

Gimi A. RIMBU, PhD

National Institute for R&D in Electrical Engineering ICPE-CA,
313 Splaiul Unirii, 030138 Bucharest - 3, Romania,
Phone: +40-755-015613,
E-mail: gimi.rimbu@icpe-ca.ro

CURRICULUM VITAE - COVER LETTER

I graduated the Polytechnic University of Bucharest as Chemical Engineer in 1998. I graduated also the PhD program in Chemical Engineering in 2004, at the same university.

I started my professional career in 1998 as research assistant at the **National Institute for R&D in Electrical Engineering ICPE-CA in Bucharest**, going through all professional stages, finally becoming **Senior Research Scientist 1st grade** by 2011. I was appointed as Deputy Head of the Department for Energy Efficiency during 2010-2016 and elected as Member of the Institute's Scientific Advisory Committee since 2014. For the moment I am employed at ICPE-CA as Senior Research Scientist.

At ICPE-CA in Romania, my scientific activity is mainly focused on the applicative research. During my work, **I have done extensive research in developing functional materials for application in the energy related technologies like batteries, fuel cells (e.g. PEM, Direct Alcohol and Microbial Fuel Cells) and hydrogen storage technologies.** I gained a large experience while working very close with different industrial partners in Romania. Together with them, I transposed my laboratory knowledge to the pilot scale and industrial level. Thus, I managed to develop fuel cells components and systems which were placed for technology transfers to some industrial partners. Due to my job position as Deputy Head of the Energy Department and due to my scientific interest regarding the technological integration of complementary energy related technologies, my experience and knowledge was extended to other technologies relating the new energy sources and systems like: **biomass, biogas, wind, hydro and solar.**

I have done postdoctoral research in the fuel cells technology and hydrogen storage materials at the **University of Bucharest, 3NanoSAE Research Centre** (2005-2007). Beside the research activity, at 3NanoSAE I was involved in delivering teaching on fuel cells technology and hydrogen storage materials to the students enrolled in the master program (2010). I was enrolled also as Associate Professor and Member of the Advisory Committee for Doctoral Students during 2014-2015.

I gained **valuable international research experience on the electrochemical systems and technologies for energy conversion** by following special trainings abroad: **Newcastle University, UK** as Marie Curie Fellow and Postdoctoral Research Associate (2003-2004 and 2006) in the subjects of PEM, Direct Methanol and Microbial Fuel Cells) and **Kiev National University of Technologies & Design, Ukraine** (2010) in the subject of the 1st and 2nd generation Li-ion batteries. I was enrolled as Research Associate at the **University of the West of England - Bristol Bio-Energy Centre (BBiC)**, during July 2016 and May 2017. Here I was involved in the implementation of the "Living Architecture" project, which was funded under the H2020-FETOPEN-2014-2015-RIA call. My work was especially focused in development of a specific microbial fuel cell system as a next-generation selectively-programmable bioreactor, to be integrated as component of the human dwelling and capable of extracting valuable resources from waste water and air, generation of oxygen and production of proteins and biomass.

A series of specific trainings I have followed in the Management subject: (1) Management of Public Institutions; (2) Technological Innovation for Small and Medium-sized Enterprises Based on Science and Technology and (3) Management of Crisis, Public Relations and e-Marketing.

I have extensive experience regarding research and business development. During my responsibility regarding the management of department's research activity, I was preoccupied usually to:

- identify internal capabilities and opportunities for institute's staff to engage in research (including interdisciplinary) and knowledge exchange activities;
- seek out external opportunities for staff within the department / institute to undertake new research and knowledge exchange activities including scanning for funding opportunities;
- engage in a dialogue and build relationships with new and existing industrial partners to identify and stimulate potential overlap between industry needs and internal capability;
- develop, manage and maintain partner relationships via meetings, events and regular communications;
- advice, prepare and submit documentation required for project funding, e.g. expressions of interest and collaborative grant applications;
- identify and exploit new research funding opportunities, disseminating them appropriately across the department / institute;
- organise, promote and deliver internal seminars and events to raise awareness and competence of those staff accessing and applying for external funding, and to ensure best practice.

My 20 years multidisciplinary scientific expertise as scientist and also my extensive experience in the project planning and business development gave me the potential to fully understand the R&D and external fundraising process, and to initiate and manage project applications regarding any kind of engineering related subjects. During my career, I acquired the skill to develop projects which integrate multidisciplinary teams with different knowledge on materials science, modern characterization techniques, application design, prototyping, technology transfer and IPR protection.

I have more than 10 years of experience in managing knowledge and projects. During my career I used to lead different scientific consortia as Project Manager, including research teams of industrial partners, universities, research institutes and NGOs, both at national and international level. Often I was in the position to optimally combine the knowledge of team members and stakeholders in order to achieve the project success. During the project management activity, I became also used with the continuous monitoring of technical progress and preparation of the appropriate reporting documents as well as intellectual property rules.

I have extensive experience regarding the EU funding schemes. Beside research activity, a very important part of my work was to identify new funding opportunities and to propose new research subjects in the line of department's expertise, to prepare project applications for funding and to supervise the implementation of the funded project. During my research activity **I attracted and managed funds of more than 5 million Euros**, received from National, FP7, NATO SfP and EU Regional Cross-Border Programs. I have a very large experience in project's progress reporting to EU Commission and other EU managing bodies.

