2014	Cîrstea Cristiana Diana Lungu Magdalena Valentina Ion Ioana Sbârcea Beatrice Gabriela Stancu Nicolae
11.	<i>Electrolytic gel supercapacitor</i> (Supercapacitor cu electrolit gel) Registration no. A/00931/2014	Iordoc Mihai Nicolae Teişanu Aristofan Alexandru Băra Adela Prioteasa Paula Banciu Cristina

PATENTS GRANTED / DECISION TO GRANT IN INCDIE ICPE-CA

Year 2014

No.	Title of patent granted / no. of patent	Inventors / Applicants
1.	<i>Structure inductor – induced without magnetic core for permanent magnet electrical machines</i> (Structura inductor-indus fără miez magnetic pentru mașini electrice cu magneți permanenți) Patent no. 123604	Kappel Wilhelm Mihaiescu Gheorghe Mihai Ilie Cristinel Ioan Gavrilă Horia Cătălin Vasile Iulian
2.	<i>Epoxy resin based electroconductive material and conductive fillers for fuel cells</i> (Material electroconductiv bazat pe rășini epoxidice și fileri conductivi pentru pile de combustie) Patent no. 127059	Rîmbu Gimi Aurelian Borbath Istvan Boros Tiberiu Francisc Iordache Iulian Teişanu Alexandru Aristofan Vasilescu Mirea Radu Iordoc Mihai Băra Adela Banciu Cristina
3.	<i>Biogas obtaining plant</i> (Instalație de obținere a biogazului) Patent no. 125902	Mateescu Carmen Chiriță Ionel Stancu Nicolae Băbuțanu Corina Alice
4.	<i>Perovskit type ceramic material composition</i> (Compoziție de material ceramic de tip perovskit) Patent no. 128735	Velciu Georgeta Preda Maria Melinescu Alina Rîmbu Gimi Aurelian Dumitru Alina Iulia
5.	<i>Doped carbonic xerogel material for fuel cells with polymer membrane</i> (Material xerogel carbonic dopat pentru pile de combustie cu membrane polimerică) Patent no. 125703	Hristea Gabriela Alexandru Elena Camelia
6.	<i>Transformer with magnetic nano-fluid as cooling agent</i> (Transformator cu agent de răcire nanofluid magnetic) Decision to grant no. 6/11/29.08.2014	Pîslaru Dănescu Lucian Telipan Gabriela Pintea Jana

No.	Title of patent granted / no. of patent	Inventors / Applicants
7.	<i>Sewage sludge treatment procedure to stimulate the metanogens microorganisms activity</i> (Procedeu de tratare a nămolurilor de epurare pentru stimularea activității microorganismelor metanogene) Patent no. 126398	Mateescu Carmen
8.	<i>Automated system for a nondestructive examination of the tube blocks pipes</i> (Sistem automat de examinare nedistructivă a țevelor din plăci tubulare) Patent no. 125632	Farbaș Nicolae Grimberg Raimond Popovici Iuliu
9.	<i>Installation for superconducting coil active protection at superconducting motors</i> (Instalație pentru protecția activă a bobinei supraconductoare la motoare supraconductoare) Patent no. 128881	Pîslaru Danescu Lucian Dobrin Ion Stoica Victor Lipan Laurențiu Constantin Pisică Ioana
10.	<i>Procedure of obtaining shape memory material of NiTi alloy intermetallic compound type</i> (Procedeu de obținere a materialelor cu memorie a formei de tip compus intermetalic NiTi aliat) Patent no. 126126	Lucaci Mariana Enescu Elena Tsakiris Violeta
11.	<i>Piezoelectric sensor for dynamic viscosity measurement and measurement circuit</i> (Senzor piezoelectric de măsurare a vâscozității dinamice și circuit de măsurare) Patent no. 128865	Pîslaru-Danescu Lucian Pintea Jana Dumitru Alina Iulia Oprina Gabriela Băbuțanu Corina Alice Lipan Laurențiu Catalin Pisică Ioana
12.	<i>Polymer based microactuator</i> (Microactuator pe bază de polimer) Decision to grant no. 6/79/30.07.2014	Ignat Mircea
13.	<i>Epoxy resin based electroconductive material</i> (Material electroconductiv pe bază de rășini epoxidice) Patent no. 125882	Teșanu Aristofan Alexandru Chițanu Elena Vasilescu Mirea Radu Bujor Roșu Dorin
14.	<i>Dispersed structure ceramic in stabilized vitreous phase of SiO₂ for dental technique caster structure</i> (Ceramică cu structură dispersoidă în fază vitroasă stabilizată de SiO ₂ pentru producerea de creuzete pentru tehnica dentară) Patent no.125015	Șeitan Cristian
15.	<i>Humidity microsensor</i> (Microsenzor de umiditate) Decision to grant no. 6/08/29.08.2014	Ignat Mircea Hristea Gabriela
16.	<i>Carbonic material for water capacitive deionization and obtaining procedure</i> (Material carbonic pentru deionizare capacitivă a apei și procedeu de obținere) Decision to grant no. 3/137/28.11.2014	Hristea Gabriela Leonat Lucia-Nicoleta

Annex 3

**PATENT APPLICATIONS REGISTERED AT THE STATE OFFICE FOR INVENTIONS
AND TRADEMARKS (OSIM) - TO BE EVALUATED**

year 2015

No.	Title of submitted patent / registration no.	Inventors / Applicants
1.	<i>Water intake embedded in a radial sluice gate</i> (Priza de apă înglobată într-o stavilă segment) Registration no. A/00201/2015	Chihaia Rares-Andrei Mandrea Lucian Oprina Gabriela Mitulet Lucia-Andreea Tanase Nicolae
2.	<i>Test bench for study of rotational biphasic flow with adverse pressure gradient</i> (Stand pentru studiul curgerilor bifazice, rotaționale, cu gradient advers de presiune) Registration no. A/00704/2015	Bunea Florentina Ciocan Gabriel Dan
3.	<i>Sputtering targets and thin films made of silver doped zinc oxide antimicrobial nanopowders and process for preparing the same</i> (Ținte de pulverizare și straturi subțiri din nanopulberi antimicrobiene de oxid de zinc dopate cu argint și procedeu de obținere) Registration no. A/00605/2015	Lungu Magdalena Valentina Patroi Delia Grigore Florentina Lucaci Mariana Talpeanu Dorinel Tsakiris Violeta Mitrea Sorina Bratulescu Alexandra Cirstea Cristiana Diana Stancu Nicolae Marinescu Virgil
4.	<i>Obtaining procedure for fluorescent magnetic nanocomposite</i> (Procedeu de obținere a nanocompozitului magnetic fluorescent) Registration no. A/00635/2015	Georgescu Gabriela Malaeru Teodora Morari Cristian
5.	<i>Biostimulator and method for remediation of soils polluted with mineral oils and other xenobiotics</i> (Biostimulator și procedeu de remediere a solurilor poluate cu uleiuri minerale și alte produse xenobiotice) Registration no. A/00644/2015	Radu Lacramioara-Elena Voina Andreea Lingvay Iosif
6.	<i>Rotary piezoelectric motor with double contact</i> (Motor piezoelectric rotativ cu dublu contact) Registration no. A/00874/2015	Pislaru-Danescu Lucian Popa Marius Babutanu Corina Alice Chihaia Rares Andrei Morega Alexandru Mihail Morega Mihaela
7.	<i>Composite material for the spacecraft structure elements with screening properties against ionizing and electromagnetic radiation</i> (Material compozit pentru elemente de structură la vehicule spațiale cu proprietăți ecranante față de radiațiile ionizante și electromagnetice) Registration no. A/01019/2015	Teisanu Aristofan Alexandru Bara Adela Iordoc Mihai Nicolae Barbu Ionela Paula Caramitu Alina Ruxandra Mitrea Sorina Adriana Banciu Cristina Antonela

LIST OF PATENTS / DECISIONS GRANTED IN 2015 IN INC DIE ICPE-CA

No.	Title patent / no. patent	Inventors/assigned
1	<i>Security paper with electronic detection and validation</i> (Hârtie securizată cu detectare și validare electronică) Patent no. 126675	Codescu Mirela Maria Erdei Remus Iorga Alexandru Kappel Wilhelm Manta Eugen Oprea Florentina Pătroi Eros Alexandru Pătroi Delia Midoni Valentin Zapodeanu Ion Burlacu Maricica Buteică Dan Nechita Petronela
2	<i>The process of obtaining a mechano-composite powder for hydrogen storage</i> (Procedeu de obținere a unei pulberi mecano-compozite pentru stocarea hidrogenului) Patent no. 126101	Lucaci Mariana Enescu Elena Lungu Dodu Paula
3	<i>Metallic micro-wire for electromagnetic shields fabric</i> (Micro-fir metalic pentru țesături de ecranare electromagnetică) Patent no.126211	Patroi Eros.Alexandru Erdei Remus Codescu Mirela Maria Manta Eugen Patroi Delia Iorga Alexandru Morari Cristian Loghin Carmen
4	<i>Transformer with magnetic nanofluid as a cooling agent</i> (Transformator cu agent de răcire nanofluid magnetic) Patent no. 126613	Pîslaru –Dănescu Lucian Telipan Gabriela Pintea Jana
5	<i>Carbon material for capacitive water deionization and obtaining method</i> (Material carbonic pentru deionizare capacitivă a apei și procedeu de obținere) Patent no. 128203	Hristea Gabriela Leonat Lucia Nicoleta
6	<i>Process for obtaining a carbon-carbon type composite</i> (Procedeu de obținere a unui compozit de tip carbon-carbon) Patent no. 126305	Bara Adela Patroi Delia Leonat Lucia Nicoleta Rimbu Gimi Aurelian
7	<i>Process for obtaining a thin magnetic layer AlNiCo type</i> (Procedeu de obținere a unui strat magnetic subțire de tip AlNiCo) Patent no. 128389	Patroi Delia Patroi Eros Alexandru Dionezie Bojin Codescu Mirela Maria Goldner Constantinescu Catalin-Daniel
8	<i>Process for obtaining calcium phosphate based microporous ceramic grains</i> (Procedeu pentru obținerea de granule ceramice microporoase pe bază de fosfați de calciu) Patent no. 128210	Tardei Christu Albu Marilena Florentina Velciu Georgeta

No.	Title patent / no. patent	Inventors/assigned
9	<i>Composite nanostructures metallic of silver-oxide type with antimicrobial activity and their obtaining procedure</i> (Nanostructuri compozite de tip argint- oxid metalic cu activitate antimicrobiană și procedeu de obținere a acestora) Decision to grant no. 3/98/30.10.2015	Lungu Magdalena- Valentina Enescu Elena Gavriliu Stefania Maria
10	<i>Magnetic materials in the form of thin layers AlNiCo based</i> (Materiale magnetice sub formă de straturi subțiri pe bază de AlNiCo) Decision to grant no. 3/89/30.10.2015	Patroi Delia Patroi Eros Alexandru Dionezie Bojin Codescu Mirela Maria
11	<i>Tin alloy for anticorrosion coatings and their obtaining procedure</i> (Aliaj de staniu pentru acoperiri anticorozive și procedeu de obținere a acestuia) Decision to grant no. 4/252/27.11.2015	Faur Maria Iordoc Mihai Nicolae Lungu Magdalena – Valentina Tsakiris Violeta Leonat Lucia Nicoleta
12	<i>Tin alloy for soft soldering and their obtaining procedure</i> (Aliaj de staniu pentru lipire moale și procedeu de obținere a acestuia) Decision to grant no. 4/256/27.11.2015	Faur Maria Iordoc Mihai Nicolae Stancu Nicolae Marinescu Virgil Emanuel

7.1.5. SCIENTIFIC / TECHNICAL PAPERS PUBLISHED IN THE NON-ISI PROFESSIONAL JOURNALS

Year 2014

No.	Title	Journal	Authors
1	Tipologii ale comunicării instituționale (<i>Typologies of Institutional Communication</i>)	Annals of Spiru Haret University, Economic Series 5.1 (2014): 33-40	Iosif Olguța Gabriela
2	Microthermogenerator with semiconductor oxides thermoelectric materials	SPIE Smart Structures/NDE, Technical Summaries, 2014, pg.54	Telipan Gabriela Ovezea Dragoș Mălăeru Teodora
3	Coroziunea oțelului carbon în prezența mucegaiului <i>Aspergillus niger</i> (<i>Carbon Steel Corrosion in the Presence of Aspergillus Niger Fungi's</i>)	EEA – Electrotechnics, Electronics, Automatics (EEA - Electronică, Electrotehnică, Automatizări) vol. 62 (2014), no. 2, pp. 60-65, ISSN 1582-5175	Prioteasa Paula Lingvay Monika Sztamari Ilona Burunțea Nicoleta Lingvay Iosif
4	Studies on biocorrosion of stainless steel and copper in Czapek Dox medium with <i>Aspergillus niger</i> filamentous fungus	U.P.B, Sci.Bull, Series B, vol. 77 (2015) ISSN 1454-2331	Sztatmári Ilona Tudosie Liana Mihaiela Cojocaru Anca Lingvay Mónica Prioteasa Paula Vișan Teodor
5	Elemente de <i>Business Intelligence</i> pentru experți tehnici și consultanți (<i>Business Intelligence Elements for Technical Experts and Consultants</i>)	AGIR Bulletin nr. 4/2014	Popa D. R. Codescu Mirela Maria
6	Echipament special utilizabil în aeronautică. Risc expertal – studiu de caz (<i>Special Equipment used in aeronautics. Expertal Risk – Case Study</i>)	AGIR Bulletin nr. 4/2014	Popa D. R. Codescu Mirela Maria Popa A.
7	Profesorul Remus Răduleț 1904 – 1984 (<i>Professor Remus Radulet 1904-1984</i>)	Journal of Romanian Electrical Engineering History (Revista de Istoria Electrotehnicii Românești) INCDIE ICPE-CA Publishing House, October 2014, Vol. I, no. 1, ISSN 2066-7965	Ignat Mircea
8	Ingineria electrică românească în timpul monarhiei 1881-1948 (I) (<i>Romanian Electrical Engineering during the monarchy 1881 – 1948 (I)</i>)	Journal of Romanian Electrical Engineering History (Revista de Istoria Electrotehnicii Românești) INCDIE ICPE-CA Publishing House, October 2014, Vol. I, no. 1, ISSN 2066-7965	Ignat Mircea

