

**Europass
curriculum vitae**

Personal information

Surname / First name(s)

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Raut Iuliana

Office: INCDCP-ICECHIM; 202, Spl. Independentei, 060021, sector 6, Bucharest, Romania
+40213163063 (office)
+40213163063
raut.iuliana@icechim.ro

Work experience

Dates

Occupation or position held

2015 – present

Biologist, PhD, Senior Researcher III in Biology,
Biotechnology&Bioanalysis team, INCDCP ICECHIM Bucharest, Romania

Main activities and responsibilities

- Applied microbiology Environmental biotechnology Conservation of microorganisms collection
- Biodegradation of organic pollutants of industrial effluents (chlorinated compounds, BETEX compounds)
- Biodegradation of plastic wastes
- Development and characterization of polymers composites based on synthetic polymer (PVA, PE) and natural polymers (starch, wood, collagen) for industrial and biomedicine applications
- Isolation and taxonomic characterization of microbial strains;
- Microbial degradation of organic contaminants from wastes waters;
- Antimicrobial activity
- Study of microbial antagonism mechanism

Name and address of employer

National Research and Development Institute for Chemistry and Petrochemistry-ICECHIM,
Biotechnology Department, Spl. Independentei 202, 060021, sector 6, Bucharest, Romania

Type of business or sector

Scientific research in biotechnology field

Dates

Occupation or position held

2009 - 2014

Biologist, Scientific research in Biology
Biotechnology&Bioanalysis team, INCDCP ICECHIM Bucharest, Romania

Main activities and responsibilities

Applied microbiology Environmental biotechnology Conservation of microorganisms collection;
Isolation and taxonomic characterization of microbial strains;
Study of polymeric materials biodegradation;
Microbial degradation of organic contaminants from wastes waters;
Study of microbial antagonism mechanism
Antimicrobial activity

Dates

Occupation or position held

2008-2009

Assistant researcher in biology
Biotechnology&Bioanalysis team, INCDCP ICECHIM Bucharest, Romania

Main activities and responsibilities

- applied microbiology, antimicrobial susceptibility testing, preservation of microbial collection, isolation and identification of microorganisms, study of microbial antagonism

	mechanism environment protection, plant fungal infection biocontrol, microbial degradation
Education and training	
Dates	October 2010- June 2016
Title of qualification awarded	PhD in Biological Sciences from 2016
Name and type of organisation providing education and training	Faculty of Biology, University of Bucharest, Romania
Dates	April-June 2013
Name and type of organisation providing education and training	Stage within the project COST Action FA 1105, „Towards a sustainable and productive EU organic greenhouse horticulture”, Short-Term Scientific Missions at Institute CEBAS- CSIC Murcia, Spain
Dates	November 2008
Title of qualification awarded	Certificate of attendance
Principal subjects/Occupational skills covered	Post university course : Advanced courses in environmental protection
Name and type of organisation providing education and training	Institute of Biology from Romanian Academy, Spl. Independentei 296, sector 6, Bucharest
Dates	October 2005- June 2007
Title of qualification awarded	Graduate of the Master programme “ Medical Biology ”
Name and type of organisation providing education and training	Faculty of Biology, University of Bucharest, Romania
Dates	October 2001- June 2005
Title of qualification awarded	Bachelor 's Degree in Biology
Name and type of organisation providing education and training	Faculty of Biology, University of Bucharest, Romania
Personal skills and competences	
Social skills and competences	<ul style="list-style-type: none"> - Respect towards colleagues - Good adaptation to changes and problem-solving attitude - Creativity, ambition, punctuality - Easy fitting in group and taking part in teamwork
Job-related skills	<p>Expertise domains: biology, microbiology, biotechnology, environment protection</p> <p>Research domains:</p> <p>Microbiology - applied microbiology, antimicrobial susceptibility testing, preservation of microbial collection, isolation and identification of microorganisms, study of microbial antagonism mechanism.</p> <p>Biotechnology - environment protection, plant fungal infection biocontrol, microbial degradation</p>
Computer skills and competences	Good command of Microsoft Office tools (Word, Excel, Power Point, Outlook), Internet.

Additional information

- **Best Poster Award**, 2013, Biotechnology In Veterinary Medicine section, International Conference of the University of Agronomic Science and Veterinary Medicine of Bucharest Agriculture for Life, Life for Agriculture, Bucharest, june 2013, for paper: Fungal strains isolated from several cases of human dermatophytoses, Mariana Călin, Iuliana Răut, Olguta Drăcea, Luiza Jecu, Veronica Lazăr
- **Special Prize** International Symposium Priorities of Chemistry for a Sustainable Development PROOCHEM - 11th Edition, 29-30 October 2015, Bucharest, acordat pentru lucrarea Inhibition of the pathogenic strain Pythium ultimum under laboratory and greenhouse condition, autori: Iuliana Răut, R. Macias, F. Oancea, G. Vasilescu, M. Badea-Doni, M.L. Arsene, T.E. Şesan, L. Jecu.
- **First Prize**, International Symposium Priorities of Chemistry for a Sustainable Development PROOCHEM, Edition, 27-28 October 2016, Bucharest, for paper: Morphological aspects of keratin substrates biodegraded by keratinolytic fungi, autori: Mariana Călin, Diana Constantinescu-Aruxandei, Iuliana Răut, Elvira Alexandrescu, Olguta-Nicoleta Cornel, Gelu Vasilescu, Luiza Jecu, Mihaela Badea-Doni, Mihaela-Liliana Arsene, Maria-Angela Antemir, Veronica Lazăr.