I am very familiar with the EU procedures, rules and regulations by active participation as scientist in the EU Framework Programmes for Research (FP5, FP7 and HORIZON 2020) and especially during my official activity as **National Contact Point for the European FP7-REGIONAL Programme** (EU Record Control Number: 21344) and Expert in the Program Committee of FP7-Regions of Knowledge – Potential Research (2010 - 2012).

My scientific activity might be summarized as: 2 published books; 1 book chapter; 20 peer reviewed published papers in ISI ranked journals; 250 Citations in ISI ranked journals (according to Google Scholar); 2 peer reviewed published papers in journals indexed in different international data bases; 29 Published papers and presentations in proceedings of the national conferences and workshops; 28 Published papers and presentations in proceedings of the international conferences and workshops; 4 Patents; 12 Products developed by own research activity; 4 Technology Transfers; 7 National research projects under direct management / coordination of about 3.840.000 Euro; 3 International projects under direct management of about 1.628.837 Euro; 10 Awards received.

Gimi A. RIMBU, PhD



Europass Curriculum Vitae



Surname(s) / First name(s): **Gimi Aurelian / RIMBU**
Contact address: National Institute for R&D in Electrical Engineering ICPE-CA, 313 Splaiul Unirii, 030138 Bucharest - 3, RO
Telephone(s): +40 755015613
E-mail: gimi.rimbu@icpe-ca.ro
Nationality: Romanian
Date of birth: 20/05/1972
Gender: Male

Desired employment: **Senior Research Scientist / Research Management**

Skills and competences related to job requirements:

- Experience in design, fabrication, operation and testing of the electrochemical energy systems like: Fuel Cells (PEM, Direct Alcohol and Microbial), Batteries (Li-ion and Redox Flow) and Supercapacitors;
- Experience in technological integration of different technologies regarding the new energy sources and systems like: biomass, biogas, wind, hydro and solar;
- Experience in CVD, wet chemical and electrochemical synthesis techniques;
- Experience in synthesis and characterization of active carbons (ACs), carbon nanotubes (CNTs), carbon nanofibers (CNFs), graphene / graphene oxide (GN/GO), diamond like carbon (DLC), conductive polymers and their composites;
- Experience in electrochemical investigation techniques like: Cyclic Voltammetry, Potentiodynamic Polarization, Chrono-potentiometry, Chrono-amperometry and Electrochemical Impedance Spectroscopy (EIS);
- Experience in specific techniques for materials characterization like: X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM/EDX), Transmission Electron Microscopy (TEM/HRTEM), Fourier Transform Infrared Spectroscopy (FTIR), Raman Spectroscopy, X-ray Photoelectron Spectroscopy (XPS) and Thermal Analysis (TG/DTG, DSC) etc.
- Experience with the national research programs (e.g. „Nucleu”, PNCDI-III, Sectorial etc.);
- Experience with EU research programs (e.g. Bilateral, SEE, COST, EUREKA, HORIZON etc);
- Experience regarding team and project management and project's progress reporting to the funding bodies;
- Experience in coordinating preparation of the research applications in relation with funding;
- Experience to develop independent research programs;
- Experience in scientific communication to wider audience;
- Experience in delivering scientific advice and teaching to undergraduate, master and doctoral students.

Work experience:

Dates: **2016 – 2017, University of the West of England, Bristol BioEnergy Centre**

Occupation or position held: 2016 – 2017, Research Associate / Visiting Scientist

Main activities and responsibilities:

- Implementation of the “Living Architecture” project, which was funded under the H2020-FETOPEN-2014-2015-RIA call. Development of a specific microbial fuel cell system as a next-generation selectively-programmable bioreactor, to be integrated as component of the human dwelling and capable of extracting valuable resources from waste water and air, generation of oxygen and production of proteins and biomass.

Dates: **1998 – present, National Institute for R&D in Electrical Engineering, Romania**

Occupation or position held: 2014 - present, **Member of the Scientific Advisory Committee** at ICPE-CA, Romania;
2011 – present, **Research Scientist 1st Class** (Minister Order no 5295 / 07.09.2011);
2010 – 2016, **Deputy Head of Department** for Efficiency in Energy Conversion and Consume (EECC);
2010 – 2016, **Head of Electrochemical and Bio-Technologies Research Group**;

2007 – 2010 Senior Scientific Researcher 2nd Class, Head of the Fuel Cells Research Group;
2005 – 2007 Senior Scientific Researcher 3rd Class;
2001 – 2005 Scientific Researcher;
1998 – 2001 Chemical Engineer / Research Assistant.

Main activities and responsibilities:

- **Research in the field of fuel cells technology, hydrogen storage materials, redox batteries, microbial fuel cells, anaerobic fermentation, hydrogen and biogas production.**
- Research activity in the field of materials for energy (nanocarbons, diamond-like carbon, grapheme and graphene oxides, conducting polymers and their composites);
- Project development as principal investigator, management and coordination;
- Develop partnerships with stakeholders for know-how and technological transfer to: industry, public authorities, universities, applied research and associated structures of the business environment;
- Organize promotional events and debate forums in the renewable energy field;
- Identify internal capabilities and opportunities for institute's staff to engage in research (including interdisciplinary) and knowledge exchange activities;
- Seek out external opportunities for staff within the department / institute to undertake new research and knowledge exchange activities including scanning for funding and tendering opportunities;
- Engage in a dialogue and build relationships with new and existing business contacts to identify and stimulate potential overlap between business needs and internal capability;
- Develop, manage and maintain partner relationships via meetings, events and regular communications;
- Advice, prepare and submit documentation required for project funding, e.g. expressions of interest and collaborative grant applications;
- Identify and exploit new research and knowledge exchange funding opportunities, disseminating them appropriately across the department / institute;
- Organise, promote and deliver internal seminars and events to raise awareness and competence of those staff accessing and applying for external funding, and to ensure best practice;
- Elaborate departmental strategies for technological development and implementation..