No.	Title	Journal	Authors
9	Linear Actuators for the Medical Rehabilitation Procedure	Bulletin of Micro and Nanoelectrotechnologies, INC DIE ICPE-CA Publishing House, March 2014, vol. V, no. 1 – 2, ISSN 2069-1505	Ignat Mircea
10	Phasing skin factor analysis for oil wells completions	Bulletin of Petroleum-Gas University of Ploiești, Vol. LXVI, No. 2/2014, pp. 31-37	Stoianovici Georgeta Stoianovici Doru Nicolescu Constantin
11	Simulare sistem de lăgăruire radial-axial cu magneți permanenți folosit pentru dispozitive de stocare a energiei cu volant (<i>Simulation of a radial-axial permanent magnetic bearing system used for flywheel energy storage devices</i>)	Symposium of Electrical Machines SME'14, Oct.2014 ISSN 1843-5912	Tănase Nicolae Morega A.M. Ilie Cristinel Nedelcu Adrian
12	Theoretical and experimental study of a mixer with bars with application at sludge thickening (<i>Studiu teoretic și experimental al amestecătoarelor cu bare, cu aplicații la îngroșarea nămolului</i>)	Energy Technologies Rev., ICEMENERG Pub. House, Issue 47, no. 2/2014, p. 34-38 ISSN 1842-7189	Mândrea L. Băran Ghe. Băbuțanu Corina Alice Oprina Gabriela Bunea Florentina
13	Improving of the environmental parameters of Francis turbines	Energetica, vol. 62, no. 5, 2014, p. 181-186 ISSN 1453-2360	Bunea Florentina Băran Gheorghe
14	Variația coeficientului de debit la orificii mici cu vîscozitatea și tensiunea superficială (<i>The variation of small orifices discharge with viscosity and superficial tension</i>)	Science and Engineering Journal (<i>Revista Știință și Inginerie</i>), vol.25, pp. 423-430 ISSN 2067-7138 e-ISSN 2359-828X	Oprina Gabriela Bunea Florentina Mandrea L. Băbuțanu Corina Băran Gh.
15	Cell Phone and Human Health	Electromagnetic compatibility / Electromagnetic field Research and development in Romania, pp. 136-139 ISBN: 978-973-720-521-6 AGIR Publishing House, 2014	Voina Andreea Alecă Georgeta Pantelimon Brîndușă
16	Detecția gazelor combustibile și toxice din mediu atmosferic sau industrial (<i>Combustible and toxic gases detection from atmospheric and industrial environment</i>)	Automation and Instrumentation under Association for Automation and Instrumentation from Romania (Automatizări și Instrumentație sub egida Asociația pentru Automatizări și Instrumentație din România) No.1, January/March 2014 ISSN 1582-3334	Telipan Gabriela Pîslaru-Dănescu Lucian Băbuțanu Corina Alice
17	Optimizarea unui actuator magnetostrictiv (<i>Optimizing a magnetostrictive actuator</i>)	Symposium of Electrical Machines SME'14, Oct.2014 ISSN 1843-5912	Popa Marius Morega M. Alexandru Morega Mihaela

No.	Title	Journal	Authors
18	<i>Biomasa algala – sursa viabilă de biogas și biodiesel (Algal biomass – a viable source for biogas and biodiesel)</i>	Scientific Annals of the Danube Delta Institute, vol. 20, Section III - Natural resources, socio-economic aspects, pp. 91-94, doi: 10.7427/DDI.20.14	Mateescu Carmen Butoi Nicoleta
19	<i>Întreținerea cablurilor de alimentare subterane – biodegradarea mantalelor polimerice externe și influența sa asupra îmbătrânirii izolației (Maintenance of underground power cable – biodegradation of external polymer sheath and its influence on insulation aging)</i>	JSE (Journal for Sustainable Energy) – indexed BDI - VNCSIS “B + ”	Lingvay Iosif Szatmári Ilona Lingvay Mónika Marin Dorian
20	<i>New composite textile structure used in electromagnetic field shielding</i>	Metalurgia Journal, no. 1, 2014	Rădulescu Florina Pătroi Eros Alexandru Morari Cristian
21	<i>Nostoc Linckia as Biosorbent of Chromium and Nickel from Electroplating Industry Wastewaters</i>	Journal of Materials Science and Engineering B Vol. 4 (8), 2014, p. 242-247	Zinicovscaia I. Cepoi L. Valuta A. Rudi L. Culicov O.A. Frontasyeva M.V. Kirkessali E.I. Pavlov S.S. Mitina T.

Annex 4

7.1.5. SCIENTIFIC / TECHNICAL PAPERS PUBLISHED IN THE NON-ISI PROFESSIONAL JOURNLS

Year 2015

No.	Title	Journal	Authors
1	<i>Sistem de identificare, urmărire și asistență a navelor pe fluviu (System for identification, tracking and support of ships on rivers)</i>	Journal of Fiability & Durability, issue no. 1 supl, 2015, ISSN 1844-640X, Publisher Academica Brancuși, University of Târgu Jiu, pg. 285-291 Index: Index Copernicus, EBSCO, JournalSeek, DOAJ, ULRICH, SCIPRO	Gheorghe Samoilescu Serghei Radu Florentiu Deliu Petrică Popov
2	<i>Cercetări privind amplasarea unei centrale care folosește energia valurilor din zona orașului Constanța (Research on the location of a wave energy power plant within Constanța area)</i>	Journal of Fiability & Durability, issue no. 1 supl, 2015, ISSN 1844-640X, Publisher Academica Brancuși, University of Târgu Jiu, pg. 278-284 Index: Index Copernicus, EBSCO, JournalSeek, DOAJ, ULRICH, SCIPRO	Gheorghe Samoilescu Serghei Radu Florentiu Deliu Petrică Popov

No.	Title	Journal	Authors
3	<i>Tendințe de creștere a calității energiei electrice la bordul navei</i> (Trends to increase the quality of electricity on the ships board)	Scientific Bulletin , vol. XVIII, issue 1, ISSN 1454-864X, 2392-8956, 2015, Naval Academy Press, pg. 245-248 Index: PROQUEST Scitech Journals, Engineering Journals, Illustrata: Technology, Technology Journals, Military Collection, Advanced Technologies & Aerospace	Serghei Radu Gheorghe Samoilescu Adelina Bordianu
4	<i>Optimizarea sistemelor marine de alimentare cu energie electrică</i> (Optimization of marine power systems)	Scientific Bulletin, vol. XVIII, issue 2, Naval Academy Press, ISSN 1454-864X, 2392-8956, 2015, pg. 166-174 Index: PROQUEST Scitech Journals, Engineering Journals, Illustrata: Technology, Technology Journals, Military Collection, Advanced Technologies & Aerospace	Gheorghe Samoilescu Serghei Radu Adelina Bordianu
5	<i>Centrală electrică hidropneumatică acționată de valuri</i> (Waves-driven hydro power plant)	AGIR Bulletin, CNCSIS code 415, no. 115, "Research and engineering expertise", no.4, 2015, ISSN-L 1224-7928, ISSN 2247-3548, B + , pg. 80-85 Index Copernicus International, Academic KEYS, getCIT	Gheorghe Samoilescu Georgiana Rosu Adelina Bordianu
6	<i>Studiul câmpului magnetic generat de liniile electrice de înaltă tensiune într-o zonă cu acces</i> (Study of the magnetic field generated by high-voltage power grids in a restricted-access area)	AGIR Bulletin, CNCSIS code 415, no. 115, "Research and engineering expertise", no.4, 2015, ISSN-L 1224-7928, ISSN 2247-3548, B + , pg. 9-13 Index Copernicus International, Academic KEYS, getCIT	Gheorghe Samoilescu Georgiana Rosu Adelina Bordianu
7	<i>Chopping phenomena for Various Contact Materials</i>	Electrotehnica, Electronica, Automatica (Electrotechnics, Electronics, Automatics), vol. 63 (2015), pp. 17-24, no. 4	Alexandru Radulian Nicolae Mocioi Violeta Tsakiris Ionuț Daniel Deaconu
8	<i>Capitalisation of scientific knowledge and technology transfer between public research institutions and economic environment</i>	The Romanian Revue Precision Mechanics, Optics & Mechatronics	Diana Mura Badea Florin Teodor Tănăsescu Alexandru Marin Gheorghe Ștefănescu Gabriel-Cătălin Vlăduț Daniela Bucur Bogdan Ciocănel Ion Ivan

No.	Title	Journal	Authors
9	<i>Business models and competitive advantage for technology transfer entities</i>	The Romanian Revue Precision Mechanics, Optics & Mechatronics	Alexandru Marin Laura Boanță Alexandra Hadăr Diana Mura Badea Gabriel Vlăduț Daniela Bucur Bogdan Ciocănel Ion Ivan
10	<i>Analysis of European institutional systems-networks, for research and technological development, with application for our country</i>	Conference Proceedings of the Academy of Romanian Scientists Online Edition	Alexandru Marin Alexandra Hadăr Diana Mura Badea Gabriel Vlăduț Daniela Bucur Bogdan Ciocănel Ion Ivan
11	Coroziunea cuprului de uz electrotehnic în prezența mușgaiului filamentos <i>Aspergillus niger</i> (<i>Corrosion of Electrical Purposes Cooper in the Presence of Aspergillus Niger Filamentous Fungi</i>)	EEA - Electrotehnica, Electronica, Automatizări (Electrotechnics, Electronics, Automatics), vol. 63, no. 2, April – June 2015, pp. 110-115	Radu Elena Mitrea Sorina Udrea Oana Pătroi Delia Marin Dorian
12	<i>Influența câmpului electric de 50Hz asupra dezvoltării culturilor de Aspergillus niger</i> (The influence of the 50Hz electric field on the development and maturation of <i>Aspergillus niger</i>)	EEA - Electrotehnica, Electronica, Automatizări (Electrotechnics, Electronics, Automatics), vol. 63, no. 3, July - September	Radu Elena Lipcinski Daniel Tănase Nicolae Lingvay Iosif
13	<i>Biodegradabilitatea unor uleiuri de uz electrotehnic prin acțiunea micromicetelor</i> (Biodegradability of some electrical purposes oils duo to moulds)	EEA - Electrotehnica, Electronica, Automatizări (Electrotechnics, Electronics, Automatics)	Radu Elena Udrea Oana Mitrea Sorina Pătroi Delia Lingvay Iosif
14	<i>Contributions to evaluation of the biodegradability by Aspergillus niger and other fungi's of some insulating oils</i>	JSE - Journal of Sustainable Energy	Radu Elena Udrea Oana Lingvay Monica Szatmári Ilona Lingvay Iosif
15	<i>Methods for determining shielding effectiveness of materials</i>	Electrotehnica, Electronica, Automatica (Electrotechnics, Electronics, Automatics) 63.2 (Apr-Jun 2015): 126-136 (BDI)	Morari Cristian Bălan Ionuț
16	<i>Studies on biocorrosion of stainless steel and copper in Czapek Dox medium with Aspergillus niger filamentous fungus</i>	UPB Sci. Bull. Series B, vol. 77, No. 3, (2015), pp. 91-102	Szatmári Ilona Tudosie Liana Mihaela Cojocaru Anca Lingvay Mónica Prioteasa Paula Vișan Teodor

No.	Title	Journal	Authors
17	<i>Rotational vortex rope detection using recurrence plot analysis</i>	Military Technical Academy Review (MTA), Vol. XXV, No. 1, p. 5-15, Military Technical Academy Publishing House Bucharest, March 2015, ISSN 1843-3391 Index Copernicus International, Ulrich's Periodicals Directory, Google Scholar, The Lancaster Index, Genamics JournalSeek	Digulescu Angela Petruț Teodor Candel Ion Ioana Cornel Bunea Florentina Duncă Georgiana Bucur Diana Maria Șerbănescu Alexandru
18	<i>Forced flow patterns in a miniature planar spiral transformer with ferrofluid core</i>	INCAS BULLETIN, Volume 7, Issue 4/2015, pp. 85–94, ICID: 1185745, DOI: 10.13111/2066-8201.2015.7.4.8, (online) ISSN 2247–4528, (print) ISSN 2066–8201, ISSN–L 2066–8201, (indexed on COPERNICUS, PROQUEST, SCIPPIO, SCOPUS, Google Academic)	Dumitru J.B. Morega A. M. Morega M. Pislaru-Dănescu L.
19	<i>Innovative solutions of making a permanent magnet superconducting electric generator</i> (Soluții inovative de realizare a unui generator electric supraconductor cu magneți permanenți)	EEA (Electrotechnics, Electronics, Automatics), Vol. 63, No. 2, April–June 2015, pp. 95-101, ISSN: 1582–5175, Online ISSN: 2392 – 828X, (cod CNCIS 465, indexed on COMPENDEX, COPERNICUS, SCOPUS, Google Academic)	Stoica Victor Pislaru-Dănescu Lucian Dobrin Ion
20	<i>Acționarea motoarelor asincrone de turație ridicată de uz general cu utilizarea convertizoarelor de frecvență</i> (Operating the asynchronous motors with high speed for general purpose using frequency converters)	Automatizări și Instrumentație (Control & Instrumentation), no. 2, 2015, pp. 23-25, ISSN: 1582-3334	Pislaru-Dănescu Lucian Popescu Mihail Chihaia Rareș–Andrei Nicolaie Sergiu
21	<i>Effect of sand control techniques on oil well performance</i>	Bulletin of Petroleum-Gas University from Ploiesti, Technical Series (Buletinul Universității Petrol-Gaze din Ploiești, Seria tehnică)	Stoianovici Georgeta Stoianovici Doru Nicolescu Constantin
22	<i>Fundamental and applicative research for the aquatic waste recovery to biofuels and ecological fertilizers</i>	Scientific Annals of the Danube Delta Institute (BDI publication) – to be published in vol. 21/2015	Mateescu Carmen
23	<i>Cercetări aplicative pentru producerea de biogaz și eco-fertilizanți din deșeuri agrozootehnice</i> (Applicative research for producing biogas and eco-fertilizers from agriculture residuals)	AGIR Bulletin, (BDI publication) – to be published in Supliment 3/2015	Mateescu Carmen

