Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Oprescu (married Sirbu) Elena-Emilia**
Address(es)	Ploieşti, Prahova (Romania)
Mobile	-
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E-mail(s)	oprescuemilia@gmail.com; elena.oprescu@upg-ploiesti.ro
Nationality	Romanian
Date of birth	
Gender	Female

Work experience

Dates	2023-present
Occupation or position held	Professor,
Main activities and responsibilities	Teaching activity at Chemistry Department, research activity in the field of biomass processing, PhD leadership in the field of chemical engineering from 2023
Name and address of employer	Petroleum – Gas University of Ploieşti, Faculty of Petroleum Technology and Petrochemistry, Bucharest Blvd., no. 39, code 100680, Ploiesti, Romania
The type of activity	Public university, education, research

Dates	2016-2023
Occupation or position held	Associate professor
Main activities and responsibilities	Teaching activity at Chemistry Department, research activity in the field of biomass processing
Name and address of employer	Petroleum – Gas University of Ploieşti, Faculty of Petroleum Technology and Petrochemistry, Bucharest Blvd., no. 39, code 100680, Ploiesti, Romania
The type of activity	Public university, education, research

Dates	2019-present
Occupation or position held	Scientific researcher second degree
Main activities and responsibilities	Research activity in the field of biofuels
Name and address of employer	Alternative bioresources and biofuels Team, from National Institute for Research and Development in Chemistry and Petrochemistry ICECHIM, 202 Spl. Independentei, 060021, Bucharest, Romania -part time.
The type of activity	Research

Dates	2013-2016
Occupation or position held	Assistant professor

Main activities and responsibilities	Teaching activity at Chemistry Department, research activity in the field of biomass processing
Name and address of employer	Petroleum – Gas University of Ploieşti, Faculty of Petroleum Technology and Petrochemistry, Bucharest Blvd., no. 39, code 100680, Ploiesti, Romania
The type of activity	Public university, education, research
Dates	2013-2019
Occupation or position held	Scientific researcher third degree
Main activities and responsibilities	Research activity in the field of biofuels
Name and address of employer	Alternative bioresources and biofuels Team, from National Institute for Research and Development in Chemistry and Petrochemistry ICECHIM, Bucharest, 202 Spl. Independentei, 060021, Bucharest, Romania-part time.
The type of activity	Research
Dates	2010-2013
Occupation or position held	Scientific researcher
Main activities and responsibilities	Research activity in the field of biofuels
Name and address of employer	Alternative bioresources and biofuels Team, from National Institute for Research and Development in Chemistry and Petrochemistry ICECHIM, 202 Spl. Independentei, 060021, Bucharest, Romania
The type of activity	Research
Dates	2007-2010
Occupation or position held	Research Assistant
Main activities and responsibilities	Research activity in the field of biofuels
Name and address of employer	Alternative bioresources and biofuels Team, from National Institute for Research and Development in Chemistry and Petrochemistry ICECHIM, 202 Spl. Independentei, 060021, Bucharest, Romania
The type of activity	Research

Education and training

Dates	September 2022
Title of qualification awarded	Habilitation in the field of Chemical Engineering
Principal subjects / occupational skills covered	Habilitation thesis title: “Research in the field of biomass processing”.
Name and type of organisation providing education and training	Petroleum – Gas University of Ploieşti, Faculty of Petroleum Technology and Petrochemistry, Bucharest Blvd., no. 39, code 100680, Ploiesti, Romania
Dates	2009 - 2013
Title of qualification awarded	PhD degree in the field of Chemical Engineering
Principal subjects / occupational skills covered	PhD thesis title: “Glycerol valorification as additives/components for diesel fuels”
Name and type of organisation providing education and training	Petroleum – Gas University of Ploieşti, Faculty of Petroleum Technology and Petrochemistry, Bucharest Blvd., no. 39, code 100680, Ploiesti, Romania
Dates	2007 - 2009
Title of qualification awarded	Master degree
Principal subjects / occupational skills covered	Dissertation thesis title: “Thiosemicarbazone used as chelating agents of heavy metals in the analysis of environmental samples”
Name and type of organisation providing education and training	University of Bucharest, Faculty of Chemistry, 4-12 Regina Elisabeta Blvd., sector 3, 030018, Bucharest, Romania
Dates	2004-2007

