



Europass Curriculum Vitae

Personal information

Surname / First name **Stepan Emil**
Address 49, Timisoara bd., 061315, Bucharest, Romania
Telephone(s) 0040213163086; 0040214991498;
Fax(es) 0040213123493
E-mail bioresurse@icechim.ro
Nationality Romanian
Date of birth 08 October 1949
Gender Male

Work experience

Dates	2008-present
Occupation or position held	Senior Researcher 1 st degree
Main activities and responsibilities	Research applied to organic synthesis processes and chemical engineering; director / responsible of research project and scientific infrastructure project
Name and address of employer	Research and Development Institute for Chemistry and Petrochemistry ICECHIM, 202 Splaiul Independentei street, 060021 Bucharest, sect.6
Type of business or sector	Research & Development (in engineering sciences)
Dates	2004-2008
Occupation or position held	Senior Researcher 1 st degree; Head of Bioresource Department
Main activities and responsibilities	Research applied to organic synthesis processes and chemical engineering; director / responsible of research project and scientific infrastructure project; department head
Name and address of employer	Research and Development Institute for Chemistry and Petrochemistry ICECHIM, 202 Splaiul Independentei street, 060021 Bucharest, sect.6
Type of business or sector	Research & Development (in engineering sciences)
Dates	1995-2004
Occupation or position held	Senior Researcher 1 st degree
Main activities and responsibilities	Research applied to organic synthesis processes and chemical engineering; director / responsible of research project and scientific infrastructure project
Name and address of employer	Research and Development Institute for Chemistry and Petrochemistry ICECHIM, 202 Splaiul Independentei street, 060021 Bucharest, sect.6
Type of business or sector	Research & Development (in engineering sciences)
Dates	1989-1995
Occupation or position held	Senior Researcher 2 nd degree
Main activities and responsibilities	Research applied to organic synthesis processes and chemical engineering; director / responsible of research project and scientific infrastructure project
Name and address of employer	Research and Development Institute for Chemistry and Petrochemistry ICECHIM, 202 Splaiul Independentei street, 060021 Bucharest, sect.6
Type of business or sector	Research & Development (in engineering sciences)
Dates	1980-1989
Occupation or position held	Senior Researcher 3 rd degree
Main activities and responsibilities	Research applied to chemical engineering
Name and address of employer	Chemical Research Institute ICECHIM, 202 Splaiul Independentei street, 060021 Bucharest, sect.6



Type of business or sector | Research & Development (in engineering sciences)
 Dates | 1977-1980
 Occupation or position held | Researcher
 Main activities and responsibilities | Research applied to organic synthesis processes and chemical engineering
 Name and address of employer | Chemical Research Institute ICECHIM, 202 Splaiul Independentei street, 060021 Bucharest, sect.6
 Dates | 1972-1977
 Occupation or position held | Chemical Engineer
 Main activities and responsibilities | Research applied to organic synthesis processes and chemical engineering
 Name and address of employer | Chemical Research Institute ICECHIM, 202 Splaiul Independentei street, 060021 Bucharest, sect.6

Education and training

Dates | 1978-1985
 Title of qualification awarded | PhD
 Principal subjects/occupational skills covered | Thesis Title: Bispyridinium salts with potential biological activity
 Name and type of organization providing education and training | University Polytechnica Bucharest
 Level in national or international classification | ISCED 6
 Dates | 1967-1972
 Title of qualification awarded | Chemical Engineer
 Principal subjects/occupational skills covered | Dichlorocyclopropane derivatives having pesticidal activity
 Name and type of organization providing education and training | University Polytechnica Bucharest, Faculty of Chemical Technology
 Level in national or international classification | ISCED 5
 Dates | 2001
 Title of qualification awarded | Post-university studies
 Principal subjects/occupational skills covered | Management of the R. D. I. projects
 Name and type of organization providing education and training | University Polytechnica Bucharest, Faculty of Chemical Technology
 Level in national or international classification | ISCED 5

Personal skills and competences

Mother tongue(s) | **Romanian**

Other language(s)

Self-assessment
 European level (*)