No.	Title	Journal	Authors
24	<i>The Effects Produced by a Butterfly Valve in a Hydraulic Closed Circuit</i>	Applied Mechanics and Materials Journal, 2015 (811), p. 117-121 ISSN 1660-9336, ISBN-13: 978-3-03835-662-2	Mândrea Lucian Cipu Corina Băbuțanu Corina Oprina Gabriela
25	<i>Polyacrylonitrile-based Electrospun Fibers</i>	IEEE Conference Publications, The 9th International Symposium on ADVANCED TOPICS IN ELECTRICAL ENGINEERING, pp. 250-253, DOI: 10.1109/ATEE.2015.7133776	Băra A. Chițanu E. Banciu C. Marinescu V. Tsakiris V.
26	<i>Influence of Fe catalyst morphology on the growing of carbon nanotubes</i>	IFMBE Proceedings-Springer, 3 rd International Conference on Nanotechnologies and Biomedical Engineering, vol. 55, pp. 205-208, DOI 10.1007/978-981-287-736-9	Băra A. Banciu C. Marinescu V. Morari C. Pătroi D.
27	<i>Proiectarea și simularea unei microrețele de mici dimensiuni cu programul LabVIEW (LabVIEW Design and Simulation of a Small Scale Microgrid)</i>	UPB Sci. Bull., Series C, Electrical Engineering and Computer Science, ISSN 2286-3540	Mituleț L.A. Nedelcu A. Nicolaie S. Chihaia R.A
28	<i>Damage assessment and certification of historical leathers and parchments</i>	Onset, 14 (1) 2015, 14, pp. 14-16	Budrugeac Petru Cucoș Andrei
29	<i>Esterii vegetali: alternativă pentru înlocuirea uleiurilor minerale de uz electrotehnic (Vegetable esters: an ecological alternative to replace mineral oils for electrotechnical usage)</i>	EEA - Electrotehnică, Electronică, Automatică (Electrotechnics, Electronics, Automatics), 63 (1) (2015) 64-70	Lingvay Iosif Budrugeac Petru Radu Elena Marinescu Mădălina
30	<i>Simularea funcționării rotorului unui motor piezoelectric cu undă călătoare (Simulating the rotor operation of a piezoelectric motor with mobile wave)</i>	Symposium of Electric Machines (Simpozionul de Mașini Electrice) SME'15, October 23, 2015	Morega Alexandru M. Morega Mihaela Pîslaru-Dănescu Lucian Popa Marius
31	<i>Tuning the Electromechanical Properties of Silicones by Crosslinking Agent</i>	Advanced Engineering Materials, DOI: 10.1002/adem.201400505, 23 Jan 2015, Volume 17, Issue 9, pages 1302–1312, September 2015, Online ISSN: 1527-2648	Bele Adrian Cazacu Maria Racles Carmen Stiubianu George Ovezea Dragoș Ignat Mircea
32	<i>New Method Used to Determinate the Flow Captured by an Innovative Intake</i>	Bulletin of Iasi Politehnic Institute. Mathematic, Theoretic Mechanics, Physics, tomul LXI(LXV), Fasc. 4, 2015 (Zentralblatt-quoted journal), in press	Voina A. Mândrea L. Oprina G. Băbuțanu C. Chihaia R.
33	<i>Analysis of counter-rotating wind turbine using Blade Element Method</i>	Journal of Physics: Conference Series (JPCS), IOP Conference Series, in press	Frunzuliță F. Nicolaie S. Stoia-Djeska M. Oprina G. Nedelcu A.

No.	Title	Journal	Authors
34	<i>Comparative Analysis of a Counter Rotating Wind Turbine Testing Results</i>	DOI: 10.5593/SGEM2015/B41/S17.015, 15th International Multidisciplinary Scientific GeoConference SGEM 2015, www.sgem.org, SGEM2015 Conference Proceedings, ISBN 978-619-7105-38-4 / ISSN 1314-2704, June 18-24, 2015, Book4, 115-122 pp.	Oprina G. Mituleț A. Nicolaie S. Cîrnaru R. Cuciureanu D.
35	<i>Research Regarding the Adsorption of Hydrogen in Platinum Doped Nanostructured Carbonic Materials</i>	DOI: 10.5593/SGEM2015/B41/S17.061, 15th International Multidisciplinary Scientific GeoConference SGEM 2015, www.sgem.org, SGEM2015 Conference Proceedings, ISBN 978-619-7105-38-4 / ISSN 1314-2704, June 18-24, 2015, Book4, 471-478 pp	Mirea R. Oprina G. Rîmbu G. Iordoc M. Stamatin I.
36	<i>Considerations on Means for Testing Experimental Models of Axial Hydraulic Turbines</i>	Proceedings of 15th International Multidisciplinary Scientific GeoConference & Expo SGEM 2015, 18-24 June 2015, Albena, Bulgaria, pp. 137-144, ISBN 978-619-7105-38-4, ISSN 1314-2704	Popescu Teodor Costinel Rădoi Radu Blejan Marian Nicolaie Sergiu
37	<i>Cercetarea românească în domeniul energiei – prezent și perspectivă (Romanian research in energy sector – present and perspectives)</i>	AGIR Publishing House, EMERG collection, vol. 4, 2015	Adam Adrian Andrei Rugină Vasile Nicolaie Sergiu Bălan Mihai Dobrin Marian Dinca Cristian
38	<i>Evaluarea caracteristicilor hidraulice pentru un grătar Coandă în cazul utilizării la captările secundare cu prize tiroleze (Assessment of the hydraulic features for a Coanda grid to be used for the Tyrolean prize secondary captures)</i>	Scientific bulletin of the University of Civil Engineering Bucharest No. 3-4 / 2015, L-ISSN: 1224-628X	Chihaia Rareș Andrei
39	<i>Comportarea în exploatare a prizelor de apă în regim de ape mari</i>	Hidrotehnica Journal, no. 7-8 /2015, ISSN: 0439-0962	Chihaia Rareș Andrei
40	<i>Determinarea solicitărilor prizelor de apă cu conducte înglobate în pile (Determinating the efforts of the water prises having piles-embedded pipes)</i>	Science and Engineering Journal Vol. 27/2015, pg. 391-396, ISSN: 2067-7138	Mândrea Lucian Chihaia Rareș Popa Ileana

<i>No.</i>	<i>Title</i>	<i>Journal</i>	<i>Authors</i>
41	<i>Modelarea și concepția sistemelor de protecție anticorozivă activă pentru platformele eoliene offshore (Modelling and concept of the active anti-corrosive protection systems for the off-shore wind platforms)</i>	EEA - Electrotehnică, Electronică, Automatică (Electrotechnics, Electronics, Automatics), Vol. 63. (2015) – in press	Oprina Gabriela Apostol Emilia Tănase Nicolae Moscaliuc Hermina Lingvay Iosif
42	<i>Electromagneți supraconductori dipolari pentru acceleratoare de particule. Două modele constructive (Bipolars superconductive electromagnets for particles accelerators. Two design models)</i>	Buletinul Institutului Politehnic din Iași. Electrotehnică, Energetică, Electronică (Bulletin of Iasi Politehnic Institute. Electrotechnics, Electronics, Automatics)	Enache Dan Dobrin Ion Morega Alexandru Apostol Simona
43	<i>Soluții inovative de realizare a unui generator electric supraconductor cu magneți permanenți (Innovative solution to design a superconducting electric generator with permanent magnets)</i>	EEA - Electrotehnică, Electronică, Automatică (Electrotechnics, Electronics, Automatics)	Stoica Victor Pîslaru-Dănescu Lucian Dobrin Ion

Annex 5

7.1.6. SCIENTIFIC PAPERS PRESENTED In THE INTERNATIONAL CONFERENCES

Year 2014

Ref. no.	Title of the paper	International conference	Authors
1	<i>Preparation and characterization of electrospun PAN/ZnO composite fiber</i>	<i>The 2nd International Conference on Analytical Chemistry „Analytical Chemistry for a better life” RO-ICAC 2014, 17-21 September 2014, Târgoviște, Romania</i>	Chițanu Elena Băra Adela Lungulescu Marius Marinescu Virgil Codescu Mirela Maria Brătulescu Alexandra Pătroi Delia Albu Florentina
2	<i>Synthesis by co-precipitation of Zn-Ni-Fe mixed spinel nanoferrites</i>	<i>The 2nd International Conference on Analytical Chemistry „Analytical Chemistry for a better life” RO-ICAC 2014, 17-21 September 2014, Târgoviște, Romania</i>	Chițanu Elena Codescu Mirela Maria Pătroi Delia Manta Eugen Kappel Wilhelm Marinescu Virgil
3	<i>Synthesis and characterization of carbon nanotubes by CVD using different types of catalysts</i>	<i>The 2nd International Conference on Analytical Chemistry „Analytical Chemistry for a better life” RO-ICAC 2014, 17-21 September 2014, Târgoviște, Romania</i>	Băra Adela Banciu Cristina Marinescu Virgil Morari Cristian Codescu Mirela Maria
4	<i>Study of the influence of process parameters on the morphology of electrospun PAN/CNT composite fibers</i>	<i>The 2nd International Conference on Analytical Chemistry „Analytical Chemistry for a better life” RO-ICAC 2014, 17-21 September 2014, Târgoviște, Romania</i>	Băra Adela
5	<i>Testing in the wind tunnel of a new model of a counter rotating wind turbine</i> (Testarea în tunelul de vânt a unui nou model experimental de turbină eoliană contrarotative)	<i>The 25th DAAAM International Symposium Intelligent Manufacturing & Automation: Focus on Sustainability, 26-29 November 2014, Vienna, Austria</i>	Mituleț Lucia-Andreea Oprina Gabriela Chihaia Rareș-Andrei Nicolai Sergiu Nedelcu Adrian Popescu Mihail
6	<i>Study on the implementation of some methods to increase the wind turbines efficiency</i> (Studiu privind implementarea unor metode de eficientizare a instalațiilor eoliene)	<i>The 12th WEC Central & Eastern Europe Regional Energy Forum - FOREN 2014, 22-26 June 2014, Bucharest, Romania</i>	Mituleț Lucia-Andreea Popescu Mihail Nicolai Sergiu Oprina Gabriela Chihaia Rareș-Andrei
7	<i>Evaluation of powdered activated carbon performance for wastewater treatment containing inorganic pollutants</i>	<i>The 6th International Conference „Biomaterials, Tissue Engineering & Medical Devices” BiomMedD'2014, 17-20 September 2014, Constanța, Romania</i>	Matei E. Covaliu C.I. Georgescu Gabriela Mălăeru Teodora Stoian O.

Ref. no.	Title of the paper	International conference	Authors
8	<i>Alternative approaches for ZnO-graphene nanocomposites designed for supercapacitors</i>	<i>The 5th EuCheMS Chemistry Congress 2014, 31 August – 4 September, (2014), Istanbul, Turkey</i>	Hristea Gabriela Paraschiv Carmen Iordoc Mihai Prioteasa Paula
9	<i>Studies of antimony-tellurium and copper- tellurium electrodeposition from choline chloride-oxalic acid ionic liquid</i>	<i>The 10th European Symposium on Electrochemical Engineering, 28 September - 2 October 2014, Sardinia, Italy</i>	Sin I. Catranguiu A. S. Prioteasa Paula Cotarta A. Cojocar A. Anică Liana Vişan Teodor
10	<i>Studies of antimony-tellurium and copper-tellurium films electrodeposition from choline chloride-containing ionic liquids</i>	<i>The 16th International Conference on Thin Films, 13 – 16 October 2014, Dubrovnik, Croatia</i>	Catranguiu A. S. Prioteasa Paula Cotarta A. Cojocar A. Anică Liana Vişan Teodor
11	<i>Flexible Composites Based on Glass-Coated Microwires for Electromagnetic Shields Materials</i>	<i>The 9th International Workshop of Electromagnetic Compatibility - CEM 2014, (AI 9-lea Workshop Internațional de Compatibilitate Electromagnetică - CEM 2014), 2-4 September 2014, Timișoara, Romania</i>	Codescu Mirela Maria Kappel Wilhelm Chițanu Elena Manta Eugen Morari Cristian Pătroi Delia Pătroi Eros Erdei Remus Bălan Ionuț Popa D. R.
12	<i>Synthesis by co-precipitation of Zn, Ni and Zn_{0.5}Ni_{0.5} - mixed spinel nanoferrites</i>	<i>The 2nd International Conference of Analytical Chemistry - ICAC 2014 (A 2-a Conferință Internațională de Chimie Analitică - ICAC 2014), 17-21 September 2014, Târgoviște, Romania</i>	Chițanu Elena Codescu Mirela Maria Pătroi Delia Manta Eugen Kappel Wilhelm Marinescu Virgil
13	<i>Experimental determination of electromagnetic shielding effectiveness of materials</i>	<i>The 9th International Workshop of Electromagnetic Compatibility - CEM 2014, (AI 9-lea Workshop Internațional de Compatibilitate Electromagnetică - CEM 2014), 2-4 September 2014, Timișoara, Romania</i>	Morari Cristian Bălan Ionuț Popescu O. Mihai
14	<i>High voltage anodic plasma: a tool for manufacturing coated organic materials for electromagnetic screening</i>	<i>International Colloquium 'Physics of Materials' - PM-4, 13-14 November 2014, Bucharest, Romania</i>	Bădulescu Marius Anghel Alexandru Surdu-Bob Cristina Morari Cristian Bădic Mihai Bălan Ionuț
15	<i>Studies on Fe-Cr-Ni-Si-B bulk metallic glass for automotive applications</i>	<i>ROMAT 2014 – The 5th International Conference on Materials Science and Technologies, 15-17 October 2014, Bucharest, Romania</i>	Lucaci Mariana Pătroi Delia Tsakiris Violeta Lungu V. Magdalena Manta Eugen Iorga Alexandru