Awarded by Romanian CNCSIS for the paper published in *J. Polym. Environ.*, 2010, 18, 284-290.

Awarded by Romanian CNCS for the paper published in *Dalton Transactions*, 2015, 44, 7844 – 7853.

Awarded by Romanian CNCS for the paper published in *Ceramics International*, 2016, 42: 3033–3045.

Awarded by Romanian CNCS for the paper published in *Plos One*, 2017, 12(3): e0174069.

Awarded by Romanian CNCS for the paper published in *Molecules*. 2017, 22: 961.

Awarded by Romanian CNCS for the patent Osim, 2018, "Compozitie pentru limitarea producerii de micotoxine si procedeu de obtinere a acestuia"

Awarded by Romanian CNCS for the paper published in *Agronomy* 2019, 9, 543.

Member of Canadian Phytopathological Society

Member of COST Action FA1105 „Towards a sustainable and productive EU organic greenhouse horticulture

Annexes

Annex 1 - List of patents

Annex 2 - List of published papers (*selection*)

Annex 3 - Scientific meetings (conferences, symposiums, *selection*)

Annex 4 – National and international projects (21 national and 4 international projects)

ANNEX 1

List of patents and patent demands

- 3 National Patents: № 106993B1/1991; 126895/2014 „Method for the obtainment of bacterial product with antifungal activity”; № 128294/2015 „Composition of biodegradable polymeric materials for packing,
- 1 European patent EP 2738267 A1/11.02.2016
- 2 EPO Patent demands „EP13464002/2013; EP12464023/2012
- 1 WIPO Patent demand „Strain of *Trichoderma harzianum* and controlled released composition which contain said strain” PCT/RO2013/000024/2013
- Over 15 national patent demands for selection, conditioning and utilization of specialized microbial strains (*selection*) (A/00238/2010; A/00481/2012; A/00141/2013; A/00936 and A/00937 in 2014; A/00930; A/00923, A/00924, A/00925, A/00948; A/00942; A/00926 in 2015; A/00882, A/00859, A/00881 in 2016; A/2017 1015/ 04.12.2017; A/00825/13.10.2017

List of published papers

Papers published in:

SCI journals (selection):