Dates:

2005 – 2010 / 2014 - 2015, University of Bucharest, 3NanoSAE Research Centre, Romania

Occupation or position held:

2014 - 2015, **Associate Professor**, Member of the Advisory Committee for Doctoral Students
2007 – 2010 Scientific Researcher 2nd Grade
2005 – 2007 Scientific Researcher 3rd Grade / Postdoctoral Researcher

Main activities and responsibilities:

- Research Advisor for Doctoral Students;
- **Delivering teaching on *fuel cells technology* and *physical chemistry of the hydrogen storage materials* to the students enrolled in the Master program - *The Alternative and Renewable Energy Sources* - at the University of Bucharest, 3NanoSAE Research Centre (2010-2011);**
- Research in the field of PEM fuel cell technology and hydrogen storage materials.

Dates:

2003 – 2004 / 2006, Newcastle University, UK

Occupation or position held:

2006 (9 months), Post-Doctoral Research Associate
2003 – 2004 (12 months), Marie Curie Research Fellow

Main activities and responsibilities:

- **Postdoctoral research in the field of Microbial Fuel Cells**, in the frame of EC Marie Curie Fellowship, Transfer of Knowledge Contract no. MTKD –CT – 2004 – 517215;
- Conduct laboratory research training with students enrolled in the master and PhD program;
- Research in the field Advanced and Ecological Energy Sources & Systems – PEM Fuel Cell Technology, in the frame of Marie Curie Contract no. HPMT-GH-01-00333-03.

Education:

Date of graduation:

2004

Title of qualification awarded:

PhD

Principal subjects/occupational skills covered:

Chemical Engineering / PhD in Chemical Engineering

Name and type of organization providing education:

Polytechnic University of Bucharest, Faculty of Chemical Engineering

Date of graduation:

1998

Title of qualification awarded:

Bachelor / License Diploma

Principal subjects/occupational skills covered:

Chemical Engineering (Carbon and Petroleum Chemistry) / Chemical Engineer

Name and type of organization providing education:

Polytechnic University of Bucharest, Faculty of Chemical Engineering

Personal Skills & Competences:

Mother tongue(s): Romanian

Other language(s): **English** (fluent, high experience in scientific communication)

Social skills and competences:

- Spirit of teamwork;
- Ability to work under pressure and to adjust to any situation;
- Good communication skills.

Technical skills and competences:

- **Demonstrated skill in project management:** 7 National research projects under direct management / coordination – total attracted and managed value of about 3.840.000 Euro; 3 International project under direct management - total attracted and managed value of about 1.628.837 Euro;
- **Demonstrated competences by personal technical achievements** (complete list of achievements and scientific activity is attached in the CV Annex 1): 2 published books and 1 book chapter; 20 peer reviewed published papers in ISI ranked journals; 2 peer reviewed published papers in journals indexed in different international data bases; 29 Published papers and presentations in proceedings of the national conferences and workshops; 28 Published papers and presentations in proceedings of the international conferences and workshops; 4 Patents; 16 Technical procedures developed and registered at INCDIE ICPE-CA; 12 Products developed by own research activity; 4 Technology transfers to industry; 10 Awards received to national and international innovation fairs.

Computer competences:

- Competent with word processor and other computer applications, databases and the Internet.

Organizational skills:

- Able to analyze and design organizational structures and processes;
- Understand organizational mission: understands ethics & public good; concerned with public trust ;
- Ability in conflict management and dispute resolution;
- Understand how to acquire needed resources;
- Sensitive to diversity and multiculturalism;
- Able to gather and synthesize information on internal and external environments.

Memberships:

Memberships to the professional organizations / societies:

- Representative of the National Authority for Scientific Research (ANCS) - National Contact Point for the European FP7-REGIONAL Programme (EU Record Control Number: 21344) and Expert in the Program Committee of FP7-Regions of Knowledge – Potential Research (2010 - 2012);
- Executive Director, Administration of the Science and Technology Park “International Green Innovation Park” (approved by the Minister Order 4901MD/27.08.2013) (2013 – 2016);
- Member in the organizing committee and chairman of different scientific events (2007 – present);
- Representative of INCDIE ICPE-CA to the Industry Association for New and Renewable Energy Sources (Sun-E) (2010 - 2015);
- Expert Evaluator in the Romanian Research Programme;
- Member of the Romanian Society for Materials (1999 – present);
- Member of the Romanian Society for Carbonic Materials (1999 – present).

