Europass Curriculum Vitae



Personal information

Surname / First name	**Enăşcuţă Cristina Emanuela**
E-mail	cristina.enascuta@gmail.com
Nationality	Romanian
Date of birth	23 September 1979
Gender	Female

Desired employment / Occupational field **Senior Researcher**

Work experience

Dates **2025-present**

Occupation or position held: Senior Researcher 1st degree; Member of the INCDCP-ICECHIM Scientific Council from 2019; Emerging Nanotechnologies Team, INCDCP-ICECHIM.

Main activities and responsibilities: The development of institutional collaborations in the fields of activity of the research team. Research applied to organic synthesis processes and chemical engineering.
The complex valorization of renewable resources with the aim of obtaining products used as nutraceuticals or intended for agriculture. Developing new solutions for wastewater treatment.
Development of the scientific projects.

Project leader or team member of research project and scientific infrastructure project:
1. Bee-hive based active principles intensified extraction and smart encapsulation for controlled release: a synergistic bioeconomy and bioengineering approach – BeeProdCaps 2025-2027 (project director).
2. Excellence research center fostering climate neutrality and resilience through agriculture – AgroCliN; 2026-2031 (key person)
3. Developing new materials for an integrated approach to water resources protection: from detection to decontamination – AQUAMAT; 2023-2026

Dates **2023-2025**

Occupation or position held: Scientific Researcher 1st degree; Member of the INCDCP-ICECHIM Scientific Council from 2019; Responsible with quality assurance; Vice-Leader of Alternative Bioresources and Biofuels Department

Main activities and responsibilities: The development of institutional collaborations in the fields of activity of the research team. Research applied to organic synthesis processes and chemical engineering.
The complex valorization of renewable resources with the aim of obtaining products used as nutraceuticals or intended for agriculture.
Developing scientific projects.
Scientific coordination of young researchers from the work team.

Project leader or team member of research project and scientific infrastructure project:
1. Developing new materials for an integrated approach to water resources protection: from detection to decontamination – AQUAMAT; 2023-2026
2. Development of health-promoting food ingredients from winemaking by-products and activated seeds – 2021-2024

Dates **2019-2023**

Occupation or position held	Scientific Researcher 2nd degree; Member of the INCDCP-ICECHIM Scientific Council from 2019; Responsible with quality assurance; Vice-Leader of Alternative Bioresources and Biofuels Department
Main activities and responsibilities	The development of institutional collaborations in the fields of activity of the research team. Research applied to organic synthesis processes and chemical engineering. The complex valorization of renewable resources with the aim of obtaining products used as nutraceuticals or intended for agriculture. Developing scientific projects. Scientific coordination of young researchers from the work team. Project leader or team member of research project and scientific infrastructure project: 1. Development of health-promoting food ingredients from winemaking by-products and activated seeds – 2021-2024 2. Transdisciplinary approach for development of technological solutions for target compounds recovery from agro side-streams 2020-2023 3. Desulfurization by catalytic pyrolysis of rubber powder in order to modify the road bitumen – 2022-2024 4. Complete Recovery of Fish and Oilseed Wastes Extracts/Hydrolysates in Microcapsules Usable as Fertilizers or Nutraceuticals – 2020-2022 5. Value added products from microalgae biomass applying biorefinery concepts – 2020-2022
Dates	**2008-2019**
Occupation or position held	Scientific Researcher 3th degree Responsible with quality assurance; Alternative bioresources and biofuels Department
Main activities and responsibilities	Research applied to organic synthesis processes and chemical engineering; Developing scientific projects Team member of research project and scientific infrastructure project: 1. "New treatment for rape seeds based on collagen hydrolysates, in order to increase the drought resistance of the rape seedling – 2017-2020 2. "Energetic efficiency biogas plants improvement by integrated system: biogas-microalgae-biofuels in frame of biorefinery concept" – 2018-2020 3. "Foliar biofertilizers based on active, intelligent, structure for the treatment of cereal crops" – 2016-2018 4. "Integrated green technology system for producing advanced biofuels" - 2014-2016 5. "Interdisciplinary research on the use of elastic type products based on collage to treat rapeseed crops to increase productivity, and reduce crop losses" - 2014-2016 6. "Integrated System For Producing Synthetic Aviation Fuel From Algal Biomass" - 2012-2016 7. "Interdisciplinary research on seed treatment with collagen hydrolysate for quality indicators increasing, pesticides reduction and sustainable development of agricultural production" - 2012-2016 8. "New possibilities for integrating sustainable biodiesel production. Recovery of glycerol esters and omega" – 2010-2014 9. "Biodegradable coolant and lubricating fluid with multiple function" - 2008-2011
Dates	**2004-2008**
Occupation or position held	Research Assistant; Bioresource Department
Main activities and responsibilities	Research applied to organic synthesis processes and chemical engineering; Team member of research project and scientific infrastructure project:

1. "Technologies for green chemistry products, from fat matters" - 2007-2010
2. "New microorganisms capable of enzymatic synthesis of active therapeutic biopolymers, using glycerin (by-product of biodiesel obtaining)" - 2007-2010
3. "Complex exploitation of some renewable natural resources to obtain biofuels, glycerine and ecological solvents" - 2005-2008
4. "Complex tehnological solution for preparation and utilization of N,N,N',N'-tetraacetylethylene-diamine (TAED) used as surfactant additive and modern, ecological and biodegradable disinfectants, with broad scale application" – 2006
5. "Technologies for obtaining fatty acid salts, in solvents" – 2004-2006
6. "Exploitation of renewable natural resources and chemical by-products through modern methods: extractive technologies, biotechnologies and ecological technologies"- 2004-2006

Name and address of employer	National Institute for Research and Development in Chemistry and Petrochemistry ICECHIM, 202 Splaiul Independentei street, 060021 Bucharest, sect.6
Type of business or sector	Research & Development (in engineering sciences)

Education and training

Dates	**2020-2021**
Title of qualification awarded	Postdoctoral Programmme in Chemical Engineering and Biotechnologies
Principal subjects/occupational skills covered	Work-based learning systems through entrepreneurial scholarships for doctoral and postdoctoral students SIMBA The research theme: "Complex recovery of waste fish farms using modern techniques of intensification"
Name and type of organization providing education and training	University Politehnica of Bucharest, Doctoral School Applied Chemistry and Materials Science
	2017
Dates	PhD, in Chemical Engineering
Title of qualification awarded	The research theme: "Separation of omega fatty acids esters by molecular distillation"
Principal subjects/occupational skills covered	University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science
Name and type of organization providing education and training	**2004-2005**
Dates	
Title of qualification awarded	Master in Pharmaceutical and Cosmetic Products
Principal subjects/occupational skills covered	Designing and performing laboratory experiments, synthesis optimization, scientific data interpretation
Name and type of organization providing education and training	University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science
Dates	**1999-2004**
Title of qualification awarded	Chemical Engineer
Principal subjects/occupational skills covered	Department – Organic chemistry
Name and type of organization providing education and training	University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment	Understanding		Speaking		Writing
European level (*)	Listening	Reading	Spoken interaction	Spoken production	

English	B2	Independent user	C1	Proficient User	B2	Independent user	B2	Independent user	B2	Independent user

(*) Common European Framework of Reference for Languages

Social skills and competences

Capable to work as part of a team. Good communication skills gained working with national and overseas scientists. Responsible with quality assurance. Member of the INCDCP-ICECHIM Scientific Council from 2019. Coordination of research and development activities. Vice-Leader of Alternative Bioresources and Biofuels Department.

Organizational skills and competences

Experience in complex project teams, multi-institutional and multi-cultural. Experience on both research & development project and scientific infrastructure building project (involving public procurement of equipment and services)

Technical skills and competences

Training courses:
Technological audit - Evaluation of the way to capitalize on CD results. Analysis of the capacity of economic operators in the CDI Domain – 2022
Innovation manager – 2017

Experience is using Microsoft Office (Word, Excel, PowerPoint), specialised software (Bio-Rad, Adobe Reader, Simulis, Mathcad) and process simulators programs such as Aspen HYSYS.