1. Bădiceanu C., Missir A., Chifiriuc C., Drăcea O., **Răut I.**, Larion C., Ditu L., Mihăescu G., 2010. Antimicrobial activity of some new 2-thiophene carboxylic acid thioureides. *Rom. Biotechnol. Lett.* 15(5): 5545-5551
2. L. Jecu, A. Gheorghe, A. Rosu, **I. Răut**, E. Grosu, M. Ghiurea, 2010. Ability of fungal strains to degrade PVA based materials, *J. Polym. Environ.* (Springer), 18, 284-290.
3. A. Stoica-Guzun, L. Jecu, A. Gheorghe, I. Răut, M. Stroescu, M. Ghiurea, M. Danila, I. Jipa and V. Fruth, 2011. Biodegradation of poly(vinyl alcohol) and bacterial cellulose composites by *Aspergillus niger*, *J. Polym. Environ.* (Springer), 19, 69-79.
4. L. Jecu, E. Grosu, **I. Răut**, M. Calin, A. Musuc, G. Vlad, 2012. Biodegradation of poly(hydroxybutyrate)/poly(vinyl alcohol) blends by filamentous fungi, *Environ. Eng. Manag. J.*, 12, (2) 265-270.
5. Jecu L., **Răut I.**, Călin M., Ocnaru E., Arsene M. L., Grosu E., Purcar V., 2013. *In Vitro* assessment of the enzymatic degradation of several PVA/starch materials. *Journal of Optoelectronics and Advanced Materials*, 15: 7-8.
6. **Răut I.**, Călin M., Oancea F., Arsene M. L., Jecu L., 2013. Isolation and identification of microbial strains involved in industrial systems materials corrosion in aquatic environment. *Revue Roumaine de Chimie*, 58(1): 59-64.
7. **Răut I.**, Călin M., Lazăroaie M. M., Roșeanu A., Badea-Doni M., Oancea F., Jecu L., 2014. Inhibition of toxicogenic *Aspergillus niger* by microbial metabolites. *Rev. Chim.*, 65(7): 779-783.
8. **Răut I.**, Badea-Doni M., Călin M., Oancea F., Vasilescu G., Șesan Tatiana E., Jecu L., 2014. Effect of Volatile and Non-Volatile Metabolites from *Trichoderma* spp. against Important Phytopathogens. *Rev. Chim.*, 65(11): 1285-1288.
9. **Răut I.**, Oancea F., Șesan T. E., Jecu L., Arsene M. L., Badea-Doni M., Vasilescu G., 2015. *Trichoderma asperellum* Td36 – Versatile strain for treatment of high residue agricultural systems and nutraceutical crops, 2015. Abstract published in *Journal of Biotechnology*, 208: S62.
10. Stan A., Munteanu C. Musuc A. M., Birjega R., Ene R., Ianculescu A., **Răut I.**, Jecu L., Badea Doni M., Anghel E., Carp O., 2015. A general, eco-friendly synthesis procedure of self-assembled ZnO-based materials with multifunctional properties. *Dalton Trans.*, 44: 7844-7853.
11. Atkinson I., Anghel E.M., Predoana L., Mocioiu O.C., Jecu L., **Răut I.**, Munteanu C., Culita D., Zaharescu M., 2016. Influence of ZnO addition on the structural, *in vitro* behavior and antimicrobial activity of sol-gel derived CaO-P2O5-SiO2 bioactive glasses. *Ceramics International*, 42: 3033–3045.
12. **Răut I.**, Șesan T.E., Macias R., Badea-Doni M., Oancea F., Călin M., Arsene M.L., Vasilescu G., Jecu L., 2016. Study on the effectiveness of antagonistic *Trichoderma* spp. on the growth of some vegetables under laboratory and greenhouse conditions. *Revista de Chimie*, 67(8): 1504-1507.2016.
13. Ros M., **Răut I.**, Santisima-Trinidad A.B., Pascual J.A., 2017. Relationship of microbial communities and suppressiveness of *Trichoderma* fortified composts for pepper seedlings infected by *Phytophthora nicotianae*. *Plos One*, 12(3): e0174069. <https://doi.org/10.1371/journal.pone.0174069>.
14. F. Oancea, E. Georgescu, R. Matusova, F. Georgescu, A. Niculescu, **I. Raut**, M.L. Jecu, M.C. Vladulescu, L. Vladulescu and C. Deleanu. 2017. New Strigolactone Mimics as Exogenous Signals for Rhizosphere Organisms. *Molecules*. 22, 961; doi:10.3390/molecules22060961
15. M Călin, D Constantinescu-Aruxandei, E Alecsandrescu, **I Raut**, M Badea Doni, ML Arsene, F Oancea, L Jecu* (coresp) , V Lazăr, 2017, Degradation of keratin substrates by keratinolytic fungi, *Electronic Journal of Biotechnology*, 28, July 2017, Pages 101-112 (Elsevier, Open access).
16. Doneca, M.M.S.M. & **Raut**, Iuliana & Nistor, Cristina & Bujanca, Ina. (2018). Synthesis and Biomedical Application of Hydroxyapatite as Carrier for Loading and Controlled Delivery of Antibiotics. *Revista de Chimie*. 69. 3400-3405. 10.37358/RC.18.12.6758.
17. Calin, M.; **Raut**, I.; Arsene, M.L.; Capra, L.; Gurban, A.M.; Doni, M.; Jecu, L. Applications of Fungal Strains with Keratin-Degrading and Plant Growth Promoting Characteristics. *Agronomy*, 2019, 9, 543.
18. **Raut**, I.; Calin, M.; Vuluga, Z.; Alexandrescu, E.; Arsene, M.L.; Purcar, V.; Nicolae, C.-A.; Gurban, A.M.; Doni, M.; Jecu, L. Comparative Study on the Behavior of Virgin and Recycled Polyolefins–Cellulose Composites in Natural Environmental Conditions. *J. Compos. Sci.* 2019, 3, 60.
19. Varasteanu, Dana & Chican, Irina & Doneca, Sanda & **Raut**, Iuliana & Calin, Mariana & Jecu, Luiza. (2019). Nickel (II) and Cobalt (II) Complexes of Some Amino Acid-based Surfactants with Antimicrobial Activity. *Revista de Chimie*. 70. 361-364. 10.37358/RC.19.2.6917.
20. Șesan, T. E., Oancea, A. O., Stefan, L. M., Mănoiu, V. S., Ghiurea, M., **Răut**, I., Constantinescu-Aruxandei, D., Toma, A., Savin, S., Bira, A. F., Pomohaci, C. M., & Oancea, F., 2020. Effects of Foliar Treatment with a *Trichoderma* Plant Biostimulant Consortium on *Passiflora caerulea* L. Yield and Quality. *Microorganisms*, 8(1), 123. <https://doi.org/10.3390/microorganisms8010123>
21. Radu Nicoleta, Ana Chirvase, Băbeanu Narcisa, Popa Ovidiu, Cornea Calina Petruta, Pirvu Lucia, Bostan Marinela, Cîrcic Alexandru, Mathe Endre, Radu Elena, Badea Doni Mihaela, Constantin Mariana, **Raut** Iuliana, Gurban Ana-Maria, Begea