Trainings and Fellowships:

National and International Trainings and Fellowships:

- Training on Technological Innovation for Small and Medium-sized Enterprises Based on Science and Technology, 7-18 September 2013, Beijing International Business Incubator, Zongguancun Science Park, Beijing, China;
- Training on Management of Public Institutions, training in the frame of the program for skills improvement in Scientific Research Management (40 hours), under the Romanian Ministry for Education and Research, organized, by Romanian Authority for Scientific Research and Technological Innovation (AMCSIT), diploma no. 6/28.11.2005;
- Training on Public Relations, Crisis Management and e-Marketing, organized by SC Economix News S.A. CIT ENI, Tulcea 2008 (40 hours), (Trainer: Dragos Seuleanu – former vice president of the Chamber of Commerce and Industry of Romania and president of the Foundation for Democracy, Culture and Liberty);
- **Training in field of the 1st and 2nd generation Li-ion batteries fabrication**, in the frame of the EC funded contract FP7-REGPOT-229906/2009, (April 2010), Kiev National University of Technologies & Design, Department of Electrochemical Power Engineering & Chemistry, Ukraine, Supervisor Prof. Viacheslav Barsukov;
- **Postdoctoral research in the field of Biological & Microbial Fuel Cells**, in the frame of EC - Marie Curie

Fellowship, Transfer of Knowledge Contract no. MTKD –CT – 2004 – 517215 funded by the European Commission, (2006 February – November), *School of Chemical Engineering and Advanced Materials, University of Newcastle upon Tyne, Newcastle upon Tyne, UK* – Supervisors: Prof. Keith Scott and Ian Head, Univ. of Newcastle upon Tyne, UK;

- **Postdoctoral research in the field of Fuel Cells Technology and Hydrogen Storage Materials**, Contract CNCISIS no. 3158 / 12.10.2005 funded by the National Authority for Research, 2005 - 2006, *University of Bucharest, Romania* – Supervisor: Prof. Ioan Stamatin, University of Bucharest, Romania;
- **Research training in the field of Advanced and Ecological Energy Sources & Systems - Fuel Cell Technology**, performed as part of School's Marie Curie Training Site, Contract no. HPMT-GH-01-00333-03, 2003 – 2004 (15 August 2003 – 08 September 2004), *School of Chemical Engineering and Advanced Materials, University of Newcastle upon Tyne, Newcastle upon Tyne, UK* - Supervisor: Prof. Keith Scott, Univ. of Newcastle upon Tyne, UK;
- **Research training in the field of carbon materials processing and characterization**, supported by NATO SfP 974214 Project, 2000 (August – September), *School of Process Environmental and Materials Engineering - Materials Department, University of Leeds, UK* - Supervisor: Prof. Brian Rand, University of Leeds, UK.

Additional information:

Scientific responsibilities and funds management:

R&D Projects	Position	Title	Financing Body	Value (Euro)	Year
NATIONAL PROJECTS					
CEEX 88 / 2005	Project Director	Low cost alternative multifunctional materials for high temperature Polymer Electrolyte Fuel Cells.	AMCSIT	450,000	2005-2008
CEEX 602/ 2005	Partener Project Director	Development and implementation of new technical solutions for PEMFC performance improvement.	MENER	450,000	2005-2008
CEEX 195/2006	Project Director	PV/FC hybrid system for energetic autonomy.	AMCSIT	450,000	2006-2008
CEEX 760/2006	Project Director	Fuel cell system for direct bio-alcohol electro oxidation.	MENER	450,000	2006-2008
CEEX 226/2006	Partener Project Director	Integrated system for energy conversion from renewable sources.	AMCSIT	450,000	2006-2008
PNII-CNMP-21-034/2007	Project Director	5 kW Fuel Cell Based Integrated System.	CNMP	650,000	2007–2010
PNII-CNCSIS 222/2007	Project Director	New Nanostructured Materials for Hydrogen Storage.	CNCSIS	300,000	2007–2010
PN-II-PT-PCCA-2013-4-2066	Project Director	Redox flow battery with fast charging capacity as main source of energy in electric vehicles.	UEFISCDI	300,000	2014-2017
INTERNATIONAL PROJECTS					
NATO SfP 974214	Tasks responsible	Carbon-ceramic composites for electrical engineering applications.	NATO	-	2000 – 2003
FP5 – HPMT-GH-01-00333-03	Research Fellow	Advanced and Ecological Energy Sources & Systems – Fuel Cell Technology.	EU	-	2003 – 2004
NATO EAP.RIG 981428	Project Director	Development of new proton conducting membranes.	NATO	25,000	2005 – 2008
MTKD –CT – 2004 – ctr.no. 517215	Postdoc Research Associate	Biological & Microbial Fuel Cells.	EU	-	2006 - 2007
FP7-REGPOT-2008-1- ctr.no. 229906	Project Director	Developing RTD Potential of INC DIE ICPE-CA in the Field of Hydrogen and Fuel Cell Technologies.	EU	658,000	2009 - 2012
RO-BG Crosborder Cooperation, MIS ETC Code: 222	Project Director	Romanian - Bulgarian joint cooperation for a long-term and sustainable development of the young human resources in the field of the renewable energy technologies, in order to overcome the socio-cultural barrier and to open common opportunities for getting a job	ERDF	945,837	2011 - 2013

		and their employment along the cross - border area.			
H2020-FETOPEN-2014-2015-RIA- 686585	Principal Investigator – Research Associate	Living Architecture	EU	3,216,555	2015 - 2019

