



Curriculum vitae Europass

Personal Informations

Name/surname **Nicoleta Oana Nicula**
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Nationality Romania

Date of birth 21.07.1989

Sex F

Occupational field **Biology**

Professional experience

Period **Julie 2011 - present**

Occupation or position held Biologist - Research Assistant

Main activities and responsibilities
Maintenance and operation of the fungus in research and development activities;
Testing the biodegradation capacity of several types of materials and solutions
Testing the biocide effect of some solutions;
Monitoring of anaerobic fermentation processes in biogas plants;
Identification of new combustible materials such as vegetable oils and biodiesel;
Evaluation of biomass biogas potential by physico-chemical, microbiological analysis;
Microbiological analysis of wastewater;
Cell investigation by confocal microscopy methods;
Determination of physical parameters - algae / plants in continuous and alternative field;
Elaboration and design of principle and constructive solutions in research works;
Preparation of interim and final activity reports for ongoing projects;
Responsible - Integrated quality-environment management system, quality assurance, waste and hazardous substances management within the Department of Environment, Energy and Climate Change;

The results of the scientific research activity	Involvement in carrying out research projects, with public or private funding (over 20 national and international projects); Author / Co-author of 23 articles (12 ISI), 16 scientific papers communicated and published in summary at scientific conference (12 international scientific conference), 6 patent applications (1 international patent application) ; Co-author in the elaboration of a National Guide for testing metallic materials intended for contact with food. Excellent diplomas and gold medal (4).
Scientometric Indicators	H index- 9- Scopus, 8- Google scholar, 5 –WOS , Citari >170 (Scopus)
Name and address of employer	National Institute for Research & Development in Electrical Engineering ICPE-CA Splaiul Unirii, 313, District 3, 030138, Bucharest, Romania
The type or domain of the activity	Research Department of Environment, Energy and Climate Change Laboratory of Biochemistry and Bioresources
Education and training	
Period	2020 - present
Qualification	PhD student
Name and type of educational institution / training provider	Doctoral School of Biology, Faculty of Biology, University of Bucharest
Period	2016 - 2018
Qualification / diploma obtained	Biologist Master - Medical Biology
Name and type of educational institution / training provider	Faculty of Biology, University of Bucharest
Professional skills acquired	In-depth knowledge of the area of specialization of Medical Biology, through specific theoretical, methodological and practical development; Using specialized knowledge to explain and interpret new situations in broader contexts associated with the field; Integrated use of the methodological conceptual apparatus, in fully defined situations, to solve new theoretical problems and practices; Development of professional and research projects using innovatively a wide range of quantitative and qualitative methods.

Name and type of educational institution / training provider	Faculty of Biology, University of Bucharest
Period	2008 - 2011
Qualification / diploma obtained	Degree in Biology
The main disciplines studied / acquired professional competencies	Mycology, microbiology, bacteriology.
Name and type of educational institution / training provider	Faculty of Biology, University of Bucharest
Period	2004 - 2008
Qualification / diploma obtained	Bachelor
The main disciplines studied / acquired professional competencies	Philology
Name and type of educational institution / training provider	"Grigore Tocilescu" High School Mizil, Philology specialization
Courses	
Period	15.06.2020 – 24.07.2020
Diploma obtained	Risk Management System Manager - COR Code: 325708
Training provider	Top Quality Management
Foreign languages	English, France
English	Written, Read, Spoken – level B2
France	Written, Read, Spoken
Social skills and competences	Team spirit; Sociable and communicative person.
Organisational skills and competences	Organizational skills.

Technical skills and competences	Experience in the use of laboratory equipment, for performing physico-chemical analyzes and microbiological analyzes (UV-Vis spectrophotometer, confocal microscope, etc.)
Computer skills and competences	MS OFFICE (Word, Excel, Power-Point).
Other skills / competences	Execution of complex tasks, in conditions of autonomy and professional independence; Assuming roles / functions of leading the activity of professional groups or institutions; Self-control of the learning process, diagnosis of training needs, reflective analysis of one's own activity.
Driver's license	Category B , obtained in August 2007 .
Annexes	Scientific papers (<i>Annex 1</i>); Patent applications (<i>Annex 2</i>); Research contracts (<i>Annex 3</i>).