Other journals

1. Drăcea O., Larion C., Chifiriuc M. C., **Răut I.**, Limban C., Niculescu G. M., Bădiceanu C. D., Israile A. M., 2009. New thioureides of 2-(4-methylphenoxy)methyl) benzoic acid with antimicrobial activity. *Romanian Archives of Microbiology and Immunology*, 67(3-4): 92-97.
2. Iuliana **Raut**, Mariana Constantin, Gelu Vasilescu, Luiza Jecu, Tatiana Sesan, Screening of antagonistic *Trichoderma* for biocontrol activities on phytopathogens, 2012, Scientific Bulletin, Series F. Biotechnologies, vol XVI, 63-66 (indexed in CABI (www.cabi.org) database from 2007)
3. Mariana Constantin, Iuliana **Raut**, Gelu Vasilescu, Melania Liliana Arsene, Luiza Jecu, Colonization and degradation of polyethylene composites by fungal strains isolated, 2012, Scientific Bulletin, Series F. Biotechnologies, vol XVI, 109-112, 2012
4. Iuliana **Raut**, Mariana Calin, Gelu Vasilescu, Melania Liliana Arsene, Luiza Jecu and Tatiana Sesan, Optimization of *Trichoderma* strain cultivation for biocontrol activity, 2013, Scientific Bulletin, Series F. Biotechnologies, vol XVI, 63-66. (The journal has been indexed in CABI (www.cabi.org) database from 2007).
5. Mariana Calin, Iuliana **Raut**, Olguta Dracea, Luiza Jecu and Veronica Lazar, Fungal strains isolated from several cases of human dermatophytoes, 2013, Scientific Bulletin, Series F. Biotechnologies, vol XVI, 66-72. (The journal has been indexed in CABI (www.cabi.org) database from 2007).
6. **Răut I.**, Călin M., Vasilescu G., Badea Doni M., Jecu L., Şesan Tatiana E., 2014. Effect of non volatile compounds of *Trichoderma* spp. against *Fusarium graminearum*, *Rhizoctonia solani* and *Pythium ultimum*. *Scientific Bulletin, Series F. Biotechnologies*, vol XVIII: 178-181.
7. Călin Mariana, Olguta Dracea, Iuliana **Raut**, Gelu Vasilescu, Mihaela Badea-Doni, Melania Liliana Arsene, Elvira Alexandrescu, Diana Constantinescu-Aruxandei, Luiza Jecu, Veronica Lazăr, 2016, *In vitro* biodegradation of keratinized substrates by keratinophilic fungi. *Scientific Bulletin. Series F. Biotechnologies*, Vol. XX, pp. 248-253, ISSN 2285-1364, ISSN online 2285-1372.
8. Călin Mariana, Iuliana **Raut**, Diana Constantinescu-Aruxandei, Mihaela Badea Doni, Melania- Liliana Arsene, Nicoleta-Olguta Cornel, Gelu Vasilescu, Luiza Jecu, Mariana Ștefania Bucur and Veronica Lazăr, 2017, Influence of culture conditions on growth of keratinophilic fungal strains. *Scientific Bulletin Series F. Biotechnologies*, pp.173-178, Volume XXI, 2017, CERES publishing House. ISSN 2285-1364, CD-ROM ISSN 2285-5521, ISSN Online 2285-1372, ISSN- 2285-1364
9. **Raut**, Iuliana & Oancea, Florin & Belén, Ana & Trinidad, López & Calin, Mariana & Constantinescu Aruxandei, Diana & Badea Doni, Mihaela & Arsene, Melania-Liliana & Vasilescu, Gelu & Şesan, Tatiana & Jecu, Luiza. (2017). Evaluation of *Trichoderma* spp. as a biocontrol agent against *Phytophthora parasitica*. *Scientific Bulletin. Series F. Biotechnologies*. XXI. 179-182.

Book chapters:

- Co-author of book chapters (1,3,4, 6-8) *Trichoderma spp. - applications in agriculture and horticulture*, coordinator TE Sesan, Editura Universitatii din Bucuresti, 2017, ISBN 978-606-16-0900-0.
- Co-author of book chapters; *Trichoderma spp. - applications in agriculture and horticulture*, coordinator TE Sesan, Editura Universitatii din Bucuresti, 2017, ISBN 978-606-16-0900-0.
- Co-author of book chapters; Antimicrobial activity of hydroxyapatite nanoparticles on contaminated old book papers. 2016, Verlag Berger, Horn/Wien.

ANNEX 3

Scientific meetings

International meetings (selection)

1. Dracea Olguta, Iordache C., Bucur M., Necula G., Ungureanu C. Balotescu C., Cristea D., Lixandru M.S., **Răut I.**, Lazar V, Investigation of the influence of different physico-chemical parameters on *Escherichia coli* susceptibility to antibiotics,. Annual International Conference of the Romanian Society of Biochemistry and Molecular Biology, 29 – 31 mai 2008, Bucuresti, Romania, abstract publicat in Romanian Journal of Biochemistry vol.45, Nr. 1, pag. 4
2. C. Limban, G.M. Nitulescu, C.D. Badiceanu, O. Dracea, **I. Raut**, C. Larion, A.M. Israile, M.C. Chifiriuc, New thioureides of 2-(4-methyl-phenoxy)methyl) benzoic acid with antimicrobial activity- - European Congress of Clinical Microbiology and Infectious Diseases, Barcelona, Spain, 19-22 April,2008
3. I.C.Chirita, C. Limban, D.C. Nuta, G. Mihaescu, O. Dracea, **I.Raut**, C. Larion, A.M. Israile, Studies concerning in vitro antimicrobial investigation of new amides, , 33rd FEBS Congress & 11th IUBMB Conference, Atena Grecia, 30 iunie-4 iulie, 2008, FEBS Journal 275 (suppl. 1) 99-437 (2008) pag. 367