Ref. no.	Title of the paper	International conference	Authors
16	<i>Al/Al₂O₃ + Gr hybrid composite compacting behaviour</i>	<i>ROMAT 2014 – The 5th International Conference on Materials Science and Technologies, 15-17 October 2014, Bucharest, Romania</i>	Matara M.A. Csaki I. Lucaci Mariana Lungu V. Magdalena Popescu G. Iacob G.
17	<i>New solutions to store energy into materials</i>	<i>WEC Central & Eastern Europe Regional Energy Forum – FOREN 2014, (Forumul Regional al Energiei pentru Europa centrală și de Est, ediția a 12-a – FOREN 2014), 12-19 June 2014, Bucharest</i>	Lucaci Mariana Kappel Wilhelm Enescu Elena
18	<i>Nanoporous carbon xerogels for capacitive water desalinating</i>	International Chemistry Congress EuCheMS	Hristea Gabriela Paraschiv Carmen Cucoș Andrei
19	<i>Alternative approaches for ZnO-graphene nanocomposites designed for supercapacitors</i>	<i>The 5th International Chemistry Congress EuCheMS, 31 August – 4 September 2014, Istanbul, Turkey</i>	Hristea Gabriela Paraschiv Carmen Iordoc Mihai
20	<i>Polycarboxylate-assisted synthesis of ZnO nanoparticles</i>	<i>The 5th International Chemistry Congress EuCheMS, 31 August – 4 September 2014, Istanbul, Turkey</i>	Paraschiv Carmen Cucoș Andrei Hristea Gabriela Sbârcea Gabriela Pătroi Delia Marinescu Virgil
21	<i>Photo-Mediated biosynthesis of silver nanoparticles</i> (Ecosinteza nanoparticulelor de argint fotomediata)	<i>The 54th Scientific Communications Annual Session - Biology Institute of the Romanian Academy, (A 54-a Sesiune Anuală de Comunicări Științifice - Institutul de Biologie al Academiei Române), 10 December 2014, Bucharest</i>	Cogălniceanu Gina Mitoi Monica Hristea Gabriela Lungu Magdalena
22	<i>A new zinc-triethanolamine-isophthalate MOF. Synthesis, crystal structure and photo-catalytic activity</i>	<i>The 5th EUCHEMS Chemistry Congress, 31.08– 04.09.2014, Istanbul, Turkey</i>	Cucoș Andrei Paraschiv Carmen Shova S. Cojocaru B. Pârvulescu V.
23	<i>Evaluation of some conservation treatments for parchment artefacts</i>	<i>The 3rd International Seminar & Workshop on Emerging Technology and Innovation for Cultural Heritage, 15-18.10.2014, Sibiu, Romania</i>	Cucoș Andrei Badea E. Miu L. Carșote C. Petroviciu I. Budrugaec Petru
24	<i>Joining of C/SiC materials by Spark Plasma Sintering</i>	<i>TIMA2014, The 7th International Conference Innovative Technologies for Joining Advanced Materials, 19-20.06.2014, Timișoara, Romania</i>	Tsakiris Violeta Kappel Wilhelm Tălpeanu Dorinel Albu Florentina Pătroi Delia Marinescu Virgil

Ref. no.	Title of the paper	International conference	Authors
25	<i>Development of novel aluminium-ceramic nanocomposites and microstructural and mechanical characterization</i>	<i>International Symposium on Novel and Nano Materials (ISNNM), Krakow, Poland, 29 June - 4 July, 2014</i>	Tsakiris Violeta Popescu Ileana Nicoleta Bratu Vasile Tsakiris Cristian
26	<i>The sintering parameters influence on microstructure and physical-chemical properties of novel Al-Cu-SiC composites</i>	<i>International Symposium on Novel and Nano Materials (ISNNM), Krakow, Poland, 29 June - 4 July, 2014</i>	Popescu Ileana Nicoleta Bratu Vasile Zamfir Raluca Ioana Anghelina Florina Violeta Tsakiris Violeta
27	<i>Shape memory NiTi and NiTiCu alloys obtained by spark plasma sintering process</i>	<i>The 3rd International Conference Advances In Engineering & Management (ADEM 2014), September 11 - 12, 2014, Drobeta Turnu Severin, Romania</i>	Cîrstea Cristiana Diana Lungu Magdalena Balagurov A. M. Marinescu Virgil Culicov Otilia Sbârcea Gabriela Cîrstea V.
28	<i>Solutions for reducing the heat loss in buildings by coating with insulating nano-structured and corrosion resistant material</i> (Soluții pentru reducerea pierderilor de căldură din clădiri prin acoperiri cu material nanostructurat termoizolant și rezistent la coroziune)	<i>WEC Central & Eastern Europe Regional Energy Forum – FOREN 2014, (Forumul Regional al Energiei pentru Europa centrală și de Est, ediția a 12-a – FOREN 2014), 12-19 June 2014, Bucharest Proceedings Published on USB Flash Drive: ISSN-L 2284-9491, Poster Sp-56</i>	Velciu Georgeta Lingvay Iosif Țârdei Christu Albu Florentina Tsakiris Violeta
29	<i>Materials for fuel cells</i> (Materiale pentru pilele de combustie)	<i>The 20th Conference of Energy Engineering, Section 2 - Renewable Energy Sources. Energy technologies (A 20-a Conferință de Inginerie Energetică Secțiunea 2 – Resurse Regenerabile de Energie. Tehnologii energetice), CIE 2014, 05 - 07 June 2014, Oradea</i>	Velciu Georgeta Melinescu A. Lingvay Iosif Pintea Jana Dumitru Alina
30	<i>Improving the energy conversion efficiency of counter rotating wind turbines by using innovative generators</i>	<i>Proceedings of the 21st edition of the International Conference Hydraulics, Pneumatics, Tools, Sealing Elements, Fine Mechanics, Specific Electronic Equipment & Mechatronics – HERVEX 2014, 5-7 November, Călimănești – Căciulata, ISSN 1454-8003, pp. 249-254</i>	Popescu Mihail Nicolaie Sergiu Oprina Gabriela Cîrnaru Radu Mituleț Andreea Chihaia Rareș Mirea Radu

Ref. no.	Title of the paper	International conference	Authors
31	<i>Ecological intake for sand-less water solution for river management</i>	<i>International scientific-technical conference Actual Problems of Urban and Territorial Planning</i> (Conferința tehnico-științifică internațională <i>Probleme actuale ale urbanismului și amenajării teritoriului</i>), 13-15 November 2014, Kishinev, Moldova, Vol. 2, pp. 149-156, ISBN 978-9975-71-582-9	Mândrea L. Oprina Gabriela Băbuțanu Corina Voinea Andrei Panaiteescu V.
32	<i>The variation of the flow coefficient at small holes with the viscosity and surface tension</i> (Variația coeficientului de debit la orificii mici cu viscozitatea și tensiunea superficială)	<i>The XIVth multidisciplinary International Conference "Professor Dorin PAVEL - Romanian hydropower founder"</i> (A XIV-a Conferință internațională multidisciplinară "Profesorul Dorin PAVEL - fondatorul hidroenergeticii românești"), Sebeș - Alba, 6-7 June 2014, pp. 423-430, ISSN 2067-7138	Oprina Gabriela Bunea Florentina Mandrea L. Băbuțanu Corina Băran Gh.
33	<i>Overview of studies on renewable energy sources and their applications</i> (Prezentare de ansamblu a studiilor privind sursele regenerabile de energie și aplicațiile lor)	<i>Conference of the Romania-Bulgaria cross border project "Clean Access in the Calarasi-Silistra cross border area"</i> (Conferința proiectului transfrontalier România-Bulgaria <i>Acces curat în zona transfrontalieră Călărași-Silistra</i>), 8 October 2014, Silistra, Bulgaria	Radu Mirea
34	<i>Overview of studies on renewable energy sources and their applications</i> (Prezentare de ansamblu a studiilor privind sursele regenerabile de energie și aplicațiile lor)	<i>Conference of the Romania-Bulgaria cross border project "Clean Access in the Calarasi Silistra cross border area"</i> (Conferința proiectului transfrontalier România-Bulgaria <i>Acces curat în zona transfrontalieră Călărași-Silistra</i>), 9 October 2014, Călărași, România	Radu Mirea
35	<i>New Zn(II) coordination polymers assembled in the presence of aminoalcohols and polycarboxylic acids. Synthesis, structure, and thermal behaviour</i>	<i>The 23rd Annual Symposium of the Thermal Analysis and Calorimetry of the Romanian Academy Chemistry Department</i> (Al 23-lea Simpozion Anual al Comisiei de Analiză Termică și Calorimetrie al Secției de Științe Chimice a Academiei Române), 14 February 2014, Bucharest (oral presentation)	Paraschiv Carmen Cucoș Andrei Maxim Cătălin Madalan M. Augustin Marinescu Virgil
36	<i>New Zn(II) coordination polymers with mixed anionic linkers</i>	The 5 th EUCHEMS Chemistry Congress, 31 August - 4 September 2014, Istanbul, Turkey (poster)	Paraschiv Carmen Cucoș Andrei Madalan M. Augustin Maxim Cătălin
37	<i>Polycarboxylate-assisted synthesis of ZnO nanoparticles</i>	The 5 th EUCHEMS Chemistry Congress, 31 August - 4 September 2014, Istanbul, Turkey (poster)	Paraschiv Carmen Cucoș Andrei Sbârcea Gabriela Pătroi Delia Marinescu Virgil

Ref. no.	Title of the paper	International conference	Authors
38	<i>Electrostatic discharge testing of several ESD protective textiles used in electronic industry</i>	The 8 th International Conference and Exposition on Electrical and Power Engineering EPE-Iași, 16-18 October 2014, Iași, Romania	Telipan Gabriela Ignat Mircea Cătănescu Alexandru-Laurențiu Beatrice Moasa
39	<i>Neutron degradation of several polymers subjected to IBR-2 radiation at Dubna</i>	The 14 th International Balkan Workshop on Applied Physics and Materials Science, 2-4 July, 2014, Constanța, Romania	Lungulescu Eduard-Marius Setnescu Radu Setnescu Tanța Marinescu Mădălina Culicov Otilia Kulikov Sergey
40	<i>Thermal resistance of EPDM/IIR systems under γ-irradiation</i>	<i>International Nuclear Chemistry Conference, Maresias, Brazil, 14-19 September 2014</i>	Zaharescu T. Cardoso E.C.L. Scagliusi S.R. Zen H.A. Lugão A.B.
41	<i>Influence of antioxidant loading on the γ-exposure on ethylene-propylene terpolymer</i>	<i>International Nuclear Chemistry Conference, Maresias, Brazil, 14-19 September 2014</i>	Zaharescu T. Marinescu M. Zen H.A. Scagliusi S.R. Cardoso E.C.L. Lugão A.B.
42	<i>Radiation effects in PA6/EPDM blends</i>	<i>International Nuclear Chemistry Conference, Maresias, Brazil, 14-19 September 2014</i>	Zaharescu T. Lungulescu M. E. Caramitu A. R. Marinescu V.
43	<i>Improvement in the radiation stability of EPDM/incorporated EPDM powder/carbon black compounds</i>	<i>International Nuclear Chemistry Conference, Maresias, Brazil, 14-19 September 2014</i>	Kayan L.I.P. Zaharescu T. Parra D.F. Lugão A. B.
44	<i>EPDM composite membranes modified with cerium doped lead zirconium titanate</i>	<i>International Conference on Irradiation of Polymers, Jeju, South Korea, 5-9 October 2014</i>	Zaharescu T. Dumitru A. Lungulescu M. E. Velciu G.
45	<i>Effect of γ-irradiation on the copolymerization of bis-GMA/TEGDMA modified with MMT nanoparticles</i>	<i>International Conference on Irradiation of Polymers, Jeju, South Korea, 5-9 October 2014</i>	Campos L.M.P. Zaharescu T. Boaro L.C. Santos L.K.G. Ferreira H.P. Parra D.F.
46	<i>Influence of ferromagnetic liquids on γ-irradiation behaviour of some polymeric materials</i>	<i>The 11th Meeting of the Ionizing Radiation and Polymers Symposium – IraP, Jeju, South Korea, 5-9 October 2014</i>	Lungulescu Eduard-Marius Zaharescu Traian Marinescu Mădălina
47	<i>Inhibition of carbon steel in cooling water systems by nicotinamide</i>	<i>The 226th ECS Meeting, 5-10 October, 2014, Cancun, Mexico</i>	Brânzoi F. Brânzoi V. Iordoc Mihai
48	<i>Coin cell-type symmetric supercapacitors</i>	<i>Workshop on Nanostructured Materials for Energy Storage and Biomedical Applications, 30-31 October 2014, University of Cyprus, Nicosia, Cyprus</i>	Iordoc Mihai Teișanu Alexandru

Ref. no.	Title of the paper	International conference	Authors
49	<i>Sodium adducts flow battery designed for grid storage integration of renewable energy sources with variable output</i>	<i>Workshop on Nanostructured Materials for Energy Storage and Biomedical Applications, 30-31 October 2014, University of Cyprus, Nicosia, Cyprus</i>	Teişanu Alexandru Iordoc Mihai
50	<i>Epithermal neutron activation analysis of forages from permanent grasslands of North-Eastern Romania</i>	<i>The 17th Radiochemical Conference, Marianske Lazne, Czech Republic, 11-14 May 2014</i>	Culicov O.A. Tarcău D. Cucu-Man S.M. Zinicovscaia I. Vintu V. Samuil C. Frontasyeva M.V.
51	<i>Biosorption of chromium and nickel from wastewater by microalgae <i>Nostoc linckia</i></i>	<i>The 17th Radiochemical Conference, Marianske Lazne, Czech Republic, 11-14 May 2014</i>	Zinicovscaia I. Cepoi L. Valuta A. Rudi L. Frontasyeva M. Culicov O. Gundorina S. Mitina T.
52	<i>The Geochemistry of the Black Sea Sediments Belonging to the First and to the Second Stratigraphic Units: (I) Major Elements Vertical Profile</i>	<i>International Seminar on Interaction of Neutrons with Nuclei (ISINN 22), 27-30 May 2014, Dubna, Russia</i>	Duliu O.G. Szabo G. Frontasyeva M.V. Culicov O.A. Oaie G. Grădinaru J.
53	<i>Biotechnology for wastewater treatment</i>	<i>The 5th World Congress on Biotechnology, 25-27 June, 2014, Valencia, Spain</i>	Zinicovscaia I. Culicov O. Frontasyeva M.V. Kirkessali E.I. Gundorina S. Cepoi L. Chiriac T. Valuta A. Rudi L. Mitina T.
54	<i>Analytical study of several sewage sludges</i>	<i>International Conference on Analytical Chemistry - Analytical Chemistry for a Better Life, 17-21 September 2014, Târgoviște, Romania</i>	Setnescu Tanța Gheboianu A. I. Setnescu Radu Băncuță I. Băncuță R. Frontasyeva M.V. Bumbac M. Culicov Otilia Frontasyeva M.V.
55	<i>Radiation effects of fast neutrons on different organic materials</i>	<i>International Conference on Analytical Chemistry - Analytical Chemistry for a Better Life, 17-21 September 2014, Târgoviște, Romania</i>	Setnescu Radu Lungulescu Marius Setnescu Tanța Nicoleta A. Dumitru M. Culicov O. Kulikov S.