- Awards received:
- 2016, **Gold Medal** to the International Innovation Hall – PRO INVENT – for the invention „Process for obtaining carbon-carbon type composite”, authors: Bara Adela, Banciu Cristina, Patroi Delia, Leonat Lucia Nicoleta, Rimbu Gimi Aurelian;
 - 2016, Special Award to the International Innovation Hall – PRO INVENT – for the invention „Process for obtaining carbon-carbon type composite”, authors: Bara Adela, Banciu Cristina, Patroi Delia, Leonat Lucia Nicoleta, Rimbu Gimi Aurelian;
 - 2015, **Gold Medal** to Belgian International Trade Fair for Technological Innovation in Brussels- EUREKA 2015, for the invention „Process for obtaining carbon-carbon type composite”, authors: Bara Adela, Banciu Cristina, Patroi Delia, Leonat Lucia Nicoleta, Rimbu Gimi Aurelian;
 - 2012, **Silver Medal** to Belgian International Trade Fair for Technological Innovation in Brussels- EUREKA 2012, for the invention „5kW Cogeneration System based PEM Fuel Cells”, authors: Rimbu GA, Istvan Borbath, Tiberiu Boros, Iordache I, Teisanu AA, Vasilescu-Mirea R, Iordoc M, Bara A, Banciu C, Paraschiv T;
 - 2012, **Gold Medal** to Belgian International Trade Fair for Technological Innovation in Brussels - EUREKA 2012, for the invention „Conducting material based on epoxy resins and conducting fillers for fuel cells”, authors: Rimbu GA, Istvan Borbath, Tiberiu Boros, Iordache I, Teisanu A A, Vasilescu-Mirea R, Iordoc M, Bara A, Banciu C;
 - 2012, **Silver Medal** to the International Exhibition of Inventions - Geneve 2012, for the invention „5kW Cogeneration System based PEM Fuel Cells”, authors: Rimbu GA, Istvan Borbath, Tiberiu Boros, Iordache I, Teisanu AA, Vasilescu-Mirea R, Iordoc M, Bara A, Banciu C, Paraschiv T;
 - 2012, **Silver Medal** to the International Exhibition of Inventions - Geneve 2012, for the invention „Electroconducting material based on epoxy resins and conducting fillers for fuel cells”, authors: Rimbu G, Borbath I, Boros T, Iordache I, Teisanu A, Vasilescu-Mirea R, Iordoc M, Bara A, Banciu C;
 - 2011, **Award of the General Association of Engineers in Romania (AGIR)**, in the area of "Electrical Engineering" to work "Carbon Bipolar Plates for Polymer Electrolyte Fuel Cells", as Project Director;
 - 2007, **2nd Prize** of the National Authority for Scientific Research (ANCS) - Project no. 195/2006 “Hybrid system for energy autonomy based of photovoltaic module / fuel cell, as Project Director;
 - 2008, **Special Award** of the National Authority for Scientific Research (ANCS) – Project no. 226/2006 “Integrated energy conversion from renewable sources”, as Project Partner Responsible.

Reference persons:

Professor Wilhelm KAPPEL, General Manager
National Institute for R&D in Electrical Engineering ICPE-CA, 313 Splaiul Unirii, 030138 Bucharest-3, ROMANIA, E-mail: wilhelm.kappel@icpe-ca.ro

Professor Viacheslav BARSUKOV, Professor of Electrochemistry
Kiev National University of Technologies & Design, 2 Nemirovich-Danchenko Str., 02011 Kiev, UKRAINE, E-mail: v-barsukov@i.ua

Professor Nicolay MIHAILOV, Director of International Cooperation Office
"Angel Kunchev" University of Ruse, 8 Studentska str., 7017-Ruse, BULGARIA, E-mail: mihailov@uni-ruse.bg

Professor Keith SCOTT, Professor of Electrochemical Engineering
School of Chemical Engineering and Advanced Materials, Newcastle University, Newcastle upon Tyne, NE1 7RU, UNITED KINGDOM, Email: keith.scott@newcastle.ac.uk

Professor Ioannis IEROPOULOS, Director of Bristol BioEnergy Centre
University of the West of England, Bristol BioEnergy Centre, T Block, Frenchay Campus
Bristol, BS16 1QY, UNITED KINGDOM, Email: ioannis.ieropoulos@brl.ac.uk

Date of completion: February 2018

FULL LIST OF PAPERS AND THE SCIENTIFIC ACTIVITY

RIMBU GIMI AURELIAN – PhD / starting with 2005

Summary of the Scientific Activity

- 2 published books;
- 1 book chapter;
- 20 peer reviewed published papers in ISI ranked journals;
- 250 Citations in ISI ranked journals (according to Google Scholar)
- 2 peer reviewed published papers in journals indexed in different international data bases;
- 29 Published papers and presentations in proceedings of the national conferences and workshops;
- 28 Published papers and presentations in proceedings of the international conferences and workshops;
- 4 Patents;
- 12 Products developed by own research activity;
- 4 Technology Transfers;
- 7 National research projects under direct management / coordination of about 3.840.000 Euro;
- 3 International projects under direct management of about 1.628.837 Euro;
- 10 Awards received.