English

French

Russian

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B2	Independent user	C1	Proficient User	B1	Independent user	B1	Independent user	B1	Independent user
C1	Proficient User	C1	Proficient User	C1	Independent user	C1	Independent user	B1	Independent user
A2	Basic user	A2	Basic user	A2	Basic user	A2	Basic user	A2	Basic 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.
Organizational skills and competences	Experience in leading 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	Applied research in chemistry field and organic chemistry technologies (unpetrochemical products, organic intermediary, treatment of fats and oils, industrials auxiliary), unconventional technologies, ecological technologies and products, chemistry and instrumental analysis, transfer technologies, consulting, management of national and international research projects
Computer skills and competences	Microsoft Office; skill on using Internet
Other skills and competences	Hobbies: Literature and music
Driving license	Driving license- vehicle category B
Additional information	<p>Member of professional associations:</p> <ul style="list-style-type: none"> ○ Founder member of the "Biofuel in Romania" Association ○ Member of Society of Inventors from Romania - branch Bucharest ○ Member of Society of Chemistry from Romania, SChR
Annexes	<p>A.5.1. Participation in national/international projects</p> <p>A.5.2. List of published scientific papers and patents</p>

Date: June 30, 2017

Signature:



A.5.1. Participation in national/international projects

Programme/Project	Position	Period: from - till
RELANSIN 258-1999 / "Complex exploitation of some vegetable oils and animal fats by processing via fatty acid methyl esters"	Project manager	1999-2003
MENER 377-2003 / "Exploitation of renewable natural resources and chemical by-products through modern methods: extractive technologies, biotechnologies and ecological technologies"	Project manager	2003-2005
INVENT 172-2004 / "Technologies for obtaining fatty acid salts, in solvents"	Project manager	2004-2006
INVENT 178-2006 / "Complex technological solution for preparation and utilization of N,N,N',N'-tetraacetylene-diamine (TAED) used as surfactant additive and modern, ecological and biodegradable disinfectants, with broad scale application"	Project manager	2006
CEEX 2-2005 (BIOTECH) / "Complex exploitation of some renewable natural resources to obtain biofuels, glycerine and ecological solvents"	Project manager	2005-2008
PN II 31 064-2007 / "Technologies for green chemistry products, from fat matters"	Project manager	2007-2010
PN II - 69 CI – 2012 / „Ecological solvent from inedible fats"	Project manager	2012
PN II - 115 CI – 2012 / „Biopesticides based on fatty acids, fatty acid derivatives and essential oils for cultural hygiene of green areas"	Project manager	2012
PN II - PCCA 44-2012 / „Integrated system for producing synthetic aviation fuel from algal biomass" – ALGAL-SAF	Project manager	2012-2016
CEEX 252-2006 / "Biofertilizers and growth stimulators for sustainable culture of plants, with additives obtained by bio-refining of proteinic by-products"	Project responsible	2006-2008
CEEX 707-2006 / "Transesterification of triglycerides in heterogeneous catalysis assisted by unconventional energies: ultrasonic and microwave"	Project responsible	2006-2008
PN II 61 006-2007 / "New microorganisms capable of enzymatic synthesis of active therapeutic biopolymers, using glycerin (by-product of biodiesel obtaining)"	Project responsible	2007-2010
PN II 32 104-2008 / „Biodegradable coolant and lubricating fluid with multiple function"	Project responsible	2008-2011
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	Project responsible	2012-2016
PN II - PCCA 65-2014 / "Integrated green technology system for producing advanced biofuels"- AdvBioFuels	Project responsible	2014-2017
PN II - PCCA 65-2014 / "Cercetari interdisciplinare privind utilizarea unor produse tip elastic pe baza de collagen pentru tratarea culturilor de rapita in vederea cresterii productivitatii, a reducerii pierderilor de recolta"- RAPESTIK	Project responsible	2014-2017
PN III - 55 PTE-2016/ "Foliar biofertilizers based on active, intelligent, structure for the treatment of cereal crops" - BIOFOL_CER	Project responsible	2016-2018
"Synthesis and testing of new pesticide structures", Bilateral Cooperation with Rhône-Poulenc France, Agrochemical Division	Project responsible	1996
"Valorization of renewable resource" Bilateral Cooperation with Shanghai Research Institute of Chemical Industry, China	Project responsible	1997-1998
"Biodiesel, an environmentally friendly fuel, obtained by chemical treatment of vegetable oils", Bilateral Cooperation with Institute of Chemistry of the Academy of Sciences of Moldova Republic	Project responsible	2000-2002
"Catalytic system for hydrogenation of flavoring and odoriferous intermediaries", Bilateral Cooperation with Institute of Chemistry of the Academy of Sciences of Moldova Republic	Project responsible	2000-2002
"Advanced materials obtained by using high tech processing of leather by products", Bilateral Cooperation Romania – Turkey, between National R&D Institute for Textile & Leather and Ege University Izmir	Project responsible	2008-2009
European FP7 Project / "Nanostructured Toughened Hybrid Nanocomposites for High Performances Applications" - NANOTOUGH	Team member	2008-2011
POSCCE CAPACITIES / "Development of Bioresources Department by Upgrading R & D Infrastructure" - BIORES	Team management member	2008-2011