ANEXES

Annex 1

SCIENTIFIC PAPERS

ISI PAPERS

1. Fierascu, I., Ditu, L.-M., Sutan, A.N., Drăghiceanu, O.A., Fierascu, R.C., Avramescu, S.M., Lungulescu, E.-M., **Nicula, N.**, Soare, L.C. *Influence of gamma irradiation on the biological properties of *Asplenium scolopendrium* L. hydroalcoholic extracts (2021)*. Radiation Physics and Chemistry, 181, DOI: 10.1016/j.radphyschem.2020.109175
2. Lungulescu, E.-M., Setnescu, R., **Nicula***, N.-O., Ion, I., Marinescu, V. *Gamma radiation synthesis of silver nanoparticles/chitosan composites with antimicrobial properties (2021)*. Materiale Plastice, 57 (4), pp. 88-95. DOI: 10.37358/MP.20.4.5409
3. Fierascu, R.C., Fierascu, I., Lungulescu, E.M., **Nicula, N.**, Somoghi, R., Dițu, L.M., Ungureanu, C., Sutan, A.N., Drăghiceanu, O.A., Paunescu, A., Soare, L.C. *Phytosynthesis and radiation-assisted methods for obtaining metal nanoparticles (2020)*. Journal of Materials Science, 55 (5), pp. 1915-1932, DOI: 10.1007/s10853-019-03713-3
4. Lungulescu, E.-M., Lingvay, I., Bors, A.-M., Fortuna, L., **Nicula, N.-O.** *Assessment of paint layers quality by FTIR and DSC techniques (2019)*. Materiale Plastice, 56 (1), pp. 87-91. DOI: 10.37358/mp.19.1.5129
5. Dima, A.D., Mateescu, C., Parvulescu, O.C., Lungulescu, E.M., **Nicula, N.O.** *Theoretical and experimental results on the recovery of potato processing residuals by anaerobic digestion (2019)* Revista de Chimie, 70 (7), pp. 2524-2529. DOI: 10.37358/rc.19.7.7373
6. Bors, A.-M., Lungulescu, M.-E., **Nicula, N.O.**, Caramitu, A.-R., Lingvay, I. *Ageing of some lacquers due to microbiological stress (2019)*. Materiale Plastice, 56 (2), pp. 330-336. DOI: 10.37358/mp.19.2.5181
7. Lungulescu, E.M., Sbarcea, G., Setnescu, R., **Nicula, N.**, Ducu, R., Lupu, A.M., Ion, I., Marinescu, V. *Gamma radiation synthesis of colloidal silver nanoparticles (2019)*. Revista de Chimie, 70 (8), pp. 2826-2830. DOI: 10.37358/rc.19.8.7436
8. **Butoi, N.O.N.**, Varga, E., Bors, A.M., Lingvay, I. *Assessment of Paint layers quality 2. Identification of biological species grown on a railway bridge (2018)*. Materiale Plastice, 55, pp. 626-629. DOI: 10.37358/mp.18.4.5089
9. Zaharescu, T., Râpă, M., Lungulescu, E.-M., **Butoi, N.** *Filler effect on the degradation of γ -processed PLA/vinyl POSS hybrid (2018)*. Radiation Physics and Chemistry, 153, pp. 188-197. DOI: 10.1016/j.radphyschem.2018.09.025

10. Varga, E., Fortuna, L., Lingvay, D., Bors, A.M., **Nicula, N.O.**, Lingvay, I. *Assessment of paint layers quality 1. Field investigations on a railway bridge (2018)*. Materiale Plastice, 55 (3), pp. 320-324. DOI: 10.37358/mp.18.3.5021

11. Bors, A.M., **Butoi, N.**, Caramitu, A.R., Marinescu, V., Lingvay, I. *The thermooxidation and resistance to moulds action of some polyethylene sorts used at anticorrosive insulation of the underground pipelines (2017)*. Materiale Plastice, 54 (3), pp. 447-452. DOI: 10.37358/mp.17.3.4869

12. Caramitu, A., **Butoi, N.**, Rus, T., Maria Luchian, A., Mitrea, S. *The resistance to the action of molds of some painting materials aged by thermal cycling and exposed to an electrical field of 50 Hz (2017)*. Materiale Plastice, 54 (2), pp. 331-337. DOI: 10.37358/mp.17.2.4845

International Database Journals

1. Carmen Mateescu, **Nicoleta Nicula**, Andreea Dima, Marius Lungulescu. *Enzymatic pretreatment of algal biomass for enhanced conversion to biogas. (2019)*. Technical Sciences, 4(4), 361-370, ISSN 2537-320x, ISSN –1 2537-320

2. Radermacher, L., Lingvay, D., Bors, A.-M., **Nicula Butoi, N.O.**, Marin, D. *Sustainable and safe in exploitation of gas networks. Part 2. Stress factors of metallic pipelines (2019)*. EEA - Electrotehnica, Electronica, Automatica, 67 (1), pp. 68-75, print ISSN: 1582-5175, online ISSN: 2392-828X.