Published Books

1. Armstrong R, Ferracina S, Caldwell G. S, Ieropoulos I, **Rimbu G**, Adamatzky A, Phillips N, De Lucrezia D, Imhof B, Hanczyc MM, Nogales J, García J. “**Living Architecture (LIAR): Metabolically Engineered Building Units**”. (Book Chapter). In: Heisel, F; Hebel, D, eds. *Cultivated Building Materials: Industrialized Natural Resources for Architecture and Construction*. Zurich: Birkhäuser, 2017, pp. 170-177;
2. Gimi A. Rimbu, **General Characteristics of the Composite Carbon Materials** (*Trasaturi generale ale materialelor carbonice compozite*), Editura PRINTECH, p.76, ISBN 978-606-521-124-7, 2008;
3. Gimi A. Rimbu, **Nanocomposite Carbon Materials. From Theory to Applications** (*Materiale carbonice nanocompozite. De la teorie la aplicatie*), Editura PRINTECH, p.139, ISBN 978-606-521-125-4, 2008.

Peer-reviewed published papers

1. Radu Mirea, Mihai Iordoc, Gabriela Oprina, **Gimi Rimbu** „*Processing of iridium doped carbonic materials and experimental investigation of their hydrogen adsorption capacity*”, Revista de Chimie vol.69, nr.6 (2018);
2. C. Banciu, A. Băra, **G. A. Rimbu**, A. Teișanu, L. Leonat, “*Electrically renewable carbon fiber composites for CO2 adsorption*”, Optoelectronics and Advanced Materials – Rapid Communications Vol. 9, No. 9-10, September – October 2015, p. 1160 – 1163, (2015);
3. Silviu Octavian Medianu, **Gimi Aurelian Rimbu**, Daniel Lipcinski, Iuliu Popovici, Dumitru Strambeanu, *System for diagnosis of rolling profiles of the railway vehicles*, Mechanical Systems and Signal Processing 48 (2014) 153–161;
4. Magdalena Lungu, Stefania Gavrilu, Elena Enescu, Mariana Lucaci, Violeta Tsakiris & **Gimi Rimbu**, “*Properties Enhancement of an Eco-Friendly Electrical Contact Material by Silver Nanoparticles Addition*”, Metallurgical and Materials Transactions A, vol.43, no.12, (2012) DOI: 10.1007/S11661-012-1424-XPAGES: 4464-4469;
5. Lungu, M., Enescu, E., Grigore, F., Buruntia, N., Lucaci, M., **Rimbu, G.**, Panzaru, C., Ionescu, C, “*Chemical preparation and properties of some high concentrated colloidal silver solutions for antimicrobial applications*”, Revue Roumaine de Chimie 57 (9-10) , 2012, pp. 849-855;
6. Ioan Viorel Branzoi, Mihai Iordoc, Florina Branzoi and **Gimi Rimbu**, *Growth and characterization of zirconia ceramic film formed by plasma electrolytic oxidation on biomedical Zr3Ta alloy*, Surf. Interface Anal. (2012), Volume 44, Issue 8, 2012, Pages 914-918;
7. Ioan Viorel Branzoi, Mihai Iordoc (corresponding author), Florina Branzoi, **Gimi Rimbu** (corresponding author) and Virgil Marinescu, *Synthesis and characterization of high-voltage electrodeposited diamond-like carbon protective coating on TiAlV biomedical substrates*, Surf. Interface Anal. (2012), Volume 44, Issue 8, 2012, Pages 1193-1197;
8. A. Andronie, S. Antohe, S. Iordache, A. Cucu, S. Stamatina, A. Ciocanea, A. Emami, G. Nan, C. Berlic, **G. A. Rimbu**, I. Stamatina, *Study of the conduction mechanisms in poly-perfluoro-sulfonated membranes impregnated with intrinsic semiconducting polymers*, Journal of Optoelectronics and Advanced Materials, Vol.12 ISS.11, 2010;
9. G. Nan, I. Stamatina, A. Andronie, S. Iordache, C. Cristescu, A. Cucu, A. Baciuc, **G. A. Rimbu**, *Microcellular carbon from polyacrylonitrile precursors*, Journal of Optoelectronics and Advanced Materials, vol.11, nr.11, p. 1788 - 1793, 2009;

10. C. Banciu, I. Ion, A. Bara, G. A. Rimbu, A. M. Bondar, *Carbonaceous nanocomposites for electromagnetic interference applications*, Journal of Optoelectronics and Advanced Materials – SYMPOSIA, Vol. 1, No.5, p. 967 – 970, 2009;
11. **Gimi A. Rimbu**, Mihai Iordoc, Radu Vasilescu-Mirea, Ioan Stamatin, Traian Zaharescu, *Electrochemical deposition of polyaniline thin films on carbonic substrates for utilization as hydrogen mediator and self catalyst in fuel cells*, Revista de Chimie (60), nr.12, p.1285-1287, 2009;
12. **Gimi A. Rimbu**, Mihai Iordoc, Radu Vasilescu-Mirea, Ioan Stamatin, Iulian Iordache, Traian Zaharescu, *Polyaniline rod-like structure as self-electrocatalyst for hydrogen oxydation reactions*, Optoelectronics and Advanced Materials – Rapid Communications, vol.2, nr.10, p. 876-880, 2008;
13. Carmen CRISTESCU, Adriana ANDRONIE, Stefan IORDACHE, Serban N. STAMATIN, Livia Maria CONSTANTINESCU, **Gimi A. RIMBU**, Mihai IORDOC, Radu VASILESCU-MIREA, Iulian IORDACHE, and Ioan STAMATIN “*PANI TiO₂ nanostructures for fuel cell and sensor applications*”, Journal of Optoelectronics and Advanced Materials, vol.10, nr.11, p. 2985-2987, 2008;
14. Mircea Grigoras, Gabrielle-Charlotte Chitanu, Irina Popescu, Irina-Mihaela Pelin, **Gimi-Aurelian Rimbu**, “*Polyaniline/Maleic Acid Copolymers Composites: Synthesis and Characterization*”, Macromolecular Symposia, 263, 30–37 (2008);
15. Scott K., Murano C, **Rimbu G**, “*A tubular microbial fuel cell*”, Journal of Applied Electrochemistry, Volume 37, Issue 9, Pages 1063-1068 (2007);
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1. Radu Mirea, Mihai Iordoc, **Gimi Rimbu**, Gabriela Oprina „*Comparative research regarding hydrogen adsorption capacity of metal doped poly-aniline*”, International Multidisciplinary Scientific GeoConference Surveying Geology and Mining Ecology Management, SGEM 2017, proceedings vol.17, issue 42, ISBN 978-619-7408-07-2 / ISSN 1314-2704, 143-150pp, 2017;
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5. **G.A.Rimbu**, G.C.Chitanu, V.Parvulescu, I.Stamatina, *Multifunctional Alternative Materials for PEM Fuel Cells*, Conferinta AMCSIT - "Cercetarea de Excelență - premiza favorabilă pentru dezvoltarea spațiului românesc de cercetare", Brasov, 24 – 26 octombrie 2007, Proceeding pag. (88)-1 – (88)-6, Editura Tehnica, ISSN 1843-5904;