Scientific works indexed in the WOS database: 35.
Hirsch Index: 10, Citations: 338

ORCID Profile: https://orcid.org/0000-0002-6234-3012
Scopus ID: 57808410800
BraiMap ID: U-1700-039A-1539

Annexes

A.5.2. List of selected published scientific papers and patents

List of published scientific papers and patents

1. Scientific papers

1. Iordanescu M.V., Vintilă A.C., Psenovschi G., Capra, L., Gavrilă, A.-M., **Enascuta C.E.**, Iordache T.-V. Cryo-Structured Chitosan Sponges with Controlled Release Properties for Liquid Digestate as Potential Agricultural Fertilizers. Gels 2025, 11, 887. https://doi.org/10.3390/gels11110887.
2. Fierascu, I., Baroi A.M., Matei R.I., Fistos T, Chican I.E., **Enascuta C.E**., Avramescu S.M., Fierascu R.C. Bio-Based and Nanostructured Polymers for Sustainable Protection of Cultural Heritage and Medicinal Crops: Convergence of Heritage Science, Circular Bioeconomy, and Environmental Protection. Polymers 2025, 17, 2582. https://doi.org/10.3390/polym17192582.
3. Pasarin D., Ghizdareanu Al., **Enascuta C.E.**, Nistor C., Capra L., Matei C., Lavric V. Size optimization and characterization of liposomes with sprouted red clover and amaranth seed extracts. Food Measure,2025. https://doi.org/10.1007/s11694-025-03739-z.
4. **Enascuta, C.-E**.; Sirbu, E.-E.; Pasarin, D.; Ghizdareanu, A.I.; Senin, R.; Hosu, I.S.; Gavrilă, A.-M.; Burdusel, B.-A.-M.; Lavric, V. Enhancement of Microencapsulation of Rapeseed Oil Bioactive Compounds in Alginate Through Sonication. Foods 2025, 14, 1692
5. 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
6. Pasarin D., Lavric V., **Enascuta C.E.**, Ghizdareanu A.-I.Matei C. "Optimal Enzymatic Hydrolysis of Sweet Lupine Protein towards Food Ingredients". Fermentation 2023, 9, 203. https://doi.org/10.3390/fermentation9030203, I.F.= 5,123.
7. Ghizdareanu A.-I., Pasarin D., Banu A., **Enascuta C.E**., Ionita A., Vlaicu A. "Accelerated Shelf-Life and Stability Testing of Hydrolyzed Corn Starch Films". Polymers 2023, 15, 889. https://doi.org/10.3390/polym15040889, I.F.= 4.967.
8. Pasarin D., Ghizdareanu A.-I., **Enascuta C.E.**, Matei C., Bilbie C., Paraschiv-Palada L., Veres P.-A. "Coating materials to increase the stability of liposomes". Polymers 2023, 15, 782. https://doi.org/10.3390/polym15030782, I.F.= 4.967.
9. Babeanu N., Radu N., **Enascuta C.E.**, Alexandrescu E., Ganciarov M., Omar M.S., Suica-Bunghez I.R., Senin R., Ursu M., Bostan M. Obtaining and characterizing composite biomaterials of animal resources with potential applications in regenerative medicine. Polymers. 14(17) (2022), 3544. https://doi.org/10.3390/polym14173544. WOS:000851682100001, I.F.= 4.967.