Title of qualification awarded	Bachelor degree in Chemistry
Principal subjects / occupational skills covered	Bachelor thesis title: “Complex combinations of copper salts with thiosemicarbazones
Name and type of organisation providing education and training	University of Bucharest, Faculty of Chemistry, 4-12 Regina Elisabeta Blvd., sector 3, 030018, Bucharest, Romania

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s) **English**

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	C1	Proficient user	C1	Proficient user	B2	Independent user	B2	Independent user	C1	Proficient user

(*) Common European Framework of Reference (CEF) level

Social skills and competences: sociable, communicative, reliable, conscientious, responsible and very creative person

Computer skills and competences: Microsoft office, Internet, Adobe Professional, Bio-Rad, Origin

Additional Information:

Didactic activity:

- Tutoring PhD students – 3 PhD students
- Coordination of master's dissertations - 10 dissertation theses
- Coordination of Bachelor theses – 9 bachelor theses
- Courses: Organic Chemistry 2 (year of study: 2, semester: 1, bachelor program), Organic Chemistry 3 (year of study: 2, semester: 1, bachelor program) at study program Safety and Food Control; Polymers (year of study: 4, semester: 2, bachelor program) at study program: Petroleum Processing and Petrochemistry ; Spectrometric methods for studying the structure and composition of products (year of study: 1, semester: 2, master programme); By-product recycling management (year of study: 2, semester: 2, master programme) at study program Product Quality and Environmental Factors Control and Bioresources (year of study: 2, semester: 1, master programme) at study program Advanced Technologies for Petroleum Processing
- Laboratory: Organic Chemistry 2 (year of study: 2, semester: 1, bachelor program), Organic Chemistry 3 (year of study: 2, semester: 1, bachelor program) at study program Safety and Food Control; Polymers (year of study: 4, semester: 2, bachelor program) at study program: Petroleum Processing and Petrochemistry ; Spectrometric methods for studying the structure and composition of products (year of study: 1, semester: 2, master programme); By-product recycling management (year of study: 2, semester: 2, master programme) at study program Product Quality and Environmental Factors Control and Bioresources (year of study: 2, semester: 1, master programme) at study program Advanced Technologies for Petroleum Processing Pollutants Analysis ((year of study: 1, semester: 1, master programme) at study program Advanced Technologies in Environmental Protection Engineering.

Awards and distinctions:

- 3 gold medals (RO Patent application no. a 2015 -0803/09.11.2015 - Proinvent, Cluj, 2016, Gold Medal; RO Patent 126,669 - INVENTIKA- 2010,WO/2015/069129- Brussels INNOVA-EURECA, Gold Medal and Special Prize of Thailand delegation); medal PRO INVENT 2022 (RO Patent 134949) at the 20th edition of the International Exhibition of Research, Innovations and Inventions, Cluj, Romania;
- UEFISCDI awards for research results - 6

Affiliations to Professional Societies: Member of the Romanian Chemical Society

Other professional activities:

- Member of the Faculty Council of Faculty of Petroleum Technology and Petrochemistry (2020-2024)
- The head of the voting commission of Faculty of Petroleum Technology and Petrochemistry

(2020-2024)

- Member of the Organizing Committee of the 4th International Colloquium Energy and Environmental Protection Conference (2020)

Research activity

- the professional activity has been focused on applied research regarding complex exploitation of renewable resources, particularly in: development of environmental technologies and green products; chemical processing of biomass to obtain biofuels of second and third generation; glycerol conversion into additives/components for diesel fuels and ecological solvents, preparation and characterization of various catalytic systems; chemical analysis of organic compounds

Experience gained as director/member in the national and international research projects:

- Project leader (November 2020- November 2022- 181 TE /2020): "Value added products from microalgae biomass applying biorefinery concepts".
- Project leader (May 2018- April 2020):" Synergistic conversion of algae: from biodiesel and its additives to syngas" - Project number: 104 PD/2018, competition PN-III-P1-1.1-PD-2016
- Postdoctoral project (April 2014 - December 2015): "Valorification of products and by-products resulting from biomass processing "– Project number: POSDRU/159/1.5/S/134398.
- Project Responsible (April 2018- May 2021):"Energetic efficiency biogas plants improvement by integrated system: biogas-microalgae-biofuels in frame of biorefinery concept (Algal Biogas Concept Energy)" (AlgaeBiogazConcept - Energy)"- Project number: 32 PCCDI/2018- Project Responsible no 4 : „Energy recovery of solid digestate from biogas plants", competition PN-III-P1-1.2-PCCDI-2017-0541.
- Project Responsible, (2015), PN.09.09.02.12, "Ecological fluids with industrial applications".
- Project Responsible, (2013-2014),PN.09.09.02.10/ "Biofuels from waste, obtained by non-alkaline catalysis reactions ".

Experience gained as team member in:

- PNII-PCCA 65-2014 / "Integrated green technology system for producing advanced biofuels"- AdvBioFuels, (2014-2016).
- PNII-PCCA 162-2014 / "Interdisciplinary research on the use of elastic type products based on collage to treat rapeseed crops to increase productivity, and reduce crop losses – RAPESTIK", (2014-2016).
- PN II - PCCA 44-2012 / „Integrated system for producing synthetic aviation fuel from algal biomass" – ALGAL-SAF (2012-2016).
- PN II - PCCA 112-2012 / „ Interdisciplinary research on seed treatment with collagen hydrolysates for quality indicators increasing, pesticide reduction and sustainable development of agriculture production"- GERMOSTIM (2012-2016).
- PN II 69 CI-2012– Innovation Cheques / „Ecological solvent from inedible fats" – 2012.
- PN II 32 104-2008 / „Biodegradable coolant and lubricating fluid with multiple function - BIOFLUM" , (2008-2011).
- PN II 31064-2007 / "Technologies for green chemistry products, from fat matters – GLI-CO", (2007-2010).
- PN II 61006-2007 / "New microorganisms capable of enzymatic synthesis of active therapeutic biopolymers, using glycerin (by-product of biodiesel obtaining)", (2007-2010).
- CEEX 252 / " Biofertilizers and growth stimulators for sustainable crop plants, additives produced by protein byproducts bio-refining", (2006-2008).
- CEEX 709 / "The transesterification of triglycerides in heterogeneous catalysis assisted unconventional energy: ultrasonic and microwave", (2006-2008).
- CEEX 2-2005 / "Complex exploitation of some renewable natural resources to obtain biofuels, glycerine and ecological solvents - BIOTECH", (2005-2008).

Number of papers indexed by ISI Web of Science : 54;
National patents: 9

29.09.2025

Research papers published in ISI journals (selection)

1. **Sirbu, E.-E.;** Dinita, A.; Tănase, M.; Portoacă, A.-I.; Bondarev, A.; Enascuta, C.-E.; Calin, C. Influence of Plasticizers Concentration on Thermal, Mechanical, and Physicochemical Properties on Starch Films, Processes 2024, 12, 2021.

2. Călin, C.; Diniță, A.; Brănoiu, G.; Popovici, D.R.; Tănase, M.; **Sirbu, E.-E.**; Portoacă, A.-I.; Mihai, S. Assessment of Environmental Impact on Glass-Fiber-Reinforced Polymer Pipes Mechanical and Thermal Properties. Polymers 2024, 16, 1779.

3. Mihai, S., Bondarev, A., Călin, C., **Sîrbu, E.-E.,** Adsorbent Biomaterials Based on Natural Clays and Orange Peel Waste for the Removal of Anionic Dyes from Water, Processes, 2024, 12(5), 1032.

4. Portoacă, A.-I.; Diniță, A.; Tănase, M.; Săvulescu, A.; **Sirbu, E.-E**.; Călin, C.; Brănoiu, G. Analyzing Sustainable 3D Printing Processes: Mechanical, Thermal, and Crystallographic Insights. Polymers 2024, 16, 1364.