4. C.E. Stecoza, L.Morusciag, Nuta, G. Mihaescu, O. Dracea, **I.Raut**, C. Larion, A.M. Israil, New amides of 2-phenylmethyl-benzoic acids as potential antimicrobial agents, 33rd FEBS Congress & 11th IUBMB Conference, Atena Grecia, 30 iunie-4 iulie, 2008 , FEBS Journal 275 (suppl. 1) 99-437 (2008) pag.372
5. Amalia Gheorghe, Luiza Jecu, Anca Voicu, Andreea Roșu, Anca Roșeanu, Florica Chelu, Iuliana **Raut**, Microbial antagonism as a tool in reducing negative effects of fungal plant diseases, FEMS 2009, 3rd Congress of European Microbiologists, 28 iunie - 3 iulie 2009, Göteborg, Sweden.
6. Anca Roșeanu, Amalia Gheorghe, Anca Voicu, Andreea Roșu, Iuliana **Răut**, Florica Chelu, Paula Florian, Luiza Jecu, Interaction between mycotoxicogenic fungal strains and microbial control agents, 34th FEBS Congress, Life's Molecular Interactions, 4-9 iulie 2009, Prague, Czech Republic.
7. L. Jecu, A. Gheorghe, A. Rosu, **I. Raut**, M. Ghirea, E. Grosu, A. Stoica et M. Stroescu, Etude de la dégradation fongique des matériaux polymérique contenant alcool polyvinyle, IXème Colloque Franco - Roumain sur les Polymères SYNTHESE ET PROPRIETES DES POLYMERES; LES POLYMERES ET L'ENVIRONNEMENT, Alba Iulia, Roumanie, 27 – 29 Août 2009.
8. Chelu F., **Raut I.**, Voicu A., Florian P., Roseanu A., Jecu L., Bacterial metabolites: requirements for an enhanced antifungal effect, The Annual International Conference of the RSBMB, Bucharest, September 23-25th, 2010.
9. Elena Grosu, Maria Răpă, Luiza Jecu, Iuliana **Răut**, Petruța Stoica, Cristian Stănescu- Mélange de polymères à base de l'alcool de polyvinyle pour l'obtention des produits biodegradables, Xème Colloque Franco-Roumain sur les Polymères, Douai, France, 6 et 7 septembre 2011
10. Iuliana **Raut**, Mariana Constantin, Luiza Jecu, Tatiana Sesan, Flori Chelu, Paula Florian and Anca Roseanu, Biological interactions to select biocontrol agents against toxigenic strains, The Annual International Conference of the RSBMB, Bucharest, September 13-14, 2012
11. Luiza Jecu, Elena Grosu, Iuliana **Raut**, Mariana Calin, Adina Musuc, Grigore Vlad, Biodegradation of poly(hydroxybutyrate)/poly(vinyl alcohol) blends by filamentous fungi, Conferinta Internationala „Legislatie de Mediu, Ingineria Sigurantei si Managementul Dezastrelor” – ELSEDIMA, Editia a IX-a, 25 – 27 octombrie 2012, Cluj-Napoca
12. L Jecu, **I Raut**, M Calin, E Ocnaru, ML Arsene, E Grosu, V Purcar, *In vitro* assessment of the enzymatic degradation of several PVA/starch materials, BRAMAT 2013, International Conference on Materials Science & Engineering, 28 February – 2 March 2013, Brașov, Romania;
13. **I Raut**, M Calin, G Vasilescu, ML Arsene, L Jecu, Tatiana Sesan, Optimization of *Trichoderma* strain cultivation for biocontrol activity, International Conference of the University of Agronomic Science and Veterinary Medicine of Bucharest « Agriculture for Life, Life for Agriculture’, June 5-8, 2013, Bucharest, Romania
14. M Calin, **I Raut**, O Dracea, L Jecu, V Lazar, Fungal strains isolated from several cases of human dermatophytoses, International Conference of the University of Agronomic Science and Veterinary Medicine of Bucharest « Agriculture for Life, Life for Agriculture’, June 5-8, 2013, Bucharest, Romania;
15. AM Musuc, L Jecu, **I Raut**, M Calin, S Preda, VT Popa, Spectral characterization and thermal studies of PHB/PVA blend biodegradation, BRAMAT 2013, International Conference on Materials Science & Engineering, 28 February – 2 March 2013, Brașov, Romania
16. M Calin, ML Arsene, **I Raut**, M Badea-Doni, E Grosu, A Musuc, CA Nicolae, L. Jecu, Microbial degradation of wood-PVA composites evaluated by thermo-gravimetric analysis, International Conference of Physical Chemistry ROPHYSCHM 15, September 11-13, 2013, Bucharest – Romania
17. **I Raut**, M Calin, ML Arsene, M Doni, A Roseanu, L Jecu, Biological control of microbial pathogens for a health and safe environment, International Conference of Physical Chemistry ROPHYSCHM 15, September 11-13, 2013, Bucharest – Romania;
18. Calin M., **Raut I.**, Grosu E., Doni M., Arsene M. L., Vasilescu G., Purcar V., Jecu L, Novel aspects of microbial degradation of poly(vinyl alcohol) and wood blends, International Symposium “The Environment and the Industry” - SIMI 2013, 28-30 Oct 2013, Bucharest, Romania
19. M. Calin, **I. Raut**, L. Jecu, O. Dracea, G. Vasilescu, V. Lazar, Isolation of keratinophilic fungi from soil, International Symposium “The Environment and the Industry” - SIMI 2013, 28-30 Oct 2013, Bucharest, Romania
20. **I Raut**, M Calin, G Vasilescu, M Badea Doni, T Sesan, L Jecu, Effect of non volatile compounds of *Trichoderma spp.* against *Fusarium graminearum*, *Rhizoctonia solani* and *Pythium ultimum*, International Conference of the University of Agronomic Science and Veterinary Medicine of Bucharest « Agriculture for Life, Life for Agriculture, June 5-7, 2014, Bucharest, Romania
21. **Iuliana Raut**, V Purcar, Z Vuluga, E Grosu, M Calin, G Vasilescu, M Badea Doni, ML Arsene, M Ghirea, L Jecu, Study of microbial degradation of polyolefins based composites by scanning electron microscopy and infrared spectroscopy, International Conference of the University of Agronomic Science and Veterinary Medicine of Bucharest « Agriculture for Life, Life for Agriculture, June 5-7, 2014, Bucharest, Romania
22. L Jecu, E Grosu, **I Raut**, V Purcar, Z Vuluga, M Iorga, Gelu Vasilescu, M Rapa, M Badea-Doni, M L Arsene Susceptibility of thermoplastic based composites to degradation by microorganisms, International Conference „Environmental Legislation, Safety Engineering and Disaster Management” ELSEDIMA 10th edition, Cluj, 18th – 19th September 2014, Book of abstract, pg 83.
23. T. E. Şesan, F. Oancea, M. Alexandru, **I. Răut**, Approaches on *Trichoderma* strains useful for protection of horticultural crops in Romania, 11th Conference of the European Foundation for Plant Pathology, 8–13 September 2014, Krakow, Poland
24. **I Raut**, M Calin, M L Arsene, M Badea-Doni, Gelu Vasilescu, Tatiana Sesan, L Jecu, Usefulness of *Trichoderma species* against plant pathogens, Simpozionul International “PRIORITATILE CHIMIEI PENTRU O DEZVOLTARE DURABILA” (PRIOCHEM)-ediția a X-a, ICECHIM-București, 30-31 octombrie 2014
25. Tatiana Eugenia Şesan, Florin Oancea, Iuliana **Răut**, Luiza Jecu, Mariana Călin, Melania Liliana Arsene, Mihaela (Badea) Doni , Gelu Vasilescu. Multifunctional and innovative products for safe and bioenhanced functional food from newly cultivated plants in