10. Oprescu, EE., **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 179 (2022) 109082. https://doi.org/10.1016/j.cep.2022.109082. WOS:000878176500002, I.F.= 4.264.
11. Oprescu, EE., **Enascuta, C.E.**, Vasilievici, G., Nicoleta Banu D., Banu I. Preparation of magnetic biochar for nitrate removal from aqueous solutions. Reac Kinet Mech Cat (2022), 135, 2629–2642. https://doi.org/10.1007/s11144-022-02263-1, WOS:000826145400002, I.F.=1.8.
12. Vintila A.C.N, Vlaicu A.,Radu E., Ciltea-Udrescu M., **Enascuta C.E.**, Banu I., Oprescu E.E. Evaluation of ultrasound assisted extraction of bioactive compounds from microalgae. Journal of Food Measurement and Characterization, (2022), 16, pages 2518–2526 https://doi.org/10.1007/s11694-022-01347-9, WOS:000770744200001, I.F. = 2.431.
13. **Enascuta C.-E.**, Oprescu E.-E., C. Calin, G. Vasilievici, C. Popa. Adsorption of nitrate on magnetic microalgal biocha radsorption of nitrate on magnetic microalgal biochar, SGEM Conference https://doi.org/10.5593/sgem2022/6.1/s25.07.
14. 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. https://doi.org/10.1016/j.renene.2021.05.120. WOS:000660528900007, I.F.= 8.634.
15. Gaidau C., Epure D.-G., **Enascuta C.E.**, Carsote C., Sendrea C., Proietti N., Chen W., Gu H. Wool keratin total solubilisation for recovery and reintegration - An ecological approach. Journal of Cleaner Production, (2019), 236, 117586. https://doi.org/10.1016/j.jclepro.2019.07.061. WOS:000483414000042, I.F.= 8.18.
16. E.-E. Oprescu, **C.-E. Enascuta**, A.-M. Galan, M. Bombos, G. Vasilievici, G. Isopencu, V. Lavric, 2019. Evaluation of Porphyridium purpureum and Nannochloropsis sp. for Productivity in Carbohydrates and Lipids, Revista de chimie, 70(9), 3305-3308, I.F.=1,605.
17. **Enăşcuţă C.E.,** Oprescu E.E., Radu E., Epure D.G., Gidea M., Niculescu M.. The effect of using gibberellic acid and amino acids on rapeseed crops. SGEM, 19, 4.1, 535-540.
18. Oprescu E.E., **Enascuta C.E.**, Vasilievici G., Catalina C., Cristina P., Vasile L.. Conversion Of Biomass Under Heterogeneous Catalyst Into Levulinic Esters. SGEM, 19, 4.1, 535-540.
19. Niculescu M., Epure D.G., Lasoń-Rydel M., Gaidau C., Gidea M., **Enascuta C.E**, 2019. Biocomposites based on collagen and keratin with properties for agriculture and industrie applications. The EuroBiotech Journal 3 (3), 160-166, Doi: https://doi.org/10.2478/ebtj-2019-0019 .
20. Stepan E., **Enascuta C.E**, Oprescu E.E., Radu E., Vasilievici G., Radu A., Stoica R., Velea S., Nicolescu A., Lavric V., 2018. "A versatile method for obtaining new oxygenated fuel components from biomass", Industrial Crops & Products 113, 288–297. I.F.= 4.540.
21. **Enascuta C.E**, Stepan E., Bolocan I., Bombos D., Calin C., Oprescu E.E., Lavric V., 2018. "Simultaneous production of oil enriched in ω-3 polyunsaturated fatty acids and biodiesel from fish wastes", Waste Management, 75, 205–214, I.F.=4.723.
22. Radu E., Oprescu E.E., **Enascuta C.E**, Calin C., Stoica R., Vasile Scaeteanu G., Vasilievici G., Capra L., Ion I., I Ion A.C., 2018. „Kinetic adsorption of humic acids mixture obtained from microalgae on exfoliated graphite nanoplatelets", Revista de chimie(Bucuresti), 69(1), 191-195. IF.=1,412.
23. **Enascuta C.E**, Stepan E., Oprescu E-E., Radu A, Alexandrescu A., Stoica R., Epure D-G., Niculescu M. D., 2018. „Microencapsulation of Essential Oils", Revista de chimie (Bucuresti), 69(7), 1612-15. IF.=1,412.
24. **Enascuta C.E**, Tuluc A., Stepan E., Plesu V., Bozga G., 2017. Vapor pressure measurements for ethyl myristate, U.P.B. Sci. Bull., Series B, 79, Iss. 2.
25. Stepan E., **Enascuta C.E**, Oprescu 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, I.F. = 5.17.
26. Stepan E., Velea S., Tanase C., Radu A., **Enascuta C.E**, Oprescu E., 2012, „Biodiesel and Surfactants from Fats", Revista de Chimie,63(6), 646-650, (ISSN 0034-7752), I.F.=1.412.
27. Oprescu E., Stepan E., Rosca P., Radu A., **Enascuta C.E**, 2012, „Synthesis of Glycerol Carbonate over Hydrotalcite Catalyst", Revista de Chimie,63(6),621-625 (ISSN 0034-7752), I.F.=1.412.
28. Oprescu E., Stepan E., Rosca P., Radu A., **Enascuta C.E**, 2012, "Green synthesis of cyclohexanone glycerol ketal catalyzed by a solid superacid", Analele Universitatii" Ovidius" Constanta-Seria Chimie, 23 (1), 72-76, (ISSN 1223-7221)
29. Stepan E., Neamtu C., **Enascuta C.E**, Ordeanu V., Necsulescu M., Andries A., Irimia A., 2008, "N,N,N',N'-tetraacetylethylenediamine (TAED) as an Activator for Persalts, in Modern Compositions of Detergents and Disinfectants", Revista deChimie 59(5), 558,(ISSN 0034-7752), I.F.= 1.412.