3. Lingvay, I., Fortuna, L., Varga, E., Bors, A.-M., **Nicula Butoi, N.O.**, Lingvay, D. *Durability and anticorrosive protection capability of paint layers — Biological factors influence (2018)*. EEA - Electrotehnica, Electronica, Automatica, 66 (4), pp. 52-58, print ISSN: 1582-5175, online ISSN: 2392-828X

4. Radermacher, L., Borş, A.-M., Lingvay, D., **Nicula Butoi, N.O.**, Voina, A., Marin, D. *Sustainable and safe in exploitation of gas networks. Part 1. Stress factors of plastic pipelines (2018)*. EEA - Electrotehnica, Electronica, Automatica, 66 (4), pp. 66-72 print ISSN: 1582-5175, online ISSN: 2392-828X,.

5. Mateescu, C., Voina, A., **Butoi, N.**, Lungulescu, M., Luchian, A.-M., Lipcinski, D. *Analysis of the electric field influence on the algal biomass growth with applications in biotechnologies (2017)*. EEA - Electrotehnica, Electronica, Automatica, 65 (3), pp. 117-122 print ISSN: 1582-5175, online ISSN: 2392-828X.

6. Luchian, A.-M., Lungulescu, M., Voina, A., Mateescu, C., **Butoi, N.**, Patroi, E.A. *Evaluation of the magnetic field effect of 5-10 mT on Chlorella sorokiniana microalgae (2017)*. EEA - Electrotehnica, Electronica, Automatica, 65 (3), pp. 123-127, print ISSN: 1582-5175, online ISSN: 2392-828X.

7. Mateescu, C., Caramitu, A., Marin, D., **Butoi, N.** *Methanogens stimulation in electric fields for frequencies in range of 0.1-500 Hz (2017)*. EEA - Electrotehnica, Electronica, Automatica, 65 (1), pp. 67-71, print ISSN: 1582-5175, online ISSN: 2392-828X.

8. **Butoi, N.**, Luchian, A.-M., Caramitu, A., Mitrea, S., Rus, T. *Influence of biological factors on operating sustainability and safety of electric and power equipment and installations (2017)*. EEA - Electrotehnica, Electronica, Automatica, 65 (1), pp. 72-80, print ISSN: 1582-5175, online ISSN: 2392-828X.

9. Radermacher, L., Lipcinski, D., **Butoi, N.**, Lingvaj, D., Caramitu, A., Marin, D. *Safety in use of reinforced concrete pillars of power lines - Case analyses (2017)*. EEA - Electrotehnica, Electronica, Automatica, 65 (2), pp. 140-146, print ISSN: 1582-5175, online ISSN: 2392-828X

10. Mateescu C., Nicula N.. *Achievements in recovery of bio-based natural resources and organic residuals to biogas. (2017)*. Technical Sciences, 2(2), 48-57, ISSN 2537-320x, ISSN –1 2537-320x

11. Voina, A., Niță, P., Luchian, A.-M., Lingvaj, D., **Butoi, N.**, Borș, A.-M., Lingvaj, I. *Behaviour in exploitation of some buried pipelines insulated with heat applied polyethylene foil - case analysis (2017)*. EEA - Electrotehnica, Electronica, Automatica, 65 (2), pp. 60-65, print ISSN: 1582-5175, online ISSN: 2392-828X

PATENT APPLICATIONS

1. Lungulescu Marius, Setnescu Radu, **Nicula Nicoleta**, Delia Patroi, Ioana Ion. *Cooper- gold alloy nanoparticles and their manufacturing method*. International patent application no. **PCT/RO2020/000017**;
2. Lungulescu Eduard Marius, Setnescu Radu, **Nicula Nicoleta**, Delia Patroi, Ioana Ion. *Cu-Au bimetallic alloy nanoparticles and obtaining process*. Patent application no. **A/00801/27.11.2019**;
3. Carmen Mateescu, **Nicoleta Oana Nicula**, Marius Eduard Lungulescu, Liliana Torok, Zsolt Torok. *Process for enzymatic pretreatment of algal biomass for biogas production*. Patent application no. **A00523/2018**;
4. Ion Ioana, Lungu Magdalena, **Nicula Nicoleta**, Marinescu Virgil, Mitu Ciprian. *Biosynthesized silver nanoparticles and obtaining process* Patent application no. **A00902/2018**;
5. Lungulescu Marius, Setnescu Radu, Lupu Ana-Maria, **Nicula Nicoleta**, Mateescu Carmen, Ducu Robert, Ion Ioana. *Silver nanoparticles with narrow dimensional dispersion and production process* Patent application no. **A00971/2018**;
6. Caramitu Alina, Mitrea Sorina, Stancu Nicolae, **Butoi Nicoleta**, Luchian Ana-Mria. *Device for determining the state of aggregation and the method for evaluating the life of paint coats*. Patent application no. **A00979/2017**.