5. Gheorghe, V., Gheorghe, C.G., Popovici, D.R.,Mihai S., Calin, C., **Sirbu, E.,** Doukeh, R., Grigoriu, N.,Toader C.N., Epure, C., Matei, V., Synthesis, Purity Check, Hydrolysis and Removal of o-Chlorobenzyliden Malononitrile (CBM) by Biological Selective Media, Toxics, 2023, 11(8), 672.

6. Bondarev, A., Popovici, D.R., Călin, C., Mihai, S., **Sîrbu, E.-E.,** Doukeh, R., Black Tea Waste as Green Adsorbent for Nitrate Removal from Aqueous Solutions, Materials, 2023, 16(12), 4285.

7. **Oprescu, E.-E.,** Enascuta, C.E., Radu E., Ciltea-Udrescu M., Lavric, V. Does the ultrasonic field improve the extraction productivity compared to classical methods – Maceration and reflux distillation? Chemical Engineering & Processing: Process Intensification, 2022, 179, 109082

8. **Oprescu E.-E.,** Enascuta E.C., Vasilievici G., Banu N.D., Banu I.,Preparation of magnetic biochar for nitrate removal from aqueous solutions, Reaction Kinetics, Mechanisms and Catalysis, 2022, 135, 2629–2642.

9. Vintila, A.C.N; Vlaicu, A; Radu, E; Ciltea-Udrescu, M.; Enascuta, E.C; Banu, I., **Oprescu, E.-E.,** Evaluation of ultrasound assisted extraction of bioactive compounds from microalgae, Journal of Food Measurement and Characterization, 2022, 16, 2518–2526.

10. Calin, C., Leostean, C., Trifoi, A.R., **Oprescu, E.-E,** Wiita, E, Banu, I; Doukeh, R., Mutual inhibition effect of sulfur compounds in the hydrodesulfurization of thiophene, 2-ethylthiophene and benzothiophene ternary mixture, Scientific Reports, 2021, 11, 19053.

11. Marinescu, Mihai, Popovici, D.R., Bombos, D., Vasilievici, G., Rosca, Paul, **Oprescu, E.-E**, Bolocan, I., Hydrodeoxygenation and hydrocracking of oxygenated compounds over CuPd/γ-Al2O3–ZSM-5 catalyst, Reaction Kinetics, Mechanisms and Catalysis, 2021, 133, 1013–1026.

12. **Oprescu, E.-E.,** Enascuta C.-E., Doukeh, R., Calin, C., Lavric, V., Characterizing and using a new bi-functional catalyst to sustainably synthesize methyl levulinate from biomass carbohydrates, Renewable Energy, 2021, 176, 651-662.

13. Doukeh, R., Bombos, D., Bombos, M., **Oprescu, E.-E.,** Dumitrascu, G., Vasilievici, G., Calin, C. Catalytic hydrotreating of bio-oil and evaluation of main noxious emissions of gaseous phase, Scientific Reports, 2021, 11(1), 6179.

14. Radu, E., Oprescu, E.-E., Enascuta, C.E., Calin, C., Stoica, R., Scaeteanu, G.V., Vasilievici, G., Capra, L., Ivan, G., Ion, A.C., Kinetic adsorption of humic acids mixture obtained from microalgae on exfoliated graphite nanoplatelets, REV.CHIM.(Bucharest), 2018, 69(1), 191-195.

15. Stepan, E., Enascut,a C.-E., **Oprescu, E.-E.,** Radu, E., Radu, A., Galan, A-M, Vasilievici G., Lavric V., Velea S., 2016, Intermediates for synthetic paraffinic kerosene from microalgae, Fuel 172, 29–36.

16. **Oprescu, E.-E.,** Dragomir, R.-E., Radu, E., Radu, A., Velea, S.,, Bolocan, I., Stepan, E., Rosca, P., 2014, Performance and emission characteristics of diesel engine powered with diesel–glycerol derivatives blends, Fuel Processing Technology, vol. 126, 460-468.