Ref. no.	Title of the paper	International conference	Authors
56	<i>XRF, INAA and TL investigation of the loess and paleo-soil sequences of the Costinesti (Southern Dobrudja, Romania) loess deposit</i>	<i>International Conference on Analytical Chemistry - Analytical Chemistry for a Better Life, 17-21 September 2014, Târgoviște, Romania</i>	Duliu O. G. Tugulan L.C. Culicov O.A. Chirosca A. Zinikovskaia I. Frontasyeva M.V. Dumitraș D.G.
57	<i>Neutron activation analysis of sewage sludge from Dambovita county</i>	<i>Romania, International Conference on Analytical Chemistry - Analytical Chemistry for a Better Life, 17-21 September 2014, Târgoviște, Romania</i>	Culicov Otilia Setnescu Tanța Setnescu Radu Zinikovskaia I. Frontasyeva M.V. Băncuță I. Gheboianu A. Bumbac M.
58	<i>Instruments at IBR-2 modernized reactor – potential applications in microbiology</i>	<i>The 2nd International Conference on Microbial Biotechnology, 9-10 October 2014, Kishinev, Republic of Moldova</i>	Culicov O.A. Chudoba D.M. Shvetsov V.N.
59	<i>Biosynthesis of selenium and titanium nanoparticles by cyanobacterium Nostoc Linckia</i>	<i>The 2nd International Conference on Microbial Biotechnology, 9-10 October 2014, Kishinev, Republic of Moldova</i>	Zinikovskaia I. Cepoi L. Valuta A. Rudi L. Frontasyeva M. Culicov O.
60	<i>Characterization of TiO₂ nanoparticles, used in the manufacture of DSSC, by NAA and SEM techniques</i>	<i>Physics Conference TIM-14, 20–22 November 2014, Timișoara, Romania</i>	Chilian A. Bancuta O.-R., Bancuta I. Ion R.-M. Setnescu Radu Marinescu Virgil Setnescu Tanța Zinikovskaia I. Culicov O. Frontasyeva M. Stihi C. Radulescu C. Gheboianu A. Popescu I.V.
61	<i>On the vortex parameter estimation using wide band signals in active acoustic system</i>	<i>OCEANS 2014 - TAIPEI, China, 7-10 April 2014, Page(s): 1 – 5, IEEE Conference Publications, Print ISBN: 978-1-4799-3645-8, INSPEC Accession Number 14760894, DOI: 10.1109/OCEANS-TAIPEI.2014.6964552</i>	Digulescu A. Teodor P. Candel I. Bunea F. Dunca G. Bucur D. Ioana C.

Ref. no.	Title of the paper	International conference	Authors
62	<i>Aeration solution of water used by hydraulic turbines to respect the environmental policies</i> <i>Aeration solution of water used by hydraulic turbines to respect the environmental policies</i>	<i>International Conference and Exposition on Electrical and Power Engineering EPE 2014 16-18 October 2014, Iași, Romania</i> <i>ISSN: 978-1-4799-5848-1</i> <i>Catalogue Number CFP1447S-USB</i> <i>IEE meetings database as conference record #33577</i>	Bunea F. Ciocan G.D. Bucur D.M. Dunca G.
63		<i>Electrical and Power Engineering, 2014 International Conference and Exposition on, publisher IEEE, pp. 1015-1020</i> <i>DOI 10.1109/ICEPE.2014.6970062</i>	
64	<i>Detection of cavitation vortex in hydraulic turbines using acoustic techniques</i>	<i>Proceeding of the 27th IAHR Symposium on Hydraulic Machinery and Systems (CD), Session 5.3, Paper 5.3.3, 22-26 September 2014, Montreal, Canada</i>	Candel I. Bunea F. Dunca G. Bucur D.M. Ioana C. Reeb B. Ciocan G.D.
65	<i>Turbinated water aeration innovative solutions in order to meet environmental policies</i> (Soluții inovatoare pentru aerarea apei turbinate, în vederea respectării politicilor de mediu)	<i>WEC Central and Eastern Europe Energy Forum 12th Edition - FOREN 2014, 15-19 June 2014, Romania, Proceedings Published on USB Flash Drive</i> <i>ISSN-L 2284-9491, Poster Sp-37</i>	Bunea F. Ciocan G.D. Bucur D.M. Dunca G.
66	<i>New techniques of aerating the turbinated water to increase the dissolved oxygen content</i> (Noi tehnici de aerare a apei turbinate în scopul creșterii conținutului de oxigen dizolvat)	<i>The 8th Conference of Hydroenergy specialists in Romania "Dorin Pavel", Section 6 Hydropower Engineering and Environmental Protection</i> (A opta Conferință a Hidroenergeticienilor din Romania, DORIN PAVEL, Secțiunea 6 Ingineria și Protecția Mediului în Hidroenergetică, Bucharest, 22-23 May 2014)	Bunea F. Ciocan G.D. Bucur D.M. Dunca G.
67	<i>Analysis of stakeholders in the framework of Hot Black Sea project</i>	<i>The 3rd International Symposium on Integrated Coastal Zone Management, Antalya, Turkey, 14-17 October 2014</i>	Lakovleva Nataliia Grigorievna Godin Eugeny Kresin Volodymyr Alecu Georgeta Voina Andreea Avaz Gulsen Ozer Pembe Devidze Devidze
68	<i>Interaction with radiations of the electron devices working for telecommunication applications</i>	<i>The 9th International Workshop of Electromagnetic Compatibility, CEM 2014, Timișoara, Romania, 3 – 5 September, 2014</i>	Ravariu Cristian Alecu Georgeta Vladoianu Mihai Laurentiu Idu Mihai Voina Andreea

Ref. no.	Title of the paper	International conference	Authors
69	<i>Monitoring system of air quality</i>	<i>International Conference - New Trends on Sensing- Monitoring- Telediagnosis for Life Sciences- NT-SMT-LS, Braşov, Romania, 24-26 July 2014</i>	Voina Andreea Alecu Georgeta Ravariu C. Voina C.
70	<i>АНАЛИЗ ДЕЯТЕЛЬНОСТИ ОРГАНИЗАЦИЙ РАЗЛИЧНОГО ТИПА В ПРОЕКТЕ HOT BLACK SEA</i>	<i>«СТАЛИЙ СОЦІАЛЬНО-ЕКОНОМІЧНИЙ ТА ЕКОЛОГІЧНИЙ РОЗВИТОК: ВІД ТЕОРІЇ ДО ПРАКТИКИ», Матеріали міжнародної науково-практичної конференції, Дніпропетровськ, pag. 109- 115, 2014</i>	Yakovlev NG Godin EA Alecu Georgeta Voina Andreea Avaz Gulsen Ozer Pembe Velikova Violeta Devidze Manana
71	<i>60 Years of Technology Transfer</i>	<i>Technology in Times of Transition, 41st ICHTEC Symposium, 29 July - 2 August 2014, Braşov, Romania</i>	Alecu Georgeta Iordache Iulian Enescu Elena Kappel Wilhelm
72	<i>Aspects on designing a superconducting AC electric generator with permanent magnets (Aspecte privind proiectarea unui generator electric supraconductor de curent alternativ cu magneţi permanenţi)</i>	<i>Electrical Machines Symposium SME'14 (Simpozionul de Maşini Electrice SME'14, October 2014</i>	Stoica Victor Pîslaru-Dănescu Lucian Dobrin Ion
73	<i>HTS Superconducting Coils for Applications in Electrical Engineering</i>	<i>The 4th International Conference "Physics of Materials" PM – 4, 13 – 14 November 2014, Bucharest, Romania</i>	Stoica Victor Dobrin Ion Nedelcu Adrian Apostol Simona
74	<i>Magnetic field distribution inside the aperture of a steerer magnet prototype</i>	<i>STORI'14 The 9th International Conference on Nuclear Physics and Storage Rings, 28 September – 3 October 2014, Sankt Goar, Germany</i>	Chiriţă Ionel Dan Vasile-Daniel Tănase Nicolae
75	<i>Experimental research on dissipative textile structures</i>	<i>2014 International Conference on Optimization of Electrical and Electronic Equipment, OPTIM 2014, Cheile Grădiştei, Braşov, Romania, 22-24 May 2014</i>	Moaşa Beatrice Helerea Elena Ignat Mircea Telipan Gabriela
76	<i>Electrostatic discharge testing of several ESD protective textiles used in electronic industry</i>	<i>2014 International Conference and Exposition on Electrical and Power Engineering (EPE 2014), 16-18 October, Iaşi, Romania</i>	Telipan Gabriela Ignat Mircea Cătănescu Laurenţiu Moaşa Beatrice
77	<i>The influence of heavy metals composition of soil on the polymeric insulators materials of power cables</i>	<i>TIM14 Physics Conference - Physics without Frontiers, 20-22 November 2014, Timişoara, Romania</i>	Popescu I.V. Rădulescu C. Stihi C. Telipan Gabriela Dulama I.D. Ioniţă I. Bunghez I.R.
78	<i>New Dynamic Balancing System Based on Magnetic Interaction and Software Removal of some Perturbations – cod lucrare 4083</i>	<i>ISAV 2014 – 4th International Conference on Acoustics and Vibration, Iran University of Science and Technology, Teheran, Iran, 10-11 December 2014</i>	Ilie Cristinel Comeaga Daniel Constantin Popa Marius

Ref. no.	Title of the paper	International conference	Authors
79	<i>Energy recovery from agricultural and farm waste in decentralized biogas plants</i> (Valorificarea energetică a deșeurilor agrozootehnice în instalații de biogaz descentralizate)	<i>The symposium “Avrig Smart Region - catalyst for a sustainable development</i> (Simpozionul „Regiunea Smart Avrig – catalizator al dezvoltării durabile”, Avrig, România, 1 July 2014, organized by AGIR și Avrig City Hall	Mateescu Carmen
80	<i>Assessment of the capacitive effect in planar transformers</i> (Evaluarea efectului capacitiv în transformatoarele planare)	<i>The 9th International Workshop of Electromagnetic Compatibility, CEM 2014</i> (AI-IX-lea Workshop Internațional de Compatibilitate Electromagnetică) CEM 2014, 2-4 September 2014, Timișoara, Romania	Pintea Jana Morari Cristian
81	<i>Convergences and incongruities of transmission line theory towards S-parameters, respectively EMC - electromagnetic shielding</i>	<i>The 9th International Workshop of Electromagnetic Compatibility, CEM 2014</i> (AI-IX-lea Workshop Internațional de Compatibilitate Electromagnetică) CEM 2014, 2-4 September 2014, Timișoara, Romania	Bădic Mihai
82	<i>Environmentally friendly products for replacement of insulating mineral oils</i>	<i>The 15th International Conference on Energetic-Electrical Engineering, ENELKO 2014, 9-12 October 2014, Odorheiu Secuiesc, Romania pp. 58-63</i>	Lingvay J. Tudosie L. Szatmári I.
83	<i>Microbial corrosion of S235J2G3 carbon steel</i>	<i>VEKOR, 8-10 April 2014, Balatonfured, Hungary, CD, Paper 34</i>	Szatmári I. Lingvay J.
84	<i>Biodegradation of underground power cables</i>	<i>VEKOR, 8-10 April 2014, Balatonfured, Hungary, CD, Paper 28</i>	Lingvay J. Szatmári I. Lingvay M.
85	<i>Underground power cables maintainability – the biodeterioration of external polymeric jackets and its influence on insulation ageing</i> (Întreținerea cablurilor de alimentare subterane – biodegradarea mantalelor polimerice externe și influența sa asupra îmbătrânirii izolației)	<i>International Conference of Energy CIE (Conferința Internațională de Energie) - Energy 2014, 4-6 June 2014, Oradea, Romania</i>	Lingvay Iosif Szatmári Ilona Lingvay Monika Marin Dorian

Ref. no.	Title of the paper	International conference	Authors
86	<i>Thermal Analysis and Calorimetry Conferences – Increasing the number of meetings and participants in our region</i>	<i>ROMANIAN ACADEMY, Chemical Sciences Dept. Commission of Thermal Analysis and Calorimetry. The 23rd Annual Symposium of the Thermal Analysis and Calorimetry of the Romanian Academy Chemistry Department (ACADEMIA ROMÂNĂ. Secția de Științe Chimice. Comisia de Analiză Termică și Calorimetrie. Al 23-lea Simpozion Anual de Comunicări Științifice) – February 2014, Bucharest Romania</i>	Rotaru Andrei Budrugeac Petru Popescu Crisan
87	<i>DMA and DSC studies on denaturation in water and in dry state of parchments subjected to accelerated ageing</i>	<i>ROMANIAN ACADEMY, Chemical Sciences Dept. Commission of Thermal Analysis and Calorimetry. The 23rd Annual Symposium of the Thermal Analysis and Calorimetry of the Romanian Academy Chemistry Department (ACADEMIA ROMÂNĂ. Secția de Științe Chimice. Comisia de Analiză Termică și Calorimetrie. Al 23-lea Simpozion Anual de Comunicări Științifice) – February 2014, Bucharest Romania</i>	Cucoș Andrei Budrugeac Petru Miu Lucreția
88	<i>Leather characterization by thermal analysis for improved microclimate conditions</i>	<i>ROMANIAN ACADEMY, Chemical Sciences Dept. Commission of Thermal Analysis and Calorimetry. The 23rd Annual Symposium of the Thermal Analysis and Calorimetry of the Romanian Academy Chemistry Department (ACADEMIA ROMÂNĂ. Secția de Științe Chimice. Comisia de Analiză Termică și Calorimetrie. Al 23-lea Simpozion Anual de Comunicări Științifice) – February 2014, Bucharest, Romania</i>	Carșote Cristina Budrugeac Petru Petroviciu Irina Miu Lucreția Badea Elena
89	<i>Study of crystallization process of soda lead silicate glasses by thermal and spectroscopic methods</i>	<i>ROMANIAN ACADEMY, Chemical Sciences Dept. Commission of Thermal Analysis and Calorimetry. The 23rd Annual Symposium of the Thermal Analysis and Calorimetry of the Romanian Academy Chemistry Department (ACADEMIA ROMÂNĂ. Secția de Științe Chimice. Comisia de Analiză Termică și Calorimetrie. Al 23-lea Simpozion Anual de Comunicări Științifice) – February 2014, Bucharest Romania</i>	Mocioiu Oana Cătălina Zaharescu Maria Atkinson Irina Mocioiu Ana-Maria Budrugeac Petru
90	<i>Differential Scanning Calorimetry for quantifying damage in artificial aged leather</i>	<i>Chemistry for Cultural Heritage (ChemCH 2014), Vienna, Austria, July 2014</i>	Carșote Cristina Badea Elena Miu Lucreția Della Gatta Giuseppe Budrugeac Petru