"Biopesticides from microorganism metabolites and botanical resources– part I" Bilateral Cooperation Romania – China according to Protocol of XXXVIII Session, position 37-17, between National R&D Institute for Chemistry & Petrochemistry - ICECHIM and Institute of Plant Protection and Soil Fertilizer of Academy of Agricultural Science of Hubei Province - IPPSF	Team member	2007-2008
"Biopesticides from microorganism metabolites and botanical resources – part II" Bilateral Cooperation Romania – China between National R&D Institute for Chemistry&Petrochemistry - ICECHIM and Institute of Plant Protection and Soil Fertilizer of Academy of Agricultural Science of Hubei Province - IPPSF	Team member	2009-2010

A.5.2. List of published scientific papers and patents

1. Scientific papers

1. **Emil Stepan**, Sanda Velea, 2016, "Intermediates for synthetic paraffinic kerosene from microalgae", *Fuel*, **172**, 29-36, (ISSN 0016-2361); I.F.= 3.52
2. Andreea Dragu, Solen Kinayyigit, Eduardo J. García-Suárez, Mihaela Florea, **Emil Stepan**, Sanda Velea, Liviu Tanase, Vincent Collière, Karine Philippot, P. Granger, Vasile I. Pârvulescu, 2015, "Deoxygenation of oleic acid: Influence of the synthesis route of Pd/mesoporous carbon nanocatalysts onto their activity and selectivity", *Applied Catalysis A: General*, **504**, 81-91, (ISSN: 0926860X);
3. Elena-Emilia Oprescu, Dorin Bombos, Raluca-Elena Dragomir, **Emil Stepan**, Ion Bolocan, 2015, "Esterification of Free Fatty Acids with Methanol over Superacid Catalyst", *Revista de Chimie*, **66**(6), 864-867, (ISSN 0034-7752);
4. Petrica Iancu, Nicoleta-Gabriela Stefan, Valentin Plesu, Aurelian Toma, **Emil Stepan**, 2015, „Advanced High Vacuum Techniques for ω -3 Polyunsaturated Fatty Acids Esters Concentration”, *Revista de Chimie*, **66**(6), 911-917, 2014, (ISSN 0034-7752);
5. Oprescu E. E., Velea S., Doncea S. M., Radu A., **Emil Stepan**, Bolocan I., 2015, "Biodiesel from algae oil with high free fatty acid over amphiphilic solid acid catalyst", *Chemical Engineering Transactions*, **43**, 595-600
6. E. E. Oprescu, R. E. Dragomir, E. Radu, A. Radu, S. Velea, I. Bolocan, **Emil Stepan**, P. Rosca, 2014, "Performance and emission characteristics of diesel engine powered with diesel–glycerol derivatives blends", *Fuel Processing Technology*, 126, 460–468, (ISSN 0378-3820), I.F. = 3.019
7. S. Velea, L. Ilie, **Emil Stepan**, R. Chiurtu, 2014 „New photobioreactor design for enhancing the photosynthetic productivity of *Chlorella Homosphaera* culture”, *Revista de Chimie*, **65** (1), 56-60, (ISSN 0034-7752), I.F. = 0.677
8. E. E. Oprescu, **Emil Stepan**, R. E. Dragomir, A. Radu, P. Rosca, 2013, "Synthesis and Testing of Glycerol Ketals as Components for Diesel Fuel", *Fuel Processing Technology*, 110, 214-217, (ISSN 0378-3820), I.F. = 3.019
9. C. Gaidau, M. Niculescu, **Emil Stepan**, D. G. Epure, M. Gidea, 2013, "New Mixes Based on Collagen Extracts with Bioactive Properties, for Treatment of Seeds in Sustainable Agriculture", *Current Pharmaceutical Biotechnology*, 14(9), 792-801, (ISSN 1873-4316), I.F. = 2.511
10. **Emil Stepan**, S. Velea, C. Tanase, A. Radu, C. E. Enascuta, E. E. Oprescu, 2012, „Biodiesel and Surfactants from Fats”, *Revista de Chimie*, **63** (6), 646-650, (ISSN 0034-7752), I.F. = 0.677
11. E. E. Oprescu, **Emil Stepan**, P. Rosca, A. Radu, C. E. Enascuta, 2012, „Synthesis of Glycerol Carbonate over Hydrotalcite Catalyst”, *Revista de Chimie*, **63** (6), 621-625 (ISSN 0034-7752);
12. E. E. Oprescu, **Emil Stepan**, P. Rosca, A. Radu, C.E. Enascuta, 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);