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8. **Gimi A. Rimbu**, *Research Expertise and Interest in the Hydrogen and Fuel Cells Area at INCIE ICPE-CA*, Round Table on Hydrogen and Fuel Cells - The 5th Conference „New research trends in materials science” ARM-5, Sibiu, 5-7 septembrie 2007;
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10. Irina Mihaela Pelin, Gabrielle Charlotte Chitanu, Irina Popescu, Mihaela Avadanei, **Gimi Aurelian Rimbu**, *Maleic anhydride copolymers for thin layer fabrication*, The 5th Conference „New research trends in materials science” ARM-5, Sibiu, 5-7 septembrie 2007, proceedings pag.523 (2007);
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2. G.A. Rimbu, et al., „Electroconductive material based on epoxy resins and conductive fillers for fuel cell”, Patent nr.RO 127059 B1 / 2014;
3. C. Banciu, G.A. Rimbu et al., Patent nr. RO 122293 B1 / 2009 – “Nanocomposite carbon material”;
4. A. Bara, C. Banciu, D. Patroi, L. Leonat, G.A. Rimbu, „Carbon-carbon composite materials reinforced with carbon fibers and nanocomposite carbonic matrix”, Patent nr. RO 01282 A0 / 2010.

Technology Transfers

1. Contract for Know-How Transfer to SC BEIA Consult International SRL no. 2295 /13.11.2007 – *Method for realization of a PV-FC-AT hybrid energy system*”; Minute for know-how and competences transfer no. 3095/16.10.2008.
2. Contract for Know-How Transfer to SC ROSEAL SA no. 141/15.01.2008 – Method for realization of the carbonic bipolar plates for PEM fuel cells; Minute for know-how and competences transfer no 3941/17.12.2008.
3. Contract for Know-How Transfer to SC ROSEAL SA no. 1347/18.03.2009 – Method for realization of 5kW PEM fuel cell stack; Minute for know-how and competences transfer no. 240/15.01.2010.
4. Contract for Know-How Transfer to SC ROSEAL SA no. 261/18.01.2010 – *Method for realization of MENER-5kW product – “5 kW fuel cell based integrated energy module”*; Minute for know-how and competences transfer no. 125 / 10.01.2011.

Products developed by own research activity

1. PEM fuel cell, contract 4187/2005 – ALTMAT-HT-PEMFC (2008);
2. Sealed graphite-bakelite based bipolar plate for PEM fuel cell, contract 4187/2005 – ALTMAT-HT-PEMFC (2008) ;
3. MEA assembly for PEM fuel cells, contract 4187/2005 – ALTMAT-HT-PEMFC (2008) ;
4. Student training kit: Photovoltaic panel – Electrolizer – Fuel Cell, contract PN06300201/2007 (2008);
5. PEM Electroliser, contract PN06300201/2007 (2008);
6. 5kW fuel cell based cogeneration system, contract 4234/2007–MENER-5 (2010);
7. 800W PEM fuel cell stack, contract 4234/2007 – MENER-5 (2010);
8. 5kW PEM fuel cell stack, contract 4234/2007 – MENER-5 (2010);
9. Bipolar plates for PEM fuel cells, contract 4234/2007 – MENER-5 (2010) ;
10. Hybrid energy system PV/FC/AT-3kW, contract 4024/2005 – HIBRIVOLT (2008) ;
11. Hybrid energy module, contract 323/2006 – EXTREME (2008);
12. Autonomous module for surveillance, detection, acquisition and transmission of data, integrated with a solid state computer, contract 323/2006 – EXTREME (2008).