Ref. no.	Title of the paper	International conference	Authors
91	<i>Phase transitions of a parchment manufactured from deer leather: A calorimetric and kinetic analysis</i>	<i>The 11th European Symposium on Thermal Analysis and Calorimetry - ESTAC 11, Espoo, Finland, August 2014</i>	Budrugeac Petru
92	<i>Differential scanning calorimetry. A valuable technique for characterizing vegetable tanned leather</i>	<i>International Seminar and Workshop on Emerging Technology and Innovation for Cultural Heritage (ETICH 2014), Sibiu, Romania, October 2014</i>	Carșote Cristina Badea Elena Miu Lucreția Della Gatta Giuseppe Budrugeac Petru
93	<i>Evaluation of some conservation treatments for parchment artefacts</i>	<i>International Seminar and Workshop on Emerging Technology and Innovation for Cultural Heritage (ETICH 2014), Sibiu, Romania, October 2014</i>	Cucoș Andrei Badea Elena Miu Lucreția Carșote Cristina Petroviciu Irina Budrugeac Petru
94	<i>Study of the environmental impact on vegetable tanned leather by thermal analysis</i>	<i>ICAMS 2014 – 5th International Conference on Advanced Materials and Systems, Bucharest, Romania, October 2014</i>	Carșote Cristina Budrugeac Petru Miu Lucreția Karavana Hüseyin Ata Badea Elena
95	<i>Testing of leather artificially aged in acid rain</i>	<i>ICAMS 2014 – 5th International Conference on Advanced Materials and Systems, Bucharest, Romania, October 2014</i>	Wuyong Chen Yanping Gao Gong Ying Ignat Mădălina Miu Lucreția Budrugeac Petru
96	<i>Composite materials used for electromagnetic shielding</i>	<i>The XII National Conference with international participation "Mechatronics, Mechanical Engineering, Microtechnologies and New Materials" (A XII-a Conferință Națională cu participare Internațională "Mecatronica, Inginerie Mecanică, Microtehnologii și Materiale Noi") MIM-MMN 2014, 27 June 2014, Târgoviște, Romania</i>	Bălan Ionuț Morari Cristian Pătroi Eros Alexandru
97	<i>Electromagnetic properties of composite shields</i>	<i>The 9th International Workshop of Electromagnetic Compatibility, CEM 2014 (AI-IX-lea Workshop Internațional de Compatibilitate Electromagnetică CEM 2014), 2-4 September 2014, Timișoara, Romania</i>	Bălan Ionuț Morari Cristian Popescu O. Mihai
98	<i>Evaluation of the contact pressure developed between the rotor and stator of the helicoidal pump by using Finite Element Method Screw (Evaluarea presiunii de contact dezvoltate între rotorul și statorul pompei elicoidale utilizând Metoda Elementelor Finite)</i>	<i>The 12th WEC Central & Eastern Europe Regional Energy Forum - FOREN 2014 "Energy for Tomorrow: from vision to reality" (Forumul Regional al Energiei din Regiunea Central-Est Europeană - FOREN 2014 - „Energia pentru mâine: de la viziune la realitate”, The 12th Edition, 22 – 26 June 2014, Bucharest, Romania</i>	Mitrască Nușa , INC DIE- ICPE-CA Bucharest – IPCUP Ploiești Pupăzescu Alexandru Ulmanu Vlad

Ref. no.	Title of the paper	International conference	Authors
99	<i>The resistance to abrasive wear of the rotor-elastomer coupling material used in the progressive cavity pumps</i> (Rezistența la uzură abrazivă a materialelor cuplei rotor-elastomer utilizată în pompele cu cavități progresive)	<i>International Conference of Tribology BALKANTRIB'14, (Conferința Internațională de Tribologie BALKANTRIB'14), The 8th Edition, 30 Oct. - 2 Nov. 2014, Sinaia, Romania</i>	Mitrască Nușa , INC DIE-ICPE-CA București – IPCUP Ploiești Ulmanu Vlad
100	<i>Solar cells on flexible substrates</i>	<i>E-MRS Lille, France, May 2014</i>	Leonat Lucia
101	<i>Solar cells on paper substrates</i>	<i>Workshop Advances in Nanophysics and Nanophotonics Bucharest, 2014</i>	Leonat Lucia
102	<i>Assessment of radiation effects on some perfluorocarbon fluids</i>	<i>The 2nd International Conference on Analytical Chemistry – Analytical Chemistry for a Better Life 17-21 September 2014, Târgoviște, Romania</i>	Sorin Ilie Setnescu Radu
103	<i>Physico-chemical characterization of several sewage sludges</i>	<i>The 2nd International Conference on Analytical Chemistry – Analytical Chemistry for a Better Life 17-21 September 2014, Târgoviște, Romania</i>	Setnescu Tanța Gheboianu Anca Setnescu Radu Băncuță Iulian Băncuță Roxana Bumbac Marius Culicov Otilia Frontasyeva Marina

Annex 5

7.1.6. SCIENTIFIC PAPERS PRESENTED IN THE INTERNATIONAL CONFERENCES

Year 2015

Ref. no.	Title of the paper/ communication	International conference	Authors
1	<i>Complex physical analysis of a scale ship model</i> (Analiza fizică complexă a unui model de navă la scară)	<i>MARELEC 2015 International Conference on Electromagnetic Marin Environment - Electromagnetism, Electromagnetic Marine Systems and Marine Environment Protection</i> (MARELEC 2015, Conferință internațională privind mediul Electromagnetic Marin - Electromagnetism, Sisteme Electromagnetice Marine și Protecția Mediului Marin), Philadelphia, United States of America, 16 -19 June 2015	Rosu Georgiana Samoilescu Gheorghe Baltag Octavian
2	<i>Fluvial boat for passenger transport</i> (Ambarcațiune fluvială pentru transportul de pasageri)	<i>The 21st International Conference, Knowledge-Based Organization</i> (A 21-a Conferința Internațională, Organizația Bazată pe Cunoaștere), Sibiu, 11-13 June, 2015, ISSN 1843-6722, pp. 89-94 under ISI CPCI indexing	Samoilescu Gheorghe Iorgulescu Dumitru Radu Serghei Cizer Laura
3	<i>Teacher's skills and the computer's role in the education of youngsters</i> (Calitățile profesorului și rolul calculatorului în educația tânărului)	<i>International Conference Creative collaboration through the technologies support</i> (Conferința Internațională Colaborare Creativă prin sprijinul tehnologiilor) - ICCST 2015 - ProWeb, Workshop, 24 July 2015, Constanța, Romania	Samoilescu Gheorghe
4	<i>Electrical Contact Materials Obtained by Spark Plasma Sintering Technology for Vacuum Contactors</i>	<i>IEEE Conference: The 9th International Symposium on Advanced Topics in Electrical Engineering (ATEE), Bucharest, Romania, May 7-9, 2015</i>	Tsakiris Violeta Enescu Elena Lungu Magdalena Lucaci Mariana Radulian Alexandru Tălpeanu Dorinel Sbârcea Gabriela Caramitu Alina Marinescu Virgil Ion Ioana
5	<i>Neutron depolarization investigations of spring exchange interaction nanocomposites</i>	<i>Workshop on Condensed Matter Research by Means of Neutron Scattering Methods, CMRNS 2015, July 2015, Constanța, Romania</i>	Pătroi Delia Nikitenko Yu.V. Zahketov V.D. Pătroi Eros Codescu Mirela Manta Eugen

Ref. no.	Title of the paper/ communication	International conference	Authors
6	<i>Neutron depolarization investigations of spring exchange Interaction nanocomposites</i>	<i>International Conference Condensed Matter Research at the IBR-2, October 2015, Dubna, Russian Federation</i>	Pătroi Delia Zhaketov V.D. Nikitenko Yu.V. Codescu Mirela Pătroi Eros Manta Eugen
7	<i>Business models and competitive advantage for technology transfer entities</i>	<i>The 7th International Conference on Innovation, Recent Trends and Challenges in Mechatronics, Mechanical Engineering and New High-Tech Products Development MECAHITECH'15, Bucharest, 10-11 September, 2015</i>	Marin Alexandru Boanță Laura Hadăr Alexandra Mura Badea Diana Vlăduț Gabriel Bucur Daniela Ciocănel Bogdan Ion Ivan
8	<i>Environmental applications of magnetic nanomaterials. Heavy metals removal from wastewater using magnetic nanomaterials</i>	<i>The 9th International Conference on Materials Science and Engineering BRAMAT 2015, 5-7 March 2015</i>	Covaliu C.I. Paraschiv G. Georgescu G. Mălăeru T.
9	<i>Prepared and Electrical Characterization of Flexible Piezoelectric BT/Silicone Rubber Nanocomposite</i>	<i>The 8th International Conference on Advanced Materials: ROCAM 2015, 7-10 July 2015, Bucharest, Romania</i>	Mălăeru T. Pintea J. Georgescu G. Pătroi D.
10	<i>Synthesis and Characterization of Hydrophobic Superparamagnetic Fe₃O₄ Nanoparticles</i>	<i>The 8th International Conference on Advanced Materials: ROCAM 2015, 7-10 July 2015, Bucharest, Romania</i>	Mălăeru T. Kappel W. Pătroi E.A. Georgescu G.
11	<i>Contributions to evaluation of the biodegradability by Aspergillus niger and other fungi's of some insulating oils</i>	<i>CIE 2015, 4-6 June 2015, Oradea, Paper presented in Section 1</i>	Radu Elena Udrea O. Lingvay M. Szatmári I. Lingvay I.
12	<i>On the past climate of the Dobrogea (Romania) during the late Quaternary as reflected by loess geochemistry</i>	<i>EGU General Assembly 2015, Vienna, Austria, 12 – 17 April 2015</i>	Duliu O.G. Tugulan L.C. Bojar A.-V. Dumitras D. Zincovskaya I. Culicov O.A. Frontasyeva M.V.
13	<i>Instrumental Neutron Activation Analysis on tree leaves as trace element bioaccumulators in urban area</i>	<i>ISINN 23, Dubna, 25-29 May 2015</i>	Pantelica A. Frontasyeva M.V. Trinh M. Culicov O.A. Zinicovscaia I. Gorelova S.V. Apostol A.
14	<i>Bioindication of the heavy metals atmospheric depositions in Romania</i>	<i>ISINN 23, Dubna, 25-29 May 2015</i>	Popescu I.V. Frontasyeva M. Stihi C. Ene A. Radulescu C. Culicov O. Dulama I. Zinicovscaia I. Gheboianu A. Cucu-Man S. Todoran R.

Ref. no.	Title of the paper/ communication	International conference	Authors
15	<i>Selenium biosorption and nanoparticles production by Spirulina Platensis biomass</i>	<i>ISINN 23, Dubna, 25-29 May 2015</i>	Zinicovscaia I. Chiriac T. Cepoi L. Rudi L. Frontasyeva M.V. Culicov O. Vergel K.
16	<i>A 4T HTS Magnetic Field Generator, Conduction Cooled, for Condensed Matter Studies by Neutron Scattering</i>	<i>The 12th European Conference on Applied Superconductivity EUCAS 2015, 6-10 September 2015, Lyon, France</i>	Dobrin I. Chernikov A. Kulikov S. Buzdavin A. Morega A. Nedelcu A. Morega M. Culicov O. Popovici I. Dobrin A.
17	<i>Investments in Human Resources and Social Innovation – Priorities of EU Projects in Romania</i>	<i>Economic Sciences and Business Administration ICESBA, 20-21 November 2015, Bucharest, Romania ISSN 2392-8166 ISSN-L 2392-8166</i>	Baluta Aurelian Virgil Iosif Olguța Gabriela
18	<i>Techniques for analysis of ionic impurities in electrical rotating machines insulators</i>	<i>The 15th International Balkan Workshop on Applied Physics, Constanța, ROMANIA, 2-4 July 2015, invited lecture</i>	Popescu Ion V. Stihi Claudia Rădulescu Cristiana Dulama Ioana Daniela Bancuta Iulian Gheboianu Anca Ignat Mircea Telipan Gabriela Varaticeanu Bogdan
19	<i>Analysis of the atomic impurities in electrical rotating machines insulators by analytical techniques (Analiza impurităților atomice, din izolatoarii mașinilor electrice rotative, prin tehnici analitice)</i>	<i>Academy of the Scientists (Academia Oamenilor de Știință), Iași, 2015, 24-26 September 2015</i>	Popescu Ion V. Stihi Claudia Rădulescu Cristiana Dulama Ioana Daniela Bancuta Iulian Gheboianu Anca Ignat Mircea Telipan Gabriela Varaticeanu Bogdan Cimpoca Gh. Valerică Chelăr Elena Daniela
20	<i>Synthesis and characterization of cobalt oxide $\text{Ca}_3\text{Co}_4\text{O}_9$ used as thermoelectric material</i>	<i>The 8th International Conference on Advanced Materials, ROCAM, 7-10 July 2015, Bucharest</i>	Telipan Gabriela Mălăeru Teodora Marinescu Virgil
21	<i>Characterization of insulating materials used in rotating electrical machines</i>	<i>The 11th Edition International Symposium Priorities of Chemistry for a Sustainable Development-PRIOCHEM, 29-30 October 2015, Bucharest</i>	Dulama Ioana Daniela Bucurica Ioan Alin Popescu V. Ion Teodorescu Sofia Stirbescu Raluca Varaticeanu Bogdan Telipan Gabriela
22	<i>Variation of the magnetic and electrical properties in $(1-x)\text{BiFeO}_3 - x\text{BaTiO}_3$ solid solutions</i>	<i>The 8th International Conference on Advanced Materials ROCAM 2015, 7 10 July 2015, Bucharest, Romania</i>	Pintea Jana Dumitru Alina Pătroi Delia Bălan Ionuț Marinescu Virgil

Ref. no.	Title of the paper/ communication	International conference	Authors
23	<i>Analysis and condition monitoring of aged or recycled polymeric insulation materials from electric and electronic items</i>	<i>The 15th International Balkan Workshop on Applied Physics and Materials Science, 2–4 July 2015, Constanța</i>	Setnescu R. Lungulescu M.-E. Setnescu T. Bancuta I. Gheboianu A.I.
24	<i>Infrared spectroscopy and DSC as analysis tools in production and diagnosis of carbon fibers (from pan precursors)</i>	<i>The 15th International Balkan Workshop on Applied Physics and Materials Science</i>	Lungulescu M.-E. Setnescu R. Bara A. Setnescu T.
25	<i>Oxygen deficiency decrease from the turbined water</i>	<i>The 7th International Conference on Energy and Environment CIEM 2015 Conference Proceedings, Environmental Impact Session, ID S5_07, ISSN 20670893</i>	Bunea Florentina Ciocan Gabriel Dan Nedelcu Adrian Bucur Diana Maria Dunca Georgiana Chihaiia Rareș
26	<i>Stability of magnetic fluids in gamma-irradiation field</i>	<i>International Conference on Radiation Research, Kyoto, Japan, 24-29 May 2015</i>	Zaharescu Traian Vekas L. Socoliuc V.
27	<i>Numerical study of the stator motion in a piezoelectric ultrasonic motor</i>	<i>Proceedings of the International Symposium on Advanced Topics in Electrical Engineering (ATEE 2015) 2015, pp. 609–613, ISBN: 978-1-4799-7514-3, ISSN: 2068-7966, DOI: 10.1109/ATEE.2015.7133878, (indexed on: IEEE Xplore, SCOPUS)</i>	Morega A. M. Robello G. Morega M. Pislaru-Dănescu L.
28	<i>A new electronic active system for protection to quench hazard in high temperature superconducting coils</i>	<i>Proceedings of the International Symposium on Advanced Topics in Electrical Engineering (ATEE 2015) 2015, pp. 692-697, ISBN: 978-1-4799-7514-3, ISSN: 2068-7966, DOI: 10.1109/ATEE.2015.7133878, (indexed on: IEEE Xplore, SCOPUS)</i>	Pislaru-Dănescu L. Morega A. M. Stoica V. Morega M. Dobrin I.
29	<i>Electronic drive system of a linear magnetostrictive motor designed for outer space applications</i>	<i>Proceedings of the International Symposium on Advanced Topics in Electrical Engineering (ATEE 2015) 2015, pp. 225-230, ISBN: 978-1-4799-7514-3, ISSN: 2068-7966, DOI: 10.1109/ATEE.2015.7133878, (indexed on: IEEE Xplore, SCOPUS)</i>	Pislaru-Dănescu L. Morega A. M. Morega M. Chihaiia R. Popa M. Flore L.

