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INFORMAŢII PERSONALE

# Răut Iuliana

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## EXPERIENŢA PROFESIONALĂ

Ianuarie 2015 – prezent
Principalele responsabilitati

**Cercetator Stiinţific gr. III in Biologie,**
**Echipa 6. Biotehnologii & Bioanalize, INCDCP ICECHIM** Bucuresti, Romania

Biotehnologie/microbiologie aplicata
Protectia si bioremedierea mediul
Întreţinerea colecţiei de microorganisme
Biodegradarea microbiana a unor materiale si substante
Biocontrolul infecţiilor fungice la plante folosind bacterii sau fungi antagonisti / Studiul mecanismului de antagonism microbian
Obtinere de bioproduse/biostimulanti
Sinteza nanoparticulelor de argint prin mecanisme fungice extracelulare
Selectie de microorganisme specializate pentru aplicatii practice
Izolarea si caracterizarea taxonomica a tulpinilor microbiene/incarcatura microbiana
Activitate antimicrobiana / Biofilme / Antibiofilme
Testarea susceptibilităţii antimicrobiene(metoda difuzimetrica si CMI,CMB), evaluarea activităţii antimicrobiene a nanomaterialelor şi extractelor vegetale,
Izolarea si identificarea microorganismelor implicate în biodeteriorarea artefactelor de patrimoniu cultural
Determinarea activităţii fungicide a unor substanţe dezinfectante şi elaborarea rapoartelor de evaluare conform standardelor: SR EN 1275, SR EN 1650, SR EN 13624.

Noiembrie. 2009 – Decembrie 2014

**Cercetator Stiinţific in Biologie**
**Echipa 6. Biotehnologii & Bioanalize, INCDCP ICECHIM** Bucuresti, Romania

Iulie 2008 – Octombrie 2009

**Asistent de cercetare in Biologie**
**Echipa 6. Biotehnologii & Bioanalize, INCDCP ICECHIM** Bucuresti, Romania

Biotehnologie/microbiologie aplicata
Protectia si bioremedierea mediul
Întreţinerea colecţiei de microorganisme
Biodegradarea microbiana a unor materiale si substante
Biocontrolul infecţiilor fungice la plante.
Activitate antimicrobiana

Mai 2006 – Iunie2008

**Asistent de cercetare in Microbiologie**
**INCDMI Cantacuzino, Bucuresti, Romania**

Tehnici de diagnostic micologic: (cultivare, izolare şi identificare fungi levurici şi filamentoşi).
Antibiograma/Antifungigrama (disc difuzimetrică, CMI).
Intreţinere colecţie microbiana
Determinarea incărcăturii microbiene a unor produse.
**Determinarea activităţii fungicide a unor substanţe dezinfectante şi elaborarea rapoartelor de evaluare conform standardelor: SR EN 1275, SR EN 1650, SR EN 13624.**

Septembrie 2005-Aprilie 2006

Profesor suplinitor
Scoala generala nr. 108 si Scoala generala nr. 93, Bucuresti, Romania

## EDUCAŢIE ŞI FORMARE

| | |
|---|---|
| Octombrie 2010 – Iunie 2016 | **Doctorat în Biologie**<br>(Ordinul Ministrului educatiei si cercetarii nr. **4954 din 17.08.2016)**<br>Universitatea Bucuresti – Facultatea de Biologie, Romania |
| Aprilie-Iunie 2013 | Stagiu de formare/cercetare la Institutul CSIC-CEBAS, din Murcia, Spania, în cdrul programului COST Action FA 1105. |
| Noiembrie 2008 | Curs Postuniversitar; Cursuri avansate de protectia mediului.<br>Realizări și perspective în biologie, organizat de Institutul de Biologie al Academiei Romane |
| Octombrie 2005 – Iunie 2007 | **Master Biologie Medicala**<br>Universitatea Bucuresti – Facultatea de Biologie, Romania |
| Octombrie 2001 – Iunie 2005 | **Diplomă de licentă**<br>Universitatea Bucuresti – Facultatea de Biologie, Romania |