13. M. Balcan, D. F. Anghel, C. F. Mihailescu, **Emil Stepan**, 2011, „Reversed-phase High-performance Liquid Chromatographic Analysis of Biodiesel Obtained from Sunflower Oil”, *Revista de Chimie*, **62**, (3), 255-260, (ISSN 0034-7752);
14. C. Gaidau, M. Niculescu, **Emil Stepan**, D. Taloi, L. Filipescu, L., 2009, „Additives and advanced biomaterials obtained from protein and protein by-products”, *Revista de Chimie* **60** (5), 501-508, (ISSN 0034-7752);
15. S. Velea, N. Dragoş, S. Serban, L. Ilie, D. Stalpeanu, A. Nicoară, **Emil Stepan**, 2009 „Biological sequestration of carbon dioxide from thermal power plant emissions, by absorption in microalgal culture media”, *Romanian Biotechnological Letters*, **14** (4), 4485-4500, (ISSN 1224 – 5984);
16. **Emil Stepan**, C. Neamtu, C. Enascuta, V. Ordeanu, M. Neculescu, A. Andries, A. Irimia, 2008, “N,N,N’,N’-tetraacetythylenediamine (TAED) as an Activator for Persalts, in Modern Compositions of Detergents and Disinfectants”, *Revista de Chimie* **59** (5), 558, (ISSN 0034-7752), I.F. = 0.677
17. C. Gaidau, M. Ghiga, L. Filipescu, **Emil Stepan**, V. Lacatus, M. C. Murgea, A. D. Ionita, L. Filipescu, 2008, “Emulsified foliar fluids from waste leather hydrolysis products”, *CEEX Conference Proceedings Romania*, 1-7
18. C. Gaidau, M. Ghiga, L. Filipescu, **Emil Stepan**, V. Lacatus, M. Popescu, 2007, “Advanced materials obtained from leather by-products”, *CEEX Conference Proceedings Romania*, 252-252
19. Ghiga, M., Gaidau, C., Crudu, M., **Emil Stepan**, 2007, “Research on regenerative separation of proteins from chrome leather waste by using hydrolytic processes, Part I, *Revista de Pielarie Incaltaminte*, **1**, 2007
20. **Emil Stepan**, S. Velea, C. Enascuta, G. I. Marton, C. L. Gijiu, 2006, “Kinetics of Transesterification Reaction of the Sunflower Oil”, *Revista de Chimie* **57** (7), 693, (ISSN 0034-7752), I.F. = 0.677
21. **Emil Stepan**, D. Dragota , 2006, “Rapeseed like a source of biofuels”, *Cereale si Plante Tehnice*, **1**, 13
22. A. T. Balaban, **Emil Stepan**, 1987, “Reaction of pyrylium salts with nucleophiles. XIX. Novel bispyridinium salts with potential biological activity”, *Revue Roumaine de Chimie*, **32** (2), 155 (ISSN 0035-3930);
23. **Emil Stepan**, A. T. Balaban, 1983, “Reaction of pyrylium salts with nucleophiles. XVII. New 2,4,6-trisubstituted bis- and tris- pyridinium salts and their H-NMR spectra”, *Revue Roumaine de Chimie* **28** (7), 707 (ISSN 0035-3930);