- Romania. Simpozionul International "PRIORITATILE CHIMIEI PENTRU O DEZVOLTARE DURABILA" (PRIOCHEM)-ediția a X-a, ICECHIM-București, 30-31 octombrie 2014
26. Călin Mariana, Drăcea Nicoleta-Olguta, **Răut Iuliana**, Gelu Vasilescu, Luiza Jecu, Veronica Lazăr, Keratinophilic fungi isolated from animals, Simpozionul International "PRIORITĂȚILE CHIMIEI PENTRU O DEZVOLTARE DURABILĂ" PRIOCHEM, ed. a XI-a, 29-30 octombrie 2015.
 27. Mariana CĂLIN, Iuliana RĂUT, Luiza JECU, Mihaela BADEA-DONI, Melania Liliana ARSENE, Diana CONSTANTINESCU-ARUXANDEI, Olguta DRĂCEA, Gelu VASILESCU, Veronica LAZĂR, Biodegradation of feathers keratin by keratinophilic fungi, 11th International Conference "Environmental Legislation, Safety Engineering and Disaster Management", 26-28 May 2016 in Cluj-Napoca, Romania, Book of Abstracts, pp.40.
 28. Luiza JECU, Elena Grosu, Iuliana RĂUT, Florin Oancea, Mariana CĂLIN, Gelu Vasilescu, Maria Rapa, Mihaela BADEA-DONI, Melania Liliana ARSENE, 11th International Conference "Environmental Legislation, Safety Engineering and Disaster Management", 26-28 May 2016 in Cluj-Napoca, Romania, Book of Abstracts, pp.97.
 29. Iuliana RAUT, Mariana CĂLIN, Anca ROSEANU, Mihaela BADEA-DONI, Melania Liliana ARSENE, Gelu VASILESCU, Florin OANCEA, Luiza JECU, Tatiana Eugenia SESAN, PREPARATION AND EVALUATION OF TRICHODERMA – MICROCAPSULES FOR BIOLOGICAL CONTROL OF PHYTOPATHOGENS, 11th International Conference "Environmental Legislation, Safety Engineering and Disaster Management", 26-28 May 2016 in Cluj-Napoca, Romania, Book of Abstracts, pp.159.
 30. Mariana CĂLIN, Olguta DRĂCEA, Iuliana RĂUT, Gelu VASILESCU, Luiza JECU, Veronica LAZĂR, *In vitro* biodegradation of keratinized substrates by keratinophilic fungi, The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest" Agriculture for Life, Life for Agriculture" June 9 - 11, 2016, Bucharest, Romania, Book of Abstract, Section 6: Biotechnology, pp.82.
 31. Iuliana Raut, Mariana Calin, Gelu Vasilescu, Mihaela Badea Doni, Melania Arsene, Luiza Jecu, Tatiana Eugenia Sesan, Biocontrol activity of *Trichoderma* strains against *Phytophthora sojae* under greenhouse conditions, The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest", Agriculture for Life, Life for Agriculture, June 9 - 11, 2016, Bucharest, Romania, Book of Abstract, Section 6: Biotechnology, pp.76.
 32. Doina Dimonie, Celina Damian, Madalina Grigore, Miruna Musat, Liliana Anton, Eugeniu Vasile, Roxana Trusca, Luiza Jecu, Mariana Constantin, Iuliana Raut, Maria Rapa, Morphological structuration level as possibility to control the biodegradability of some renewable materials based on starch, POC16 International Conference on Polymers and Organic Chemistry, 16th edition, 13-16 june 2016, Hersonissos, Crete, Greece, conference program, poster session 2, pp.15.
 33. F. Oancea, I. Răut, T.E. Șesan, M. Badea-Doni, M. Popescu, M.L. Jecu, 2016, Plant biostimulants activity of bioenhanced and pelletized spent *Pleurotus* substrate. 3rd ISHS Organic Greenhouse Horticulture Symposium", Izmir, Turkey, 10 – 14 April, 2016.
 34. I Raut, M Calin, A Roseanu, M Badea-Doni, M L Arsene, G Vasilescu, F Oancea, Luiza Jecu*, T E Sesan, 2016, Preparation and evaluation of *Trichoderma* – microcapsules for biological control of phytopathogens, 11th International Conference "Environmental Legislation, Safety Engineering and Disaster Management", 26-28 May 2016 Cluj-Napoca, Romania, Book of abstracts, pg. 39.
 35. V. Fruth, J. Pandele-Cusu, I. Atkinson, L.Predoana, A. Rusu, I. Raut, M. Doni, L. Jecu, M.L. Arsene, D. Vasilescu, A. Badanou Use of bacteria to repair cracks in cementous materials, 16th International Conference of Physical Chemistry, ROMPHYSCHM-16, Galati, 21-23 Sept 2016
 36. I Raut, M Badea-Doni, M Calin, Z. Vuluga, G. Vasilescu, A M Musuc, V Purcar, M L. Arsene, E Alecsandrescu, L Jecu*, 2016, The effect of soil burial degradation on cellulose fiber-filled polypropylene composites, 16th International Conference of Physical Chemistry, ROMPHYSCHM-16, Galati, 21-23 Sept 2016
 37. TE Șesan, F Oancea, A Oancea, S Savin, A Toma, L Ștefan, G Negru, I Răut, M Ghiurea, L Jecu, G Vasilescu, AF Bira, CM Pomohaci, 2016, Influence of treatments with *Trichoderma* on physiological and phytochemical parameters of *Passiflora caerulea* I.Simpozionul International "PRIORITATILE CHIMIEI PENTRU O DEZVOLTARE DURABILA" (PRIOCHEM)-ediția a XII-a, ICECHIM-București, 27-28 octombrie 2016, Volum de rezumate, ISSN 2285 8334,
 38. I. Raut, M. Calin, E. Alecsandrescu, D. Aruxandei Constantinescu, M. Badea-Doni, M. L. Arsene, Z. Vuluga, G. Vasilescu, L. Jecu, 2016, Microscopic examination of polymers surface upon exposure to degrading microorganisms, Simpozionul International "PRIORITATILE CHIMIEI PENTRU O DEZVOLTARE DURABILA" (PRIOCHEM)-ediția a XII-a, ICECHIM-București, 27-28 octombrie 2016, Volum de rezumate, ISSN 2285 8334,
 39. I. Răut, M. Călin, F. Oancea, T. E. Șesan, M. Badea Doni, ML. Arsene, G. Vasilescu, D. Constantinescu-Aruxandei, L. Jecu, 2016, Characterization of *Trichoderma* isolate for antagonistic activity against phytopathogens, Simpozionul International "PRIORITATILE CHIMIEI PENTRU O DEZVOLTARE DURABILA" (PRIOCHEM)-ediția a XII-a, ICECHIM-București, 27-28 octombrie 2016, Volum de rezumate, ISSN 2285 8334,
 40. Mariana Călin, Iuliana Răut, Diana Constantinescu-Aruxandei, Mihaela Badea Doni, Melania- Liliana Arsene, Nicoleta-Olguta Corneli, Gelu Vasilescu, Luiza Jecu Mariana Ștefania Bucur, Veronica Lazăr, 2017, Influence of culture conditions on growth of keratinophilic fungal strains. International Conference of the University of Agronomic Science and Veterinary Medicine of Bucharest 'Agriculture for Life, Life for Agriculture', June 8-10, 2017, Bucharest, Conference Programme pp.114.
 41. Mariana Călin, Diana Constantinescu-Aruxandei, Iuliana Răut, Mihaela Badea-Doni, Melania- Liliana Arsene, Gelu Vasilescu , Florin Oancea, Violeta Purcar, Luiza Jecu, Nicoleta-Olguta Corneli, Veronica Lazăr, 2017, Evaluation of keratinaceous substrate biodegradation by FTIR analysis, International Symposium "THE ENVIRONMENT AND THE INDUSTRY", SIMI 2017, 28-29 Septembrie, București, Programme pag. 43.
 42. Mariana Călin, Diana Constantinescu-Aruxandei, Iuliana Răut, Elvira Alexandrescu, Violeta Purcări, Gelu Vasilescu, Luiza Jecu, Mihaela Badea-Doni Melania- Liliana Arsene, Ana-Maria Gurban, Florin Oancea, Olguta- Nicoleta Corneli, Veronica Lazăr, 2017,