## COMPETENTE PERSONALE

| | |
|---|---|
| Competenţe de comunicare | Bune competenţe de comunicare dobândite prin experienţa proprie |
| Competenţe informatice | O buna cunoastere a instrumentelor Microsoft Office (Word, Excel, Power Point, Outlook)., Internet. |
| Alte competenţe | Limbi straine: Engleza (mediu) |
| Competente legate de locul de munca | Domenii de expertiza: microbiologie, biologie, biotehnologie, protectia mediului.<br>Domenii de cercetare: microbiologie - microbiologie aplicata, testarea activitatii antimicrobiene, conservarea colectiei microbiene, izolare si identificare microorganisme, studierea mecanismelor antagonismului microbian.<br>Biotehnologie - protectia mediului, degradare microbiana, biocontrolul infectiilor fungice ale plantelor.<br><br>Participarea in **2025** la teste de competență organizate de catre SHAPYPRO S.L.U. (Albacete, Spania), pentru evaluarea activitatii levuricide a unui dezinfectant chimic. SHAPYPRO S.L.U. organizeaza o comparație interlaboratoare, a rezultatelor testelor cantitative pentru evaluarea activității fungicide în conformitate cu cerințele EN 13624:2021 (standard pentru dezinfectanții chimici și antisepticele utilizate în domeniul medical, alimentar, industrial, casnic și instituțional). In urma testarilor am primit un certificat de recunoastere a participarii si obtinerii unor rezultate bune. (**Iuliana Raut,** Mariana Constantin, Cristina Firinca). |

## ANEXE

### Publicaţii
### Articole ISI

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., Roşeanu A., Badea-Doni M., Oancea F., Jecu L., 2014. Inhibition of toxigenic *Aspergillus niger* by microbial metabolites. *Rev. Chim.*, 65(7): 779-783.
8. **Răut I.,** Badea-Doni M., Călin M., Oancea F., Vasilescu G., Şesan 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., Şesan 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**., Şesan 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. Nicolescu, **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. Doncea, 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 & Doncea, 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. Şesan, T. E., Oancea, A. O., Ştefan, 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, Ciric Alexandru, Mathe Endre, Radu Elena, Badea Doni Mihaela, Constantin Mariana, **Raut** Iuliana, Gurban Ana-Maria, Begea Mihaela. 2020. Study Regarding the Potential Use of a Spent Microbial Biomass in Fertilizer Manufacturing. 299. 10.3390/agronomy10020299.
22. T. Sandu, ML Jecu, **I Raut**, M Calin, E. Alexandrescu, TV Iordache, MV Dumitru, A Sarbu. 2020. Hybrid Beads Bearing Immobilized Bacteria as Advanced Means for the Removal of Acid Blue 93 Dye. Mater. Plast., 57 (3), 125-136.
23. Iuliana **Raut**, Mariana Calin, Luiza Capra, Ana Maria Gurban, Mihaela Doni, Nicoleta Radu, Luiza Jecu. *Cladosporium* sp. isolate as fungal plant growth promoting agent, Agronomy 2021, 11, 392. doi.org/10.3390/agronomy11020392.
24. ML Arsene, **I Răut**, M Călin, ML Jecu, M Doni and AM Gurban, Versatility of Reverse Micelles: From Biomimetic Models to Nano (Bio)Sensor Design, Processes, 2021, 9(2):345. doi: 10.3390/pr9020345.
25. V Purcar, V Rădiţoiu*, C Nichita*, A Bălan, A Rădiţoiu, S Căprărescu, Monica Raduly, R Manea, Raluca Şomoghi, CA Nicolae, **I.Raut**, LJecu, Preparation and characterization of silica-gentamicin nanohybrids obtained by microwave synthesis, ***Materials*** 2021, *14*(8), 2086; doi.org/10.3390/ma14082086