RESEARCH PROJECTS

International Projects

1. Bilateral Collaboration Project with IUCN - Dubna, Russian Federation Nr. 04-4-1121-2015 / 2020 "*Study of biosynthesized nanoparticles*".
2. Bilateral Collaboration Project with IUCN Object of the contract - Dubna, Russian Federation, theme code 04-4-1121-2015 / 2020, position no.32- "*The crystalline and magnetic structure of materials developed for electrical engineering as studied by neutron scattering techniques*".
3. Bilateral Collaboration Project with IUCN Object of the contract - Dubna, Russian Federation theme code 04-4-1122-2015 / 2020, position no.52- "*Investigation of radiation effects on materials for cold moderator development at IBR-2 reactor*".
4. Horizon 2020 Project, Attract no. 77722 / 2019- „*Carbon Quantum Dots / Graphene Hybrids with Broad Photoresponsivity - BANDPASS*".
5. Capacities Program / Module III - Romania-China bilateral cooperation, contract no. 611/2013 (4296/2013) - "*Prospective studies to evaluate the opportunity to develop a bioreactor for energy production based on organic waste and wastewater*".
6. Capacities Project, Module III - Bilateral / multilateral cooperation, PSI - Projects for financing the participation in international projects, Contract Nr. 520/2011 (4276-2011) "*Study of microorganisms producing biogas at high hydrostatic pressures and applied research on algae growth for CO2 recovery*".
7. Project Cross Border Cooperation Program Romania-Bulgaria 2007-2013, Contract Nr. 54113 / 15.07.2011 (int. No. 7082/2010) - "*Study on electric generator powered by a hydraulic turbine for ecological electric transmission system*".

National Projects

1. Project PN-III-P2-2.1-PTE-2019-0139- Contract Nr. 12 / 2020- "*Equipment for stimulating biochemical processes in wastewater treatment plants - ESELFBio*".
2. POC Subsidiary Project No. 126 / D5 / 2020- "*Identification of innovative solutions for energy and technological efficiency of the stocking manufacturing process using dynamic testing of new components related to specific technological equipment - FIXOIL*".
3. Project PN-III-P2-2.1-SOL-2020-2-0285, Contract Nr. 22Sol / 2020 „*DECON-UVMNP*" - "*Decontamination devices against SARS-CoV-2 virus (UV, microwave, X-ray, biochemical, nanoparticles, others)*".
4. Project PN-III-P2-2.1-PED-2019-3073, Contract No. 446PED / 2020 "*Heating cable with thermal self-regulation for heating homes and preventing ice formation on surfaces adjacent to buildings -" Smart HC*".

5. Sector Program, Contract No. 3PS / 2019- „*Research on the risks caused by materials intended for contact with food, by groups of materials. Harmonization with European legislation*”.
6. Nucleus Project PN 1931 0101, Contract Nr. 46N / 2019- *"Innovative composite materials involving the use of ionizing radiation irradiation techniques"*.
7. Nucleus Project PN 1931 0104, Contract Nr. 46N / 2019- *"Devices and microsystems for the recognition of pollutants for environmental monitoring and protection"*.
8. Project Type of institutional development of excellence in RDI 30PFE / 2018 *"Strengthening the ICPE-CA strategy in support of advanced research in the field of emerging technologies in electrical engineering"*.
9. Nucleus Project PN18240103 / 2018- *"The influence of the electric and magnetic field on the morphological changes of the vegetal tissue"*.
10. Core Project PN18240102 / Ctr.35N / 2018- *"Advanced eco-technologies for obtaining micro / nanomaterials"*.
11. Project PN-III-P1-1.2-PCCDI-2017-0541, Contract Nr. 32PCCDI / 2018 *"ABC-ENERGY" - "Increasing the energy efficiency of biogas plants by developing the integrated system: biogas-microalgae / biofuels, within the concept of biorefining"*.
12. PN III Project, Contract No. 170PED / 2017 *"Development and validation of reliable solutions for algal biomass biogas production in the Danube Delta Biosphere Reserve - BIOALG"*.
13. POC Project, Contract No. 112 / 09.09.2016 *"Integrated modular system and technology for electromagnetic shielding of enclosures in the range 100kHz - 18GHz - SITEM"*.
14. POC Project, Contract No. 133/2016 *"Development of intellectual capital through knowledge transfer in the field of advanced materials - Impact on increasing labor productivity and production volume in enterprises"*.
15. Project PN-II-PT-PCCA-2011-3.2-0097, Contract Nr. 37/2012 (7086/2012) - „*Cables for the medium voltage field from polyamide materials processed by irradiation -POLIEPDM*”.
16. Core Program, Contract No. PN 35-02-01-2009 *"Anaerobic fermentation technology in high volume spherical reactors"*.