- Qualitative and quantitative evaluation of fungal wool fibers digestion. International Symposium Priorities of Chemistry for a Sustainable Development PRIOCHEM 13th Edition, 25-27 October 2017. Programme pp.10
43. Mariana Călin, Diana Constantinescu-Aruxandei, Elvira Alexandrescu, **Iuliana Răut**, Violeta Purcări, Mihaela Badea-Doni, Melania-Liliana Arsene, Gelu Vasilescu, Luiza Jecu, Veronica Lazăr, 2017, Evaluation of horse hair degradation by keratinolytic fungi, International Symposium Priorities of Chemistry for a Sustainable Development PRIOCHEM 13th Edition, 25-27 October 2017, Programme pp.10.
44. Diana Constantinescu-Aruxandei, Mariana Călin, **Iuliana Răut**, Gelu Vasilescu, Mihaela Badea-Doni, Melania- Liliana Arsene, Ana-Maria Gurban, Luiza Jecu, Florin Oancea, Veronica Lazăr, 2017, Common pathway to unpack the bundle – integrative hypothesis in keratin and polysaccharides biodegradation. International Symposium Priorities of Chemistry for a Sustainable Development PRIOCHEM 13th Edition, 25-27 October 2017, Programme pp.10.
45. Mariana Călin, **Iuliana Răut**, Diana Constantinescu-Aruxandei, Florin Oancea, Mihaela Badea Doni, Melania- Liliana Arsene, Gelu Vasilescu, Luiza Jecu, Ana-Maria Gurban, Olguta-Nicoleta Cornelie³, Veronica Lazăr, Useful application of fungi producing keratinase and chitinase in plant growth and protection. The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest", Agriculture for Life, Life for Agriculture, June 7 - 9, 2018, Bucharest, Romania, Book of Abstract, Section 6: Biotechnology, pp.85.
46. Mariana Călin, **Iuliana Răut**, Florin Oancea, Diana Constantinescu- Aruxandei¹, Mihaela Badea Doni¹, Melania- Liliana Arsene, Gelu Vasilescu, Ana-Maria Gurban, Luiza Jecu, Investigation of a sustainable alternative for plant growth promoting by endophytic fungi. The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest", Agriculture for Life, Life for Agriculture, June 7 - 9, 2018, Bucharest, Romania, Book of Abstract, Section 6: Biotechnology, pp.69.
47. Mariana CĂLIN, Diana Constantinescu-Aruxandei, **Iuliana RĂUT**, Florin OANCEA, Luiza JECU, Gelu VASILESCU, Ana-Maria GURBAN, Mihaela Badea Doni, Melania-Liliana Arsene, Veronica LAZĂR. Screening of filamentous fungi for biosynthesis of selenium nanoparticles with potential applications in agricultura. The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest", Agriculture for Life, Life for Agriculture, June 7-9, 2018, Bucharest, Romania, Book of Abstract, Section 6: Biotechnology, pp.39.
48. **Raut**, Iuliana & Calin, Mariana & GURBAN, & Badea Doni, Mihaela & ARSENE, & VASILESCU, & JECU, (2019). Qualitative Assessment of Beneficial Microorganisms. Proceedings. 29. 43. 10.3390/proceedings2019029043. International Symposium Priorities of Chemistry for a Sustainable Development PRIOCHEM 15th Edition, 25-27 October 2019.
49. **I Raut**, M Calin, Ana Maria Gurban, Mihaela Badea Doni, G Vasilescu, ML Arsene, Luiza Jecu. The influence of feathers keratin powder substrate on fungi development The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest, Agriculture for Life, Life for Agriculture, June 4-6, 2020, Bucharest, Romania.
50. M Calin, **I Raut**, Ana Maria Gurban, Mihaela Badea Doni, G Vasilescu, ML Arsene, Luiza Jecu. Valorization of inexpensive and abundant by products from agro-industry through specialized microorganisms. The International Conference of the University of Agronomic Sciences and Veterinary Medicine of Bucharest, Agriculture for Life, Life for Agriculture, June 4-6, 2020, Bucharest, Romania.