26. Iuliana **Răut**, Mariana Călin, Zina Vuluga, Florin Oancea, Jenica Paceagiu, Nicoleta Radu, Mihaela Doni, Elvira Alexandrescu, Violeta Purcar, Ana Maria Gurban, Ionela Petre, Luiza Jecu, Fungal based biopolymer composites for construction materials, Materials 2021, 14.
27. **Iuliana Raut**, Mariana Calin, Luiza Capra, Ana Maria Gurban, Mihaela Doni, Nicoleta Radu, Luiza Jecu. *Cladosporium* sp. isolate as fungal plant growth promoting agent, *Agronomy* 2021, 11, 392, MDPI, doi.org/10.3390/agronomy11020392
28. Florentina Monica Raduly, Valentin Rădiţoiu, Alina Rădiţoiu, Adriana Nicoleta Frone, Cristian Andi Nicolae, Violeta Purcar, Georgiana Ispas, Mariana Constantin, **Iuliana Răut.** Modeling the properties of curcumin derivatives in relation to the architecture of the siloxane host matrices. Materials. 2022. 15 (1), 267
29. Mariana Constantin, **Iuliana Raut**, Ana-Maria Gurban, Mihaela Doni, Nicoleta Radu, Elvira Alexandrescu, Luiza Jecu, Exploring the Potential Applications of *Paecilomyces Lilacinus* 112. *Applied Science,* 2022, *12*, 7572. https://doi.org/10.3390/app12157572
30. Suica-Bunghez Ioana Raluca. Covaliu Cristina, Sorescu Alexandra, Nistor Cristina, Constantin Mariana, **Raut Iuliana**, Ion Rodica Mariana, Silver nanoparticles obtained by eco-friendly method using *Galanthus nivalis* plant for wood conservation. 2022. *Optoelectronics and Advanced Materials – rapid communications* 16 (1-2): 79 – 89.
31. Silviu Preda, Jeanina Pandele-Cusu, Simona Viorica Petrescu, Elena Madalina Ciobanu, Gabriela Petcu, Daniela C. Culita ,Nicoleta G. Apostol, Ruxandra M. Costescu, **Iuliana Raut**, Mariana Constantin, Luminita Predoana. Photocatalytic and Antibacterial Properties of Doped TiO2 Nanopowders Synthesized by Sol-Gel Method. *Gels* 2022, 8, 673. https://doi.org/10.3390/gels8100673.
32. **Iuliana Răut,** Mariana Constantin, Ionela Petre, Monica Raduly, Nicoleta Radu, Ana-Maria Gurban, Mihaela Doni, Elvira Alexandrescu, Cristi-Andi Nicolae, Luiza Jecu, Highlighting Bacteria with Calcifying Abilities Suitable to Improve Mortar Properties. *Materials* 2022, *15*, 7259. https://doi.org/10.3390/ma15207259
33. L Todan, M Voicescu, DC Culita, D Lincu, RM Ion, M Călin, **I Răut.** A curcumin-loaded silica carrier with NH3 sensitivity and antimicrobial properties. Chemical Papers. 2022. 76 (5), 3087-3096
34. Mariana Constantin, **Iuliana Răut**, Raluca Suica-Bunghez, Cristina Firinca, Nicoleta Radu, Ana-Maria Gurban, Silviu Preda, Elvira Alexandrescu, Mihaela Doni, Luiza Jecu, *Ganoderma lucidum*-Mediated Green Synthesis of Silver Nanoparticles with Antimicrobial Activity, Materials 2023, 16(12), 4261, https://doi.org/10.3390/ma16124261
35. CR Dumitrescu, IA Neacsu, R Trusca, RC Popescu, **I Raut**, M Constantin. Piezoelectric biocomposites for bone grafting in dentistry. Polymers. 2023. 15 (11), 2446
36. FM Raduly, V Rădiţoiu, A Rădiţoiu, AN Frone, CA Nicolae**, I Răut**. Multifunctional Finishing of Cotton Fabric with Curcumin Derivatives Coatings Obtained by Sol–Gel Method. 2023. Gels 9 (5), 369
37. Firinca Cristina Zamfir, Lucian-Gabriel.; Constantin, Mariana.; **Raut, Iuliana**.; Capra, Luiza.; Popa, Diana.; Jinga, Maria.-Lorena.; Baroi, Anda.Maria.; Fierascu, Radu.Claudiu.; Corneli, Nicoleta-Olguta.; Carmen Preda., Badea Doni Mihaela, Jecu Luiza, Sesan Tatiana-Eugenia, Microbial Removal of Heavy Metals from Contaminated Environments Using Metal-Resistant Indigenous Strains.Jornal of Xenobiotics. 2024, *14*(1), 51-78;https://doi.org/10.3390/jox14010004
38. Raduly F.M., Raditoiu V., Raditoiu A., Grapin M., Constantin M., **Răut I.,** Nicolae C.A., Frone A.N. Ag0–Ginger Nanocomposites Integrated into Natural Hydrogelated Matrices Used as Antimicrobial Delivery Systems Deposited on Cellulose Fabrics. Gels, 2024, 10(2), 106. https://doi.org/10.3390/gels10020106
39. Șuică-Bunghez I.R., Senin R.M., Sorescu A.A., Ganciarov M., **Răut I**., Firincă C., Constantin M., Gifu I.C., Stoica R., Fierăscu I.; Fierascu RC. Application of *Lavandula angustifolia* Mill. Extracts for the Phytosynthesis of Silver Nanoparticles: Characterization and Biomedical Potential. Plants, 2024, 13(3), 333. https://doi.org/10.3390/plants13030333
40. Raduly F.M., Raditoiu, V., Raditoiu A., Grapin M., Fierascu R.C., **Raut I.,** Constantin M. Functionalized Palygorskite as a Delivery Platforms for Bioactive Asymmetric Beta-Diketone Dyes. Crystals, 2024, 14(7), 659. https://doi.org/10.3390/cryst14070659
41. I.A. Bala, T.E. Sesan, A.O. Oancea, O. Crăciunescu, M. Ghiurea, R. Tatia, **I. Răut**, D. Constantinescu-Aruxandei, F. Oancea. Influence of foliar treatment with a suspension rich in *Trichoderma* chlamydospores on Momordica charantia yield and quality. Horticulturae, 2024 10(4), 371. https://doi.org/10.3390/horticulturae10040371
42. **Raut I**., Constantin M., Șuică-Bunghez R., Firinca C., Alexandrescu E., Gifu I,C., Doni M., Zamfir L,G., Gurban A,M,, Jecu L. Extracellular Biosynthesis, Characterization and Antimicrobial Activity of Silver Nanoparticles Synthesized by Filamentous Fungi. J. of Fungi, 2024, 10(11), 798. https://doi.org/10.3390/jof10110798
43. C Firincă, LG Zamfir, M Constantin, **I Răut**, ML Jecu, M Doni, AM Gurban. Innovative Approaches and Evolving Strategies in Heavy Metal Bioremediation: Current Limitations and Future Opportunities. 2025. Journal of Xenobiotics 15 (3), 63
44. L Todan, M Voicescu, DC Culita, I Atkinson, EM Soare, **I Raut**. Natural pigments in anionic layered clays as fluorescent indicators for volatile amines with antimicrobial properties. Chemical Papers. 2025. 79 (10), 7117-7125
45. Ramona Marina Grigorescu, Rodica-Mariana Ion, Lorena Iancu, Sofia Slamnoiu-Teodorescu, Anca Irina Gheboianu, Elvira Alexandrescu, Madalina Elena David, Mariana Constantin, **Iuliana Raut**, Celina Maria Damian, Cristian-Andi Nicolae, Bogdan TricaSustainable and Functional Polymeric Coating for Wood Preservation. Coatings. 2025. 15 (8), 875
46. LG Zamfir, I Răut, M Constantin, NO Corneli, C Firincă, ML Jecu, P Epure. Assessment of biogenic amines produced by microorganisms as food spoilage indicators by sensitive detection using portable opto-electrochemical tools based on biosensors.