Scientific responsibilities and funding management

R&D Projects	Position	Title	Financing Body	Value (Euro)	Year
NATIONAL PROJECTS					
CEEX 88 / 2005	Project Director	Low cost alternative multifunctional materials for high temperature Polymer Electrolyte Fuel Cells	AMCSIT	450,000	2005-2008
CEEX 602/ 2005	Partener Project Director	Development and implementation of new technical solutions for PEMFC performance improvement	MENER	450,000	2005-2008
CEEX 195/2006	Project Director	PV/FC hybrid system for energetic autonomy	AMCSIT	450,000	2006-2008
CEEX 760/2006	Project Director	Fuel cell system for direct bio-alcohol electro oxidation	MENER	450,000	2006-2008
CEEX 226/2006	Partener Project Director	Integrated system for energy conversion from renewable sources	AMCSIT	450,000	2006-2008
PNII-CNMP- 21-034/2007	Project Director	5 kW Fuel Cell Based Integrated System	CNMP	650,000	2007–2010
PNII-CNCSIS 222/2007	Project Director	New Nanostructured Materials for Hydrogen Storage	CNCSIS	300,000	2007–2010
PN-II-PT-PCCA-2013-4-2066	Project Director	Redox flow battery with fast charging capacity as main source of energy in electric vehicles	UEFISCDI	300,000	2014-2017

INTERNATIONAL PROJECTS					
NATO SfP 974214	Tasks responsible	Carbon-ceramic composites for electrical engineering applications	NATO	-	2000 – 2003
FP5 – HPMT-GH- 01-00333-03	Research Fellow	Advanced and Ecological Energy Sources & Systems – Fuel Cell Technology	EU	-	2003 – 2004
NATO EAP.RIG 981428	Project Director	Development of new proton conducting membranes	NATO	25,000	2005 – 2008
MTKD –CT – 2004 – ctr.no. 517215	Postdoc Assoc. Researcher	Biological & Microbial Fuel Cells	EU	-	2006 - 2007
FP7-REGPOT- 2008-1- ctr.no. 229906	Project Director	Developing RTD Potential of INC DIE ICPE-CA in the Field of Hydrogen and Fuel Cell Technologies	EU	658,000	2009 - 2012
RO-BG Crosborder Cooperation, MIS ETC Code: 222	Project Director	Romanian - Bulgarian joint cooperation for a long-term and sustainable development of the young human resources in the field of the renewable energy technologies, in order to overcome the socio-cultural barrier and to open common opportunities for getting a job and their employment along the cross - border area	ERDF	945,837	2011 - 2013
H2020- FETOPEN-2014- 2015-RIA- 686585	Principal Investigator – Research Associate	Living Architecture	EU	3,216,555	2015 - 2019

Awards received

11. 2016, **Gold Medal** to the International Innovation Hall – PRO INVENT – for the invention „Process for obtaining carbon-carbon type composite”, authors: Bara Adela, Banciu Cristina, Patroi Delia, Leonat Lucia Nicoleta, Rimbu Gimi Aurelian;
12. 2016, Special Award to the International Innovation Hall – PRO INVENT – for the invention „Process for obtaining carbon-carbon type composite”, authors: Bara Adela, Banciu Cristina, Patroi Delia, Leonat Lucia Nicoleta, Rimbu Gimi Aurelian;
13. 2015, **Gold Medal** to Belgian International Trade Fair for Technological Innovation in Brussels- EUREKA 2015, for the invention „Process for obtaining carbon-carbon type composite”, authors: Bara Adela, Banciu Cristina, Patroi Delia, Leonat Lucia Nicoleta, Rimbu Gimi Aurelian;
14. 2012, **Silver Medal** to Belgian International Trade Fair for Technological Innovation in Brussels- EUREKA 2012, for the invention „5kW Cogeneration System based PEM Fuel Cells”, authors: Rimbu GA, Istvan Borbath, Tiberiu Boros, Iordache I, Teisanu AA, Vasilescu-Mirea R, Iordoc M, Bara A, Banciu C, Paraschiv T;
15. 2012, **Gold Medal** to Belgian International Trade Fair for Technological Innovation in Brussels - EUREKA 2012, for the invention „Conducting material based on epoxy resins and conducting fillers for fuel cells”, authors: Rimbu GA, Istvan Borbath, Tiberiu Boros, Iordache I, Teisanu A A, Vasilescu-Mirea R, Iordoc M, Bara A, Banciu C;
16. 2012, **Silver Medal** to the International Exhibition of Inventions - Geneve 2012, for the invention „5kW Cogeneration System based PEM Fuel Cells”, authors: Rimbu GA, Istvan Borbath, Tiberiu Boros, Iordache I, Teisanu AA, Vasilescu-Mirea R, Iordoc M, Bara A, Banciu C, Paraschiv T;
17. 2012, **Silver Medal** to the International Exhibition of Inventions - Geneve 2012, for the invention „Electroconducting material based on epoxy resins and conducting fillers for fuel cells”, authors: Rimbu G, Borbath I, Boros T, Iordache I, Teisanu A, Vasilescu-Mirea R, Iordoc M, Bara A, Banciu C;
18. 2011, **Award of the General Association of Engineers in Romania (AGIR)**, in the area of "Electrical Engineering" to work "Carbon Bipolar Plates for Polymer Electrolyte Fuel Cells", as Project Director;
19. 2007, **2nd Prize** of the National Authority for Scientific Research (ANCS) - Project no. 195/2006 "Hybrid system for energy autonomy based of photovoltaic module / fuel cell, as Project Director;
20. 2008, **Special Award** of the National Authority for Scientific Research (ANCS) – Project no. 226/2006 "Integrated energy conversion from renewable sources", as Project Partner Responsible.

Date of completion: February 2018