2. Patents

1. **Stepan Emil**, Oprescu, E. E. Radu, A., Enăşcuţă C. E., 2016, “Process for obtaining acetals and ketals of glycerol”, **RO Patent 128,997**
2. **Stepan Emil**, Plesu Valentin, Neamtu Constantin, Iancu Petrica, 2016, “Process for preparing 1,2-O-isopropylidene-glycerol esters”, **RO Patent 129,837**
3. Plesu, V., **Stepan Emil**, 2013, “Continuous process for obtaining 1,2-O-isopropylidene-glycerol”, **RO Patent 129,835**
4. Enascuta, C., **Stepan Emil**, E., Plesu, V., Stefan, N. G., 2013, “Process for obtaining an oil with high content of polyunsaturated fatty acids and a diesel biofuel”, **RO Patent 129,836**
5. Neamţu, C., Răceanu, G., **Stepan Emil**, 2011, “Gas-oil additives and process for the preparing the same”, **RO Patent 128,511 A2**
6. Doru-Gabriel Epure, Marius Becheritu, Mihai Gadea, Nicoleta-Alina Udroi, Dragos Manea, Carmen-Cornelia Gaidau, **Stepan Emil**, 2015, “Dispozitiv pneumatic de numarare seminte de cereale pentru determinarea germinatiei” **RO Patent 128,791**

7. Iancu, L., Spurcaci, B. N., Ghioca, P. N., **Stepan Emil**, Velea, S., Vuluga, Z., 2014, "Process for preparing maleic anhydride-grafted styrene-butadiene block copolymers", **RO Patent 126,665**
8. **Stepan Emil**, Velea, S., Enascuta, C. E., Radu, A., Oprescu, E. E., Tudor, A., 2012, "Process for obtaining sulfurized fatty acid methyl esters, from fats", **RO Patent 127,647**
9. **Stepan Emil**, Velea S., Tanase, C., Radu, A., Enascuta, C. E., Oprescu E. 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*]
10. Oancea, F., Velea, S. Hera, E., **Stepan Emil**, Pasareanu, S., Dobre, E., Mincea, C., 2012, „Horticultural oil composition”, **RO Patent 125,268**
11. Velea, S., **Stepan Emil**, 2011, "Process and photobioreactor for carbon dioxide biofixation, from greenhouse gases" **RO Patent 123,480** [INVENTIKA-International Exhibition of Inventions, Scientific Research and New Technologies, Bucharest, October 28-31, 2009, *Gold Medal*]
12. **Stepan Emil**, Velea, S., Serban, S., 2011, "Process for obtaining of diesel biofuel from wastes", **RO Patent 123,178** [INVENTIKA-International Exhibition of Inventions, Scientific Research and New Technologies, Bucharest, October 7-10, 2008, *Gold Medal; Special Prize of OSIM 2008*]
13. Gaidau, C., Filipescu, L., **Stepan Emil**, E., Ghiga, M. D., 2010, „Composition of protein additives for nutrition, stimulation, plant protection and process for preparation of it”, **RO Patent 123,026** [INVENTIKA-International Exhibition of Inventions, Scientific Research and New Technologies, Bucharest, October 5-8, 2011, *Gold Medal; Special Prize of OSIM 2011*]
14. **Stepan Emil**, Velea, S., Serban, S., 2011, "Process for obtaining of diesel biofuel from wastes", **RO Patent 123,178** [INVENTIKA-International Exhibition of Inventions, Scientific Research and New Technologies, Bucharest, October 7-10, 2008, *Gold Medal; Special Prize of OSIM 2008*]
15. **Stepan Emil**, Serban, S., Velea, S., Lata, I., 2008, "Diesel biofuel and process for obtaining the same", **RO Patent 121,913** [EUREKA INNOVA Energy Exhibition, Brussels, November 24th, 2007, *Gold Medal with mention; INVENTIKA-International Exhibition of Inventions, Scientific Research and New Technologies, Bucharest, October 2-6, 2007, Gold Medal*]
16. **Stepan Emil**, Serban, S. Velea, S., 2008, "Ecological solvent and process for preparing the same", **RO Patent 121,859** [35^e Salon International des Inventions des techniques et produits nouveaux, Geneve 18-22 avril 2007, *Gold Medal; IFIA ECO PRIZE, 2007; 8th International Saloon for Industrial Property, Moscow, march 14-18, 2005, Excellence Diploma awarded by Russian Office of Intellectual Property, Patents and Marks*]
17. **Stepan Emil**, Serban, S. Velea, S., 2007, "Pesticidal composition as emulsifiable concentrate", **RO Patent 121,249**
18. Tigau, V., Tigau, L.D., **Stepan Emil**, Serban, S., 2007, "Process for preparing fatty acid methyl esters", **RO Patent 120,907**
19. Lupascu, T., Dragalin, I., Vlad, P., **Stepan Emil**, Serban, S., 2004, "Process for obtaining a mixture of fatty acid methyl esters from fats, used as a biodiesel", **MD Patent 2,382F1**
20. Carlan, N., Avram M., Tigau, L. D., Lata, I., Cocone, A. G., Novac, M. T., Serban, S. V., Mihăilescu, C., **Stepan Emil**, Bombos, D., Serban, H. S., Dutescu, D. A., Rosetti, S., 2003, "Adhesive tape for electrical and corrosion protections of metal piping, process for obtaining, protection system and process of application", **RO Patent 118,806** (2003) [ARCA - International Salon of Inventors in Croatia, 5th Ed., Zagreb, september 11-16, 2007, *Silver Medal*]
21. **Stepan Emil**, Serban, S., 2000, "Process for the obtaining fatty acids salts from triglycerides in solvents", **RO Patent 115,885**