Food Control. 2025. 172, 111161.

47. Firincă, Cristina; Constantin, Mariana; Zamfir, Lucian; **Răut, Iuliana**; Jecu, Luiza; Doni, Mihaela; Gurban, Ana-Maria. Fungal Factories for Feeding the Future: Mycoproteins as a Sustainable Protein Source at The Interface of Food, Health, and Biotechnology Innovation. Sustainable Food Technology. Trimis spre publicare 24.11.2025
48. Florentina Monica Raduly, Valentin Raditoiu *, Alina Raditoiu, **Iuliana Raut** and Cristian-Andi Nicolae. Copper complexes of some polyphenols extracted from Taraxacum officinale and their immobilization on sericite-based hybrid supports. Molecules.MDPI. Trimis spre publicare noiembrie 2025.

## Alte publicatii (non ISI)

1. Drăcea O., Larion C., Chifiriuc M. C., **Răut I.,** Limban C., Niculescu G. M., Bădiceanu C. D., Israil A. M., 2009. New thioureides of 2-(4-methylphenoxymethyl) 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 dermatophytoses, 2013, **S**cientific 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, Olguţa Drăcea, Iuliana **Răut**, 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 **Răut,** Diana Constantinescu-Aruxandei, Mihaela Badea Doni, Melania- Liliana Arsene, Nicoleta-Olguţa Corneli, Gelu Vasilescu, Luiza Jecu, Mariana Ştefania 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. SSN 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.
10. Ioana Raluca Suica-Bunghez, Ana Alexandra Sorescu, Sanda Maria Doncea, Mariana Constantin, **Iuliana Raut**, Rodica Mariana Ion. 2020. Phytochemical antioxidant and antimicrobial characterization of Hedera helix L. extract. Journal of Plant Development. Vol. 27: 47-53
11. MARIANA CONSTANTIN, ROXANA RODICA CONSTANTINESCU, MIHAELA GANCIAROV, RALUCA SUICA-BUNGHEZ, ANA-MARIA GURBAN, CRISTINA FIRINCA, GELU VASILESCU, LUIZA JECU, **IULIANA RAUT**, MADALINA IGNAT. ECO-FRIENDLY BIODEGRADATION OF SKINS AND HIDES BY KERATINOLYTIC FUNGUS Cladosporium SP.. ICAMS 2022 – 9 th International Conference on Advanced Materials and Systems.