Ref. no.	Title of the paper/ communication	International conference	Authors
30	<i>Shape and structure optimization of a magnetostrictive cored actuator</i>	<i>International Conference on Constructal Law & Second Law CLC 2015, 18-19 May 2015, Parma, Italy, Proceedings of the International Conference on Constructal Law & Second Law (CLC 2015), pp. 129-138, ISBN: 978-88-97162-35-3, (indexed on SCOPUS)</i>	Morega A.M. Popa Marius Morega M Pîslaru-Dănescu Lucian
31	<i>Flow patterns in the magnetic fluid core of a miniature planar spiral transformer</i>	<i>The 36th "Caius Iacob" Proceedings of the International Conference of Fluid Mechanics and its Technical Applications 2015, 29-30 October, Bucharest, Romania, Book of Abstracts, pp. 12-13, 2015</i>	Dumitru J.B. Morega A. M. Morega M. Pîslaru-Dănescu L.
32	<i>The structure and the essential methodology of an Excellency Centre to the Initiation on the Engineering Scientific Research</i>	Book Group Author(s): Destech Publicat Inc. Conference: International Conference on Social Science, Management and Economics (SSME), Location: Guangzhou, PEOPLES R CHINA, Date: May 09-10, 2015, Sponsor(s): Int Assoc Cyber Sci & Engrn INTERNATIONAL CONFERENCE ON SOCIAL SCIENCE, MANAGEMENT AND ECONOMICS (SSME 2015), pages: 833-839, published: 2015	Ignat Mircea
33	<i>Aspects of the Estimation Methods to the Medical Rehabilitation Field –2. Problem formula of the giant impressed electric field strength to single transmembrane with nanopore structures</i>	<i>The 3rd International Conference on Nanotechnologies and Biomedical Engineering ICNBME - 2015, 23-26 September, 2015, Kishinev, Republic of Moldova</i>	Ignat M. Tudorache Ana Maria Ojoga Miruna
34	<i>Problem formula of the giant impressed electric field strength to single transmembrane with nanopore structures</i>	<i>The 3rd International Conference on Nanotechnologies and Biomedical Engineering ICNBME-2015, September 23-26, 2015, Kishinev, Republic of Moldova</i>	Ignat Mircea Florescu Luca
35	<i>Magnetostrictive rotary engine (Motor magnetostrictiv rotativ)</i>	<i>SME 2015 Actualities and prospects for electrical machines, (Actualități și perspective în domeniul mașinilor electrice), the XIth edition, October 2015</i>	Ignat M. Galan N. Dalea Al.
36	<i>Preliminary tests of a magnetostrictive engine (Încercările preliminare ale unui motor magnetostrictiv)</i>	<i>SME 2015 Actualities and prospects for electrical machines, (Actualități și perspective în domeniul mașinilor electrice), the XIth edition, October 2015</i>	Ignat M. Galan N. Dalea Al.

Ref. no.	Title of the paper/ communication	International conference	Authors
37	<i>Bioengineering of the upper limb medical rehabilitation</i> (Bioingineria recuperării medicale a membrului superior)	<i>INGIMED The XVIth Edition, November 2015</i>	Cosma Radu Mihăilă Alin Mosesshon Vlad
38	<i>Study on motility of the ocular system with applications in non-conventional electromechanical drives</i> (Studiu asupra mișcării și motilității sistemului ocular cu aplicații în domeniul acționărilor electromecanice neconvenționale)	<i>INGIMED The XVIth Edition, November 2015</i>	Popa Carmen Ciutac Andra
39	<i>Sensors and systems for monitoring and evaluation of upper limb after the recovery procedures</i> (Senzori și sisteme de monitorizare și evaluare a membrului superior după proceduri de recuperare)	<i>INGIMED The XVIth Edition, November 2015</i>	Tudorache Ana Maria Ojoga Miruna
40	<i>Program of biomedical engineering within the Center for the Youngsters Initiation in Scientific Research INCDIE ICPE-CA</i> (Program de inginerie biomedicală în cadrul Centrului de Inițiere în Cercetarea Științifică pentru Elevi din cadrul INCDIE ICPE-CA)	<i>INGIMED The XVIth Edition, November 2015</i>	Ignat Mircea
41	<i>Lascăr Duiliu Zamfirescu: from a diplomat father and grandfather, to an exceptional engineer</i> (Lascăr Duiliu Zamfirescu; din tată și bunic diplomat, un inginer de excepție)	<i>Seminar for the History of the Romanian Electrical Engineering, (Seminar de Istoria Electrotehnicii Românești), the 7th edition, 29 October 2015</i>	Tudor Vișan Miu
42	<i>Electrical engineering during the monarchy</i> (Ingineria electrică în perioada monarhiei)	<i>Seminar for the History of the Romanian Electrical Engineering, (Seminar de Istoria Electrotehnicii Românești), the 7th edition, 29 October 2015</i>	Ignat Mircea
43	<i>Directed crystallization of glass-coated microwires</i>	<i>International Workshop of Magnetic Wires (IWMW 2015), June 29 - July 3, 2015, Session: Novel magnetic wires with functional properties, pp. 34</i>	Larin V. Panina L. Pătroi E. Pătroi D. Bashev V. Akutseva N.
44	<i>Graphene Oxide Based Nanocomposites Designed for Energy Applications</i>	<i>Third International Conference on Advanced Complex Inorganic Nanomaterials, ACIN 2015, Belgium</i>	Hristea Gabriela Ștefănescu Carmen Iordoc Mihai

Ref. no.	Title of the paper/ communication	International conference	Authors
45	<i>Synthesis and Characterization of Carbon Nanoparticles for Biosensing Applications</i>	<i>Third International Conference on Advanced Complex Inorganic Nanomaterials, ACIN 2015, Belgium</i>	Hristea Gabriela Tanasa Radu Ovezia Dragos Lipcinski Daniel Marinescu Virgil
46	<i>Synthesis by chemical method of Zn-Ni-Fe mixed spinel nanoferrites</i>	<i>The 8th International Conference on Advanced Materials ROCAM, (A 8-a ediție a Conferinței Internaționale de Materiale Avansate ROCAM), Bucharest, July 2015</i>	Chițanu E. Codescu M. M. Pătroi D. Manta E. Kappel W. Marinescu V.
47	<i>Synthesis by co-precipitation method of exchange-spring hard ferrite nanocomposites</i>	<i>European School of Magnetism (Școala Europeană de Magnetism) „From basic magnetic concepts to spin currents”, Cluj-Napoca, August 2015</i>	Chițanu E. Codescu M. M. Pătroi D. Manta E. Kappel W. Marinescu V.
48	<i>Research in waste recovery to biogas and biofuels (Cercetări în valorificarea deșeurilor pentru producerea de biogaz și biocombustibili)</i>	<i>Conference “Innovative methods of measurement and data transmission used in biogas technology (Conferința “Metode inovative de măsurare și transmitere date utilizate în tehnologia de producere a biogazului”), 27 February 2015, Târgoviște</i>	Mateescu Carmen
49	<i>Synthesis, processing and characterisation of Ag-ZnO nanostructured materials and coatings for medical applications</i>	<i>12th International Conference on Nanosciences & Nanotechnologies (NN15-NANOTECHNOLOGY 2015), 7-10 July 2015, Thessaloniki, Greece</i>	Lungu Magdalena Ion Ioana Tălpeanu Dorinel Grigore Florentina Pătroi Delia Mitrea Sorina Marinescu Virgil Chifiriuc Mariana-Carmen Popa Marcela Sobetkii Arcadie Sobetkii A. Arcadii Tsakiris Violeta Lucaci Mariana Brătulescu Alexandra Cîrstea Cristiana Diana
50	<i>Experimental research on anaerobic digestion of distillery wastewaters</i>	<i>The 4th International Conference on Thermal Equipment, Renewable Energy and Rural Development, TE-RE-RD 2015, 04 - 06 June 2015, Posada Vidraru, Romania, CD proceeding, ISSN 2457 – 3302, pp. 417-422 (indexed in the EBSCO Research Databases and Scientific Indexing Service)</i>	Băbuțanu Corina Oprina Gabriela Mândrea Lucian
51	<i>Polyacrylonitrile-based Electrospun Fibers</i>	<i>The 9th International Symposium on Advanced Topics in Electrical Engineering 2015</i>	Băra A. Chițanu E. Banciu C. Marinescu V. Tsakiris V.

Ref. no.	Title of the paper/ communication	International conference	Authors
52	<i>Influence of Fe catalyst morphology on the growing of carbon nanotubes</i>	<i>The 3rd International Conference on Nanotechnologies and Biomedical Engineering 2015</i>	Băra A. Banciu C. Marinescu V. Morari C. Pătroi D.
53	<i>The sensitivity dependence of hydrogen sensors based on MOSiC structure on temperature</i>	<i>EMRS 2015 Spring Conference (Conferința EMRS 2015 Spring), 11 – 15 May 2015</i>	Pascu Răzvan Craciunoiu Florea Neamțu Jenica Dragoș Ovezea Badila Marian Pristavu Gheorghe Brezeanu Gheorghe Romanitan Cosmin
54	<i>Influence of glycerine on denaturation temperature of chrome- and vegetable-tanned leathers</i>	<i>The 3rd Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC3), 25– 28.08.2015, Ljubljana, Slovenia</i>	Cucoș Andrei Budrugeac Petru Gaidau Carmen Badea Elena
55	<i>A new method for automatic determination of hydrothermal stability (shrinkage activity) of historical collagen-based materials by combined microscopy and image processing techniques</i>	<i>ROMANIAN ACADEMY, Chemical Sciences Dept. Commission of Thermal Analysis and Calorimetry. The 24th Annual Symposium of Scientific Papers (ACADEMIA ROMÂNĂ - Secția de Științe Chimice. Comisia de Analiză Termică și Calorimetrie. Al 24-lea Simpozion Anual de Comunicări Științifice), 2015, Bucharest</i>	Miu Oana Andreea Carsote Cristina Badea Elena Budrugeac Petru
56	<i>Studies on denaturation behaviour of some chrome-tanned leathers</i>	<i>ROMANIAN ACADEMY, Chemical Sciences Dept. Commission of Thermal Analysis and Calorimetry. The 24th Annual Symposium of Scientific Papers (ACADEMIA ROMÂNĂ - Secția de Științe Chimice. Comisia de Analiză Termică și Calorimetrie. Al 24-lea Simpozion Anual de Comunicări Științifice), 2015, Bucharest</i>	Cucoș Andrei Gaidău Carmen Badea Elena
57	<i>Applications of Thermal Analysis Methods in the Investigation of Cultural and Historical Objects Manufactured from Leather</i>	<i>The 3rd International Leather Engineering Congress (IAFLI 2015), Izmir - Turkey</i>	Budrugeac Petru Carsote Cristina Cucoș Andrei Badea Elena Miu Lucreția
58	<i>Application of thermal analysis methods for damage assessment of leather in an old military coat belonging to History Museum of Brașov – Romania</i>	<i>The 3rd Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC3), Ljubljana, Slovenia</i>	Budrugeac Petru Carsote Cristina Miu Lucreția

Ref. no.	Title of the paper/ communication	International conference	Authors
59	<i>The validity of non-isothermal model-free predictions methods for assessment of conversion vs. time curves for decomposition of calcium carbonate under quasi-isothermal conditions</i>	<i>The 3rd Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC3), Ljubljana, Slovenia</i>	Budrugaec Petru
60	<i>Kinetic energy storage system on the principle of flywheels with FESS magnetic suspension</i> (Sistem de stocare a energiei cinetice pe principiul roții volante, cu sustentație magnetică FESS)	<i>Electrical Machines Symposium SME'15</i> (Simpozionul de Mașini Electrice SME'15)	Tănase Nicolae Morega Alexandru M. Ilie Cristinel Popa Marius Popescu Mihail
61	<i>Numerical Multiscale Modelling of the Metal-Insulator-Metal Structures</i>	<i>COST MORNET WG2 meeting and workshop, University Politehnica of Bucharest, 19-20 March 2015</i>	Apostol E.S. Andrei M.I. Ioan D. Dan D.
62	<i>Biological evaluation of slip casting hydroxyapatite intended for cranioplasty</i>	<i>IFMBE Conference 3rd International Conference on Nanotechnologies and Biomedical Engineering (ICNBME-2015), 23-26 September 2015, Kishinev, Republic of Moldova</i> <i>IFMBE Proceedings Series</i>	Tălpeanu Dorinel Țârdei Christu Grigore Florentina Lucaci Mariana Velciu Georgeta Dumitru Alina Savu Diana
63	<i>Hydroxyapatite Prepared By Spark Plasma Sintering</i>	<i>Proceedings of The 8th International Conference on Advanced Materials - ROCAM, ISSN 1842-3574, 7-10 July, 2015, pp.86</i>	Grigore Florentina Lungu Magdalena Tălpeanu Dorinel Velciu Georgeta Pătroi Delia Sbârcea Beatrice Gabriela Marinescu Virgil Țârdei Christu Dumitru Alina
64	<i>Evaluation of biocompatibility of a cranial implant based on hydroxyapatite</i>	<i>The 3rd International Conference on Nanotechnologies and Biomedical Engineering, ICNBME-2015, Kishinev, Republic of Moldova</i>	Tălpeanu D. Grigore F. Țârdei C. Lucaci M. Velciu G. Dumitru A. Savu D.
65	<i>Copper removal from synthetic aqueous solutions by chemically modified beads of chitosan</i>	<i>The 15th International Multidisciplinary Scientific Geoconference SGEM2015, 24 June 2015, Albena, Bulgaria - poster B51</i>	Simonescu C.M. Busuioc L. Lilea V. Dragne M. Țârdei C.
66	<i>Hydroxyapatite nanopowders obtained by sol-gel method. Synthesis and properties</i>	<i>The 8th International Conference on Advanced Materials, ROCAM 2015, 7-10 July 2015, Bucharest, Romania - poster</i>	Sava B.A. Țârdei C. Simonescu C.A. Cucoș A. Boroica L.