22. **Stepan Emil**, Serban, S., 2000, "Process for the obtaining fatty acids salts from triglycerides in solvents", **RO Patent 115,537**
23. **Stepan Emil**, Serban, S., 1999, "Process for glycerol purifying", **RO Patent 114,603**
24. **Stepan Emil**, Serban, S., Burghilea, V., Dinca, 1997, "Process for the obtaining stabilized N,N,N',N'-tetraacetylenediamine", **RO Patent 112,612**
25. **Stepan Emil**, Serban, S., 1996, "Process for the obtaining fatty acids salts from triglycerides in solvent", **RO Patent 111,694**
26. Popescu, N., **Stepan Emil**, R. Patrascu, Popescu, V. M., Curcaneanu, S., Andries, V., Ioan, C., Sava, I. M., Suci, I. M., 1988, "Process and apparatus for continuous purification of metal oxides", **RO Patent 94,775**
27. Popescu, N., **Stepan Emil**, Curcaneanu, S., Erena, G., Ianculescu, C., Popescu, V. M., Laudoni, D., 1986, "Continuous chlorination reactor of raw materials with silicon", **RO Patent RO 90,124**
28. Popescu, N., **Stepan Emil**, Stanciu, I., 1984, "Photochemical reactor", **RO Patent 86,060**
29. **Stepan Emil**, Balaban, A. T., 1983, "Quaternary salts of bis-pyridinium and process for preparation of it", **RO Patent 81,908**
30. Stepan, E., Balaban, A. T., 1982, "Quaternary salts of polypyridinium and process for preparation of it", **RO Patent 79,547**
31. Dinculescu, A., Balaban, A. T., **Stepan Emil**, 1980, "N,N'-(α,ω -polymethylene)-bispyridinium derivatives and process for preparation of it", **RO Patent 73,504** (1980)
32. Tincu, L. V., Oprea, C., Velea, S., **Stepan Emil**, Caravaniez, D. M., Zugravescu, M., Zaharia, E. M., 1978, "Process for preparation of methoxy-dialkylamino-s-triazines", **RO Patent 67,832**
33. Cosma, N., Gherghina, I., Tincu, L. V., Dragos, C., Velea, S., Oprea, C., **Stepan Emil**, 1978, "Process for obtaining 2-chloro-4-ethylamino-s-triazine", **RO Patent 67,831**