## Capitole de carte:

1. S. Doncea, R. Ion, **I. Raut,** Antimicrobial activity of hydroxyapatite nanoparticles on contaminated old book papers, 2016, Verlag Berger, Horn/Wien
2. **Răut I**., Şesan T.E., Arsene M.L.*, Badea-Doni M., Jecu L., Călin M., Vasilescu G., Volatile and non-volatile metabolites of *Trichoderma* with biocontrol implications, in: *Trichoderma spp. – applications in agriculture and horticulture* Oancea F., Editura Universităţii din Bucureşti, (*trimis spre publicare 2017*).
3. Arsene M.L.*, Jecu L., Badea-Doni M., **Răut I.,** Oancea F., Călin M., Bioactivity and biological role of secondary metabolites produced by *Trichoderma* spp., in: *Trichoderma spp. – applications in agriculture and horticulture,* Editura Universităţii din Bucureşti (*trimis spre publicare 2017*).
4. Arsene M.L., Badea-Doni M., Jecu Luiza*, **Răut I.,** Călin M.,, Chemical structure of secondary metabolites from *Trichoderma,*

in: *Trichoderma spp. – applications in agriculture and horticulture,* Editura Universităţii din Bucureşti (*trimis spre publicare 2017*).

5. M Calin**, I Raut**, ML Arsene, M Doni, AM Gurban, L Jecu, Cap. 4. Isolation and identification of microorganisms involved in the biodeterioration of cultural heritage artifacts In: *Practical exemples regarding the valorization of cultural heritage through archaeometry studies using nuclear techniques and other scientific methods.* R.C. Fierascu, I. Fierascu, M. Doni, eds, Ed. Printech ISBN 978-60-23-0888-9, Bucharest, 2018, ISBN: 978-973-0-27114-0
6. Mariana Călin, **Iuliana Răut,** Ana Maria Gurban, Mihaela Doni, Nicoleta Radu, Luiza Jecu, Chapter 5. *Microbial contamination of wooden cultural heritage artifacts belonging to the selected objectives* În Archeometrical study of selected objectives form Golesti Museum of Viticulture and Pomiculture**.** RC Fierescu, I Fierescu, M Doni (eds.), Ruse Press, pg 189-223, 2020, ISBN 978-619-91466-1-3.
7. N Radu, N Babeanu, P Cornea, M Calin, L Jecu, **I Raut,** AM Gurban, M Doni, Chapter 4. Paintings characteristics from inside of wooden churches achieved in the period 1750-1850, În Archeometrical study of selected objectives form Golesti Museum of Viticulture and Pomiculture. RC Fierescu, I Fierescu, M Doni (eds.), Ruse Press, pg 153-189, 2020. , ISBN 978-619-91466-1-3.
8. **I Raut,** M Calin, ML Arsene, M Doni, AM Gurban, L Jecu, Cap. 5. Microbial deterioration of textile and wood artifacts, In: *Valorization of cultural heritage through archaeometry studies using nuclear techniques and other scientific methods. General considerations and short literature survey*. R.C. Fierascu, I. Fierascu, M. Doni, eds, Published in .pdf Acrobat Reader format – CD-ROM, Bucharest, 2018, ISBN: 978-973-0-27114-0.

## Proiecte nationale si internationale. Selectie

| Proiect | Functie | Perioada |
|---|---|---|
| Partnership for the synthesis, characterization physicochemical and biological activity testing of new tioureide with anti-infectious action. PN II 41-043/ 2007 | Membru in echipa de cercetare | 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 | Membru in echipa de cercetare | 2007 -2010 |
| Advanced solutions for reducing of the volatile organic compounds content in surface and underground waters – Project CEEX 127/2006 | Membru in echipa de cercetare | 2008 |
| Innovative systems for fast evaluation of potentially toxic substances in drinks and aliments CEEX 68/2006 | Membru in echipa de cercetare | 2008 |
| Biocontrol methodology development of microbial systems against fungal contamination – Project PNCDI II nr. 61-045/2007 (BIOCONTROL) | Membru in echipa de cercetare | 2008-2010 |
| Eco-efficiency solutions for plastics waste management using degradative potential of biological systems - Project PNCDI II 32-115/2008 (ECODEGRAD) | Membru in echipa de cercetare | 2008-2011 |
| *Trichoderma* fungal activator for odorant suppressive composts used on ornamental crops (84 CI/ 2012) (TRICH-ODOR) | Membru in echipa de cercetare | 2012 |
| Bioproducts for removal of potential carcinogens and carcinogenic compounds in soils contaminated with petroleum products (100 CI/2012) (CANPOL) | Membru in echipa de cercetare | 2012 |
| Complex fertilizers with endo-mycorrhizal spores and symbiotic mycorrhizal enhancers (121 CI/2012) | Membru in echipa de cercetare | 2012 |
| Stabilirea cauzelor proceselor de deteriorare prematură a componentelor din otel inoxidabil ale unor hidroagregate Contract cu UPB, 2012 - membru în echipa de cercetare.. | Membru in echipa de cercetare | 2012 |
| Peroxynitrite Relevance for Food Safety and Novel Electrochemical Detection, PN-II-ID-PCE-2011-3-1076/ 184/2011, | Membru in echipa de cercetare | 2011-2016 |
| IMPROVED CURRICULA AND MODERN LEARNING SYSTEM TO PROMOTE THE NEW DIRECTIONS OF BUSINESS ENHANCEMENT IN LIFE SCIENCES APPLICATION, Proiect Pilot Leonardo da Vinci | Membru in echipa de cercetare | 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. | Membru in echipa de cercetare | 2014-2017 |
| Complex management of plant residues on conservative agricultural systems - CERES | Membru in echipa de cercetare | 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. | Membru in echipa de cercetare | 2014-2017 |
| Biotechnological valorization of animal waste substrates through degradative potential of keratinolytic fungi, Project PN 16.31.01.03. | Membru in echipa de cercetare | 2016-2017 |