Ref. no.	Title of the paper/ communication	International conference	Authors
67	<i>Experimental study on efficiency of different synthetic hydroxyapatite powders for lead removal from aqueous solutions</i>	<i>The 8th International Conference on Advanced Materials, ROCAM 2015, 7-10 July 2015, Bucharest, Romania - poster</i>	Țârdei C. Simonescu C.M. Grigore F. Tălpeanu D. Dragne M.
68	<i>Hydroxyapatite prepared by spark plasma sintering</i>	<i>The 8th International Conference on Advanced Materials, ROCAM 2015, 7-10 July 2015, Bucharest, Romania - poster</i>	Grigore F. Lungu M. Tălpeanu D. Velciu G. Pătroi D. Sbârcea B.G. Marinescu V. Țârdei C. Dumitru A.
69	<i>Composite materials with improved thermal properties using inorganic microspheres</i> (Materiale compozite cu proprietăți termice îmbunătățite utilizând microsfere anorganice)	<i>The 8th International Conference on Advanced Materials, ROCAM 2015, 7-10 July 2015, Bucharest, Romania - poster</i>	Velciu Georgeta Țârdei Christu Dumitru Alina Marinescu Virgil Voinițchi C. Dorinel
70	<i>Zinc Removal from Aqueous Solutions Using Chitosan-Glutaraldehyde Beads</i>	<i>The 19th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE-XIX), September 2-5, 2015, Sinaia, Romania - poster (I3)</i>	Patescu R.E. Simonescu C.M. Melinte I. Busuioc L.T. Dragne M. Țârdei C.
71	<i>Characterization of TiNi shape memory alloys obtained by spark plasma sintering process</i>	<i>The 8th International Conference on Advanced Materials (ROCAM 2015), Bucharest, Romania</i>	Cîrstea C.D. Lungu M. Tsakiris V. Cucoș A. Tolea F.
72	<i>Innovative Intake for Sand-Less Water Solution for River Management</i>	<i>8th International Conference on Environmental Engineering and Management, 9-12.09.2015, Iași, Romania</i>	Voina A. Mândrea L. Oprina G. Băbuțanu C.
73	<i>Implementation Analysis of an Ecological Transport System in Călărași - Silistra Border Area</i>	<i>Proceedings of the Union of Scientists - Ruse Sixth International Conference, Ruse, Bulgaria, 11-12 November 2015, ISSN 1311-9974, pp. 360-371</i>	Chihaiia R. El-Leathey L.A. Oprina G. Nicolaie S. Mirea R. Trifu L. Gradea D. Nastase L.
74	<i>Alternative Improved Accessibility across the Danube in Calarasi-Silistra Cross-Border Area</i>	<i>Proceedings of the Union of Scientists - Ruse Sixth International Conference, Ruse, Bulgaria, 11-12 November 2015, ISSN 1311-9974, pp. 770-777</i>	Nicolaie S. Oprina G. Chihaiia R.A. El-Leathey L.A. Mirea R. Băbuțanu C. Rîmbu G. Dumbrava V. Dragulin S.D.

Ref. no.	Title of the paper/ communication	International conference	Authors
75	<i>The sensitivity dependence of hydrogen sensors based on MOSiC structure on temperature</i>	<i>EMRS Spring 2015</i>	Pascu Răzvan Crăciunoiu Florea Ovezea Dragoș Bădila Marian Pristavu Gheorghe Brezeanu Gheorghe Romanitan Cosmin Neamțu Jenica
76	<i>Synthesis and characterization of carbon nanoparticles for biosensing application</i>	<i>ACIN, 13-17 July 2015</i>	Hristea Gabriela Tanasa Radu Ovezea Dragoș Lipcinski Daniel Marinescu Virgil
77	<i>Research regarding the adsorption of hydrogen in platinum doped nanostructured carbonic materials</i>	<i>International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM2015, 16-25th June (2015), Albena, Bulgaria</i>	Mirea R. Oprina G. Rîmbu G. Iordoc M. Stamatin I.
78	<i>Graphene Oxide Based Nanocomposites Designed for Energy Applications</i>	<i>Third International Conference on Advanced Complex Inorganic Nanomaterials, ACIN (2015), Namur, Belgium</i>	Hristea G. Ștefănescu C. Iordoc M.
79	<i>Synthesis and characterization of new Zn(II) coordination polymers constructed from amino-alcohols and aromatic dicarboxylic acids</i>	<i>The 24th Annual Symposium of the Thermal Analysis and Calorimetry Committee of the Romanian Academy, 13 February 2015, Bucharest</i>	Paraschiv Carmen Cucoș Andrei Shova Sergiu Madalan Augustin M. Maxim Cătălin
80	<i>Synthesis and characterization of new Zn(II) coordination compounds constructed from amino-alcohols and divergent N-donor ligands</i>	<i>Third International Conference on Advanced Complex Inorganic Nanomaterials – ACIN2015, 13 – 17 July 2015, Namur, Belgium</i>	Cucoș Andrei Paraschiv Carmen Maxim Cătălin Marinescu Virgil Shova Sergiu
81	<i>New Zn(II) coordination polymers constructed from amino-alcohols and aromatic polycarboxylic acids</i>	<i>Third International Conference on Advanced Complex Inorganic Nanomaterials – ACIN2015, 13 – 17 July 2015, Namur, Belgium</i>	Paraschiv Carmen Cucoș Andrei Shova Sergiu
82	<i>Graphene Oxide Based Nanocomposites Designed for Energy Applications</i>	<i>Third International Conference on Advanced Complex Inorganic Nanomaterials – ACIN2015, 13 – 17 July 2015, Namur, Belgium</i>	Hristea Gabriela Paraschiv Carmen Iordoc Mihai
83	<i>Synthesis, structure, TG + FTIR analysis and solid-state conversion to ZnO of new coordination compounds constructed from Zn(II), Bis-Tris and divergent N-donor ligands</i>	<i>The 3rd Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC3), 25 – 29 August 2015, Ljubljana, Slovenia</i>	Cucoș Andrei Paraschiv Carmen Sbârcea Gabriela Maxim Cătălin Marinescu Virgil Shova Sergiu
84	<i>Synthesis and characterization of new Zn(II) extended structures based on amino-alcohols and polycarboxylic acids</i>	<i>The 19th Romanian International Conference on Chemistry and Chemical Engineering” (RICCCE 19), 2 – 5 September 2015, Sibiu, Romania</i>	Paraschiv Carmen Cucoș Andrei Shova Sergiu Vișinescu Diana

Ref. no.	Title of the paper/ communication	International conference	Authors
85	<i>Synthesis and characterization of new Zn(II) coordination compounds constructed from Bis-Tris and divergent N-donor ligands</i>	<i>The 19th Romanian International Conference on Chemistry and Chemical Engineering" (RICCCE 19), 2 – 5 September 2015, Sibiu, Romania</i>	Cucoş Andrei Paraschiv Carmen Maxim Cătălin Shova Sergiu
86	<i>Characterization of Zinc Oxide thin films grown on different substrates</i>	<i>ECM 29 – The 29th European Crystallographic Meeting, 22 – 28 August 2015, Rovinj, Croatia</i>	Sbârcea Gabriela Paraschiv Carmen Pătroi Delia Marinescu Virgil Mitrea Sorina
87	<i>Infrared spectroscopy and DSC as analysis tools in production and diagnosis of carbon fibers (from PAN precursors)</i>	<i>The 15th International Balkan Workshop on Applied Physics, 2 – 4 July 2015, Constanța, Romania</i>	Lungulescu Marius Eduard Setnescu Radu Băra Adela Setnescu Tanța
88	<i>Analysis and condition monitoring of aged or recycled polymeric insulation materials from electric and electronic items</i>	<i>The 15th International Balkan Workshop on Applied Physics, 2 – 4 July 2015, Constanța, Romania</i>	Setnescu Radu Lungulescu Marius Eduard Setnescu Tanța Bancuta Iulian Gheboianu Anca Irina
89	<i>Environmental fingerprint of human activities revealed by analysis of solid sludges from waste water treatment plants</i>	<i>Workshop on Condensed Matter Research by Means of Neutron Scattering Methods (CMRNS), 4 – 7 July 2015, Constanța, Romania</i>	Setnescu Tanța Bancuta Iulian Setnescu Radu Gheboianu Anca Irina Bancuta Roxana Oana Bumbac Marius Chilian Andrei Culicov Otilia Frontasyeva Marina
90	<i>dCH₂ and dC spectra obtained for some kinematic configurations at intermediate energies</i>	<i>International Conference "Hadron Structure 2015 (HS2015)", 30 June – 3 July, 2015, Horný Smokovec, Slovak Republic</i>	Janek M. Gurchin Yu.V. Isupov A.Yu. Karachuk Yu.-T. Kurilkin P.K. Kurilkin A.K. Ladygin V.P. Livanov A.N. Pyadin S.M. Reznikov S.G. Terekhin A.A. Khrenov A.N.
91	<i>Experimental data on the dp→ppn reaction at 300-500 MeV energy of deuteron obtained at ITS at Nuclotron</i>	<i>"Hadron Structure 2015 (HS2015)", 30 June – 3 July, 2015, Horný Smokovec, Slovak Republic</i>	Pyadin S.M. Gurchin Yu.V. Isupov A.Yu. Karachuk Yu.-T. Kurilkin P.K. Kurilkin A.K. Ladygin V.P. Reznikov S.G. Terekhin A.A. Khrenov A.N.

Ref. no.	Title of the paper/ communication	International conference	Authors
92	<i>Simulation of $^3\text{He}(d, p)^4\text{He}$ reaction and recent results of the experimental investigation of dp breakup reaction</i>	<i>The XVIth Workshop on High Energy Spin Physics (DSPIN-15), 8-12 September, 2015, Dubna, Russian Federation</i>	Janek M. Batyuk P.N. Gurchin Yu.V. Isupov A.Yu. Karachuk Yu.-T. Kurilkin P.K. Kurilkin A.K. Ladygin V.P. Livanov A.N. Mertz S.P. Reznikov S.G. Terekhin A.A. Khrenov A.N.
93	<i>Morphological structure of composite polyester polymers for slot insulation used in rotating machines</i>	<i>The 4th International Conference Frontier in Polymer Science, Riva del Garde, Italy, 20-22 May 2015</i>	Telipan Gabriela Dulama Ioana Bucuric I.A. Marinescu V.
94	<i>Techniques for analysis of ionic impurities in electrical rotating machines insulators</i>	<i>The 15th International Balkan Workshop on Applied Physics, Constanta, Romania, 2-4 July 2015, invited lecture</i>	Popescu V. Ion Stihi Claudia Radulescu Cristiana Dulama Ioana Daniela Bancuta Iulian Gheboianu Anca Ignat Mircea Telipan Gabriela Varaticeanu Bogdan
95	<i>Synthesis and characterization of cobalt oxide $\text{Ca}_3\text{Co}_4\text{O}_9$ used as thermoelectric material</i>	<i>The 8th International Conference on Advanced Materials, ROCAM, 7-10 July 2015, Bucharest</i>	Telipan Gabriela Mălăeru Teodora Marinescu Virgil
96	<i>Characterization of insulating materials used in rotating electrical machines</i>	<i>The 11th Edition International Symposium Priorities of Chemistry for a Sustainable Development - PRIOCHEM, 29-30 October 2015, Bucharest</i>	Dulama Ioana Daniela Bucurica Ioan Alin Popescu V. Ion Teodorescu Sofia Stirbescu Raluca Varaticeanu Bogdan Telipan Gabriela
97	<i>Semiconductor oxides with application in devices type nharvesting thermoelectric</i>	<i>The 3rd International Congress on Energy Efficiency and Energy Related Materials, 19-23 October 2015, Oludeniz, Turkey, accepted abstract, poster no. 342</i>	Telipan G. Mălăeru T. Ovezia D. Marinescu V.
98	<i>Coin cell-type symmetric supercapacitors</i>	<i>Workshop on Nanostructured Materials for Energy Storage and Biomedical Applications, 30 - 31 October 2014, University of Cyprus, Nicosia, Cyprus</i>	Iordoc M. Teişanu A.
99	<i>Sodium adducts flow battery designed for grid storage integration of renewable energy sources with variable output</i>	<i>Workshop on Nanostructured Materials for Energy Storage and Biomedical Applications, 30 - 31 October 2014, University of Cyprus, Nicosia, Cyprus</i>	Teişanu A. Iordoc M.

Ref. no.	Title of the paper/ communication	International conference	Authors
100	<i>Dipolar superconducting electromagnets for particle accelerators. Two constructive models</i> (Electromagneți supraconductori dipolari pentru acceleratoare de particule. Două modele constructive)	<i>The 10th International Conference on Electromechanical and Power Systems, SIELMEN 2015</i>	Enache Dan Dobrin Ion Morega Alexandru Apostol Simona
101	<i>Conceptual model of a Hall sensor-based system for mapping the magnetic field</i> (Model conceptual al unui sistem pe bază de senzor Hall pentru maparea câmpului magnetic)	<i>The 10th International Conference on Electromechanical and Power Systems, SIELMEN 2015</i>	Dobrin Ion Sava Tiberiu Bogdan Savu Bogdan Enache Dan Popa Marius
102	<i>Multiscale numerical modelling of the metal-insulator-metal structures</i> (Modelare numerică multiscalată a structurilor metal-izolator-metal)	<i>COST MORNET WG2 meeting and workshop, University Politehnica of Bucharest, 19-20 March 2015</i>	Apostol E.S. Andrei M.I. Ioan D. Dan D.
103	<i>Characterization of Zinc Oxide thin films grown on different substrates</i> - poster -	<i>ECM 29 International Conference (Conferința Internațională ECM 29) – The 29th European Crystallographic Meeting</i>	Sbârcea Beatrice – Gabriela Paraschiv Carmen Pătroi Delia Marinescu Virgil Mitrea Sorina



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