3. Patent Applications

1. Stepan Emil, **Velea Sanda**, Enășcuță Cristina-Emanuela, Radu Elena, Gaidău Carmen, Niculescu Mihaela, Gadea Mihai, Epure Doru, Becheritu Marius, „Compozitie pentru cresterea productiei de seminte de rapita si procedeu pentru obtinerea acesteia”, RO Patent Application nr. **a2016 00624** din 09.09.2016
2. **Stepan Emil**, Vasilievici Gabriel, Velea Sanda, Bomboș Mariana Mihaela, Enășcuță Cristina-Emanuela, Oprescu Elena-Emilia, Radu Elena, Radu Adrian, „Biocarburant pentru avioane cu turbină și procedeu de obținere a acestuia”, RO Patent Application nr. **a2015 00813** din 09.11.2015
3. **Stepan Emil**, Velea Sanda, Vasilievici Gabriel, Radu Elena, Radu Adrian, Oprescu Elena-Emilia, Enășcuță Cristina-Emanuela, „Biocarburant diesel pe bază de derivați ai furfuriliden glicerolului și procedeu pentru obținerea acestuia”, RO Patent Application nr. **a2015 00753** din 22.10.2015
4. Mihaela-Doina Niculescu, Carmen Cornelia Gaidau, Doru-Gabriel Epure, Mihai Gidea, **Emil Stepan**, "Collagen polydispersions for the treatment of cereal seeds and process thereof", *Cerere de brevet european 15464007.2 – 1454 / 24.11.2015*
5. Mihaela-Doina Niculescu, Carmen Cornelia Gaidau, Doru-Gabriel Epure, Mihai Gidea, **Emil Stepan**, "Polidispersii de collagen pentru tratarea semintelor de cereale si procedeu de realizare", Cerere de brevet de invenție **a2015 00859** din 18.11.2015
6. **Stepan Emil**, Velea, S., Oprescu, E.-E., Vasilievici G., Radu E., Radu A., 2014 „Procedeu și catalizator pentru obținerea esterilor metilici ai acizilor grași”, RO Patent Application **RO 130,749**
7. Tuluc, A., **Stepan Emil**, Plesu, V., 2014, „Procedeu si catalizator pentru obtinerea biodieselului”, RO Patent Application **RO 130,618**

8. Manea, D., Marin, E., Gaidau, C. C., Niculescu M. D., **Stepan Emil**, Butoianu, A. O., Radu, E., „Sistem de prelevare, numarare si distributie a probelor de seminte mari pentru determinarea germinatiei”, RO Patent Application nr. **a 2014 00625** / 14.08.2014
9. **Stepan Emil**, Velea, S., Oancea F., Oprescu, E.-E., Bomboș, M. M., 2013, “Procedeu și catalizator pentru obținerea esterilor metilici ai acizilor grași”, RO Patent Application **RO 130,689**
10. **Stepan Emil**, Velea S., Oancea F., Bomboș M. M., Vasilevici G., Pârvulescu V., Blăjan O., Crucean A. C., 2013, “Procedeu de obținere a biocombustibilului pentru aviație din biomasa microalgală”, RO Patent Application **RO 130,351**
11. Oancea F., Velea S., Ilie L., **Stepan Emil**, 2013, “Tulpină de *Nannochloris sp.* pentru obținerea de biocombustibil pentru aviație”, RO Patent Application **RO 130,352**
12. Oancea F., Velea S., **Stepan Emil**, Ilie L., 2013, “Procedeu de cultivare mixotrofă a algelor unicelulare”, RO Patent Application **RO 130,238**
13. Bedo D., Bomboș D., Crucean A. C., **Stepan Emil**, Trifoi A. R., 2013, “Procedeu de obținere a 5-(clormetil)furfuralului din biomasa algală și a eterilor acestuia”, RO Patent Application nr. **a 2013 00867** / 19.11.2013
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