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|---|---|---|
| Conversion of phytogenic silica reach food industry by-products into value-added products (Convert-Si) | Membru in echipa de cercetare | 20016-2019 |
| Biosynthesis of selenium nanoparticles with augmented bioactivity (NANO-BIO-SEL), PN 18.22.01.01. | Membru in echipa de cercetare | 2017-2018 |
| Manufacturing of new online analytical systems for toxin hazard assessment in dairy industry, MANU NET (TOX-HAZ-ASSESS) | Membru in echipa de cercetare | 2017-2019 |
| Biotechnological strategies for innovative construction materials incorporating bacterial bioproduct (BioConstrMater) | Membru in echipa de cercetare | 2020-2022 |
| Realizarea unui sistem portabil bazat pe un senzor inovativ pentru monitorizarea nitritului in sol (Manunet-NITRISENS 216/2020)- - membru în echipa de cercetare. | Membru in echipa de cercetare | 2020-2022 |
| Detectia aminelor biogene în alimente bazata pe o platforma inovativa opto-electrosenzitiva (PED 662/2022-AMI-FOOD)- membru în echipa de cercetare. | Membru in echipa de cercetare | 2022-2024 |
| Nanomateriale inovatoare bazate pe fulerenol-hidrogeluri pentru diagnosticarea sanatatii si aplicatii de ingrijire (FULSENS-GEL) contract mEraNet 318/2022 | Membru in echipa de cercetare | 2022-2024 |
| Dezvoltarea de noi materiale pentru abordarea integrate a protectiei rezurselor de apa:de la detective la depoluare - AQUAMAT | Membru in echipa de cercetare | 2022-2025 |
| Îmbunătățirea siguranței alimentelor prin monitorizarea reziduurilor de medicamente în lanțul alimentar folosind instrumente portabile inovatoare. Biosensitive -Contract nr. 73PED/2025; PN-IV-P-7.1-PED-2024-1277 | Membru in echipa de cercetare | 2025-2027 |
| Sisteme bio-inspirate bazate pe pigmenti de interferenta utilizati ca materiale de ecranare a luminii – UV extensa.PN-IV=P7-7.1-PED-2024-0838 | Membru in echipa de cercetare | 2025-2027 |

**Lista brevete si cereri de brevet**

17 cereri de brevet OSIM (co autor)
1 brevet OSIM (autor)
10 brevete OSIM (co autor)
1 brevet European EP 2738267 A1/11.02.2016 (co autor)
2 brevete EPO EP13464002/2013; EP12464023/2012 (co autor)
2 brevet WIPO WO2015072872A1/2015, WO2017091096A2/2016 (co autor)