ANNEX 4

National and International projects

Contributions in research projects (selection)

Project	Position	Period
Partnership for the synthesis, characterization physicochemical and biological activity testing of new tioureide with anti-infectious action. PN II 41-043/ 2007	Research team member	2007 -2010
Multidisciplinary research on the synthesis, physical and chemical characterization and antimicrobial activity evaluation of new sulfone with dibenzothiepine structure. PN II 41-055/2007	Research team member	2007 -2010
Advanced solutions for reducing of the volatile organic compounds content in surface and underground waters – Project CEEX 127/2006	Research team member	2008
Innovative systems for fast evaluation of potentially toxic substances in drinks and aliments CEEX 68/2006	Research team member	2008
Biocontrol methodology development of microbial systems against fungal contamination – Project PNCDI II nr. 61-045/2007 (BIOCONTROL)	Research team member	2008-2010
Eco-efficiency solutions for plastics waste management using degradative potential of biological systems - Project PNCDI II 32-115/2008 (ECODEGRAD)	Research team member	2008-2011
<i>Trichoderma</i> fungal activator for odorant suppressive composts used on ornamental crops (84 CI/ 2012) (TRICH-ODOR)	Research team member	2012
Bioproducts for removal of potential carcinogens and carcinogenic	Research team member	2012

compounds in soils contaminated with petroleum products (100 CI/2012) (CANPOL)		
Complex fertilizers with endo-mycorrhizal spores and symbiotic mycorrhizal enhancers (121 CI/2012)	Research team member	2012-2013
Peroxynitrite Relevance for Food Safety and Novel Electrochemical Detection, PN-II-ID-PCE-2011-3-1076/ 184/2011,	Research team member	2011-2016
IMPROVED CURRICULA AND MODERN LEARNING SYSTEM TO PROMOTE THE NEW DIRECTIONS OF BUSINESS ENHANCEMENT IN LIFE SCIENCES APPLICATION, Project Pilot Leonardo da Vinci	Research team member	2013-2015
Multifunctional and innovative products for safe and bioenhanced functional food from newly cultivated plants in Romania (MAIA), PN-II-PT-PCCA-2013-4-0995/160/2014, 2014-2017.	Research team member	2014-2017
Complex management of plant residues on conservative agricultural systems - CERES	Research team member	2014-2017
Innovative solutions intended to increase energy efficiency in buildings and industrial equipment by using biodegradable thermal insulating composite materials (BIO-THERM). PN-II-PT-PCCA-2013-4-1709/085/2014 – 2016.	Research team member	2014-2017
Biotechnological valorization of animal waste substrates through degradative potential of keratinolytic fungi, Project PN 16.31.01.03.	Research team member	2016-2017
Conversion of phytogenic silica reach food industry by-products into value-added products (Convert-Si)	Research team member	20016-2019
Biosynthesis of selenium nanoparticles with augmented bioactivity (NANO-BIO-SEL), PN 18.22.01.01.	Research team member	2017-2018
Manufacturing of new online analytical systems for toxin hazard assessment in dairy industry, MANU NET (TOX-HAZ-ASSESS)	Research team member	2017-2019

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10.08.2020