30. Stepan E., Velea S., **Enascuta C.E**, Marton G., Gijiu C., 2006, “Kinetics of Transesterification Reaction of the Sunflower Oil”, Revista deChimie 57(7), 693, (ISSN 0034-7752), I.F.= 1.412.

2. Patents

1. Stepan E., **Enascuta C.E**., Velea S., Radu E., Oprescu E.E., Radu A., Gaidău C., Epure D G. Procedeu pentru obtinerea biofertilizantilor foliari impreuna cu microcapsulele cu uleiuri esentiale componente si compozitii de biofertilizanti foliari. RO Patent RO133615.
2. Stepan E., Velea S., **Enascuta C.E**, Radu E., Gaidău C., Niculescu M., Gidea M., Epure D.-G., Becheritu M., 2021 Compozitie pentru prevenirea despicarii silicvelor de rapita si procedeu pentru obtinerea acesteia, RO Patent 132,408.
3. Niculescu M.D., **Enascuta C.E.**, Gidea M., Epure D.G., Gaidau C., Becheritu M., 2019. Procedeu de obtinere a unor biocomplecsi pe baza de colagen si cheratina pentru stimularea germinatiei semintelor si a nutritiei plantelor de rapita. RO Patent 134,470 A0.
4. Stepan E., Velea S., Vasilievici G., Radu E., Radu A., Oprescu E., **Enascuta C.E**, 2018. „Diesel biofuel based on furfurylidene glycerol derivatives and process for producing the same”, RO Patent 131,789.
5. Stepan, E., Vasilievici G., Velea, S., Bombos M., **Enascuta C.E**, Oprescu, E., Radu E., Radu, A., 2018. “Biofuel for aircraft turbine and process for obtaining it, RO Patent 131,876.
6. **Enascuta C.E**, Stepan E., E., Plesu, V., Stefan, N. G., 2017, “Process for obtaining an oil with high content of polyunsaturated fatty acids and a diesel biofuel”, RO Patent 129,836.
7. Stepan Emil, Oprescu, E. E. Radu, A., **Enascuta C.E**, 2017, “Process for obtaining acetals and ketals of glycerol”, RO Patent 128,997.
8. Stepan, E., Velea, S., **Enascuta C.E**, Radu, A., Oprescu, E., Tudor, A., 2012, “Process for obtaining sulfurized fatty acid methyl esters, from fats”, RO Patent 127,647.
9. Stepan E., Velea S., Tanase C., Radu A., **Enascuta C.E**, Oprescu E, 2012, "Process for obtaining a diesel biofuel and tensides from fatty material", RO Patent 126,669 [INVENTIKA-International Exhibition of Inventions, Scientific Research and New Technologies, Bucharest, October 6-9, 2010, Gold Medal.

3. Patent Applications

1. Sistem catalitic cu structura de oxizi metalici si acizi humici pentru tratarea urmelor de contaminanti din apele uzate și procedeu de obținere. **Enăşcuţă C.E**., Sîrbu E.E., Fierăscu R.C., Pşenovschi G. RO Patent Application no. A00283/30.05.2024.
2. Sistem catalitic cu structura de oxizi metalici pentru tratarea urmelorde reziduuri din apele uzate. **Enăşcuţă C.E.**, Sîrbu E.E., Fierăscu R.C., Ganciarov M., Pşenovschi G.,Vlaicu A. RO PatentApplication no.A0339/29.06.2023
3. Compoziţie de stimulare si amplificare a randamentului de biogaz, Vintila A.C.N., Vlaicu A., **Enascuta C.E**., Psenovschi G., Neamtu C. RO Patent Application no. A/0064/31.10.2023

Date: 13.01.2026

Semnatura