Brevete/cereri - selectie

| 2020 | | |
|---|---|---|
| Metoda de biotestare a analogilor de strigolactone, F Oancea, I Raut, M Calin, M Doni, ML Arsene, L Jecu | F Oancea, I Raut, M Calin, M Doni, ML Arsene, L Jecu | Brevet acordat RO 131933/2020 |
| Procedeu de crestere a biocompatibilitatii materialelor plastice si produs biocompozit rezultat din acesta | F Oancea, Z Vuluga, M Calin, I Raut, M Doni, ML Jecu, J Paceagiu, M Iorga, F Dorel | Brevet acordat RO 132559/2020 |
| Procedeu de conditionare a microorganismelor biostimulante pentru plante pe suporturi ceramice poroase | **I Raut**, F Oancea, TE Sesan, M Doni, ML Arsene, ML Jecu, M Calin PN-III-P1-1.1-PRECBVT-2020-2585 | Brevet acordat RO 131926/2020 |
| Procedeu de crestere a eficientei procesului de biomineralizare realizat de microorganismele inglobate in materiale de constructie | F Oancea, I Raut, M Doni, Z Vuluga, M Calin, ML Arsene, ML Jecu | Brevet acordat RO/132572/2020 |
| Procedeu de obţinere a unui biostimulant pentru tratamentul şi colonizarea resturilor vegetale şi creşterea toleranţei la uscare şi reactivare prin rehidratare a tulpinilor biostimulante de Trichoderma | Oancea Florin, Răut Iuliana, Sesan Tatiana Eugenia , Velea Sanda Doni Mihaela, Stoica Rusăndica, Jecu Luiza Maria | 3/47/29.05.2020 acordare brevet pentru cererea de brevet de inventie nr. 2016 – 859 |
| Consortiu de Trichoderma cu actiune de biostimulare a plantelor | Raut Iuliana, Sesan Tatiana Eugenia, Oancea Florin, Doni Mihaela, Arsene Melania Liliana, Jecu Maria Luiza, | 3/70/30.06.2020 acordare brevet pentru cererea de brevet de inventie nr 2015 -924 |

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|---|---|---|
| | Calin Mariana | |
| Procedeu de obtinere a unor pelete bioactive cu microorganism din substrat epuizat de cultura ciupercilor | F Oancea, S Velea, M Popescu, I Raut | Brevet nr 131931/2020 |
| | 2021 | |
| Compozitie mediu de cultura pentru sporulare. | N Radu, M Constantin, I Raut, G Vasilescu Panea, AM Gurban, M Doni, L Jecu, | Cerere de brevet nr. A/00663/05.11.2021 |
| Procedeu de solubilizare a siliciului din material vegetal. | F. Oancea, D. Constantinescu-Aruxandrei, I Răut , M Doni, O S Dima, ML Arsene, ML Jecu | Brevetul RO132515 B1/2021 |
| Procedeu de obtinere a unor películe nanocompozite destinate protejarii componentelor arhitecturale litice ale patrimoniului cultural. | V Fruth, Todan L, Predoana L, Poenaru A, Ariciov L, AR Leonte, Ciobanu EM, Petcu G, RM Ion, L Iancu, LM Jecu, I Raut, M Calin | Brevet RO134390/30.08.2021 |
| Compozitie de biostimulant pentru plante pe baza de lana, siprocedeu de obtinere. | Oancea Florin, Călin Mariana, Constantinescu-Aruxandrei Diana, RăutIuliana, Doni Mihaela, Arsene Melania Liliana, Jecu Maria-Luiza | Brevet RO133240 B1/30.08.2021 |
| | 2022 | |
| Procedeu de funcţionalizare a fibrelor textile naturale celulozice cu compoziţii antimicrobiene cu nanoparticule de seleniu | Raduly Florentina Monica, Rădiţoiu Valentin,Rădiţoiu Alina, Purcar Violeta, Bivolaru Andreea-Mălina, Răut Iuliana, Constantin Mariana | Cerere de brevet de inventie nr. A 2022-00645/18.10.2022 |
| Hidroxid ternar dublu lamellar impermeabil şi activitate antimicrobiană | Ion Rodica Mariana, Rizescu Claudiu Eduard, Ion Nelu, Iancu Lorena, Grigorescu Ramona Marina, Răut Iuliana, Constantin Mariana | Cerere de brevet de inventie nr. A 2022-00653/19.10.2022 |
| Procedeu de realizare a unui senzor electrochimic miniaturizat pentru determinarea nitrurilor din sol | Gurban Ana Maria, Doni Mihaela, Zamfir Lucian Gabriel Jecu Maria Luiza, Răut Iuliana Constantin Mariana | Cerere de brevet de inventie nr. A2022-00743/18.11.2022 |
| | 2023 | |
| Biomateriale cu nanoparticule de argint şi metaboliţi de *Ganoderma lucidum* şi procedeu de obţinere a acestora | Constantin Mariana, Raut Iuliana, Bunghez Suica Raluca, Gurban Ana-Maria, Firinca Cristina, Zamfir Lucian-Gabriel, Vasilescu Gelu, Radu Nicoleta, Jecu Maria-Luiza | Cerere de brevet de inventie nr. A00123/14.03.2023 |
| Procedeu de realizare a unor biosenzori electrochimici bazați pe nanomateriale pentru determinarea de amine biogene | Zamfir L-G, Gurban A.-M., Doni M., Jinga M-L, Raut I., Constantin M., Jecu M-L | Cerere de brevet de inventie nr. A00443/10.08.2023 |
| | 2024 | |
| Procedeu de realizare a unei platforme multi-senzitivă bazată pe nanomateriale inovative pentru monitorizarea unor biomarkeri de importanță clinică | Ana-Maria Gurban, Lucian-Gabriel Zamfir, Mihaela Doni, Mariana Constantin, Iuliana Răut, Cristina Firincă, Luiza Jecu | Cerere de brevet de inventie nr. A00687/2024 |

**Premii - selectie**

Premiul Special la International Symposium Priorities of Chemistry for a Sustainable Development PRIOCHEM - 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.
Premiu CNCSIS Romania acordat pentru articol publicat in *J. Polym. Envir*on, 2010, 18, 284-290.
Premiu CNCSIS Romania acordat pentru articol publicat in *Dalton Transactions*, 2015, 44, 7844 – 7853.
Premiu CNCSIS Romania acordat pentru articol publicat in *Ceramics International*, 2016, 42: 3033–3045.

Premiu CNCSIS Romania acordat pentru articol publicat in *Plos One*, 2017, 12(3): e0174069.
Premiu CNCSIS Romania acordat pentru articol publicat in *Molecules*. 2017, 22: 961.
Premiu CNCSIS Romania acordat pentru articol publicat in *Agronomy* 2019, *9*, 543.
Premiu CNCSIS Romania acordat pentru articol publicat in *Agronomy* 2020, 10(2):299
Premiu CNCSIS Romania acordat pentru articol publicat in *Microorganisms* 2020, 8(1):123

| Nr. | Lucrare | Denumire premiu si unitatea care l-a acordat |
|---|---|---|
| 1 | *Procedure for realization of electrochemical biosensors based on nanomaterials for biogenic amines determination*. LG Zamfir, AM Gurban, M Doni, L. Jinga, I Răut, M Constantin, ML Jecu. | Gold medal, at the 9th of the International Invention Innovation Competition in Canada, ICan 2024. 24 august 2024, Toronto, Canada. |
| 2 | *Procedure for realization of electrochemical biosensors based on nanomaterials for biogenic amines determination*. LG Zamfir, AM Gurban, M Doni, L. Jinga, I Răut, M Constantin, ML Jecu. | The International Exhibition of Innovation and Technological Transfer, innoCenta 2024. Medalie aur |
| 3 | *Procedure for manufacturing of a miniaturized nanocomposite based multisensing platform for the monitoring of clinically relevant biomarkers.* Ana-Maria Gurban, Lucian-Gabriel Zamfir, Mihaela Doni, Catalina Gifu, Luiza Jecu, Iuliana Raut, Mariana Constantin, Cristina Firinca. | International Salon of Innovation and Inventions EURO-POLITEHNICUS, November 22-24, 2024, Bucharest, Romania – Medalie aur acordata de Ministerul Cercetarii |
| 4 | *Procedure for manufacturing of a miniaturized nanocomposite based multisensing platform for the monitoring of clinically relevant biomarkers.* Ana-Maria Gurban, Lucian-Gabriel Zamfir, Mihaela Doni, Catalina Gifu, Luiza Jecu, Iuliana Raut, Mariana Constantin, Cristina Firinca. | International Salon of Innovation and Inventions EURO-POLITEHNICUS, November 22-24, 2024, Bucharest, Romania. Diploma Excelență acordata de Asociatia Justin Capra. |
| 5 | *Procedure for manufacturing of a miniaturized nanocomposite based multisensing platform for the monitoring of clinically relevant biomarkers.* Ana-Maria Gurban, Lucian-Gabriel Zamfir, Mihaela Doni, Catalina Gifu, Luiza Jecu, Iuliana Raut, Mariana Constantin, Cristina Firinca. | International Salon of Innovation and Inventions EURO-POLITEHNICUS, November 22-24, 2024, Bucharest, Romania. Diploma Excelență acordata de UP Timisoara. |
| 6 | *Procedure for manufacturing of a miniaturized nanocomposite based multisensing platform for the monitoring of clinically relevant biomarkers*. Ana-Maria Gurban, Lucian-Gabriel Zamfir, Mihaela Doni, Catalina Gifu, Luiza Jecu, Iuliana Raut, Mariana Constantin, Cristina Firinca. | 48th International Invention Show – INOVA2024, October 16-19, 2024, Zagreb, Croatia. Medalie argint |
| 7 | *Innovative fullerenol-hydrogels based nanomaterials for health diagnostic and care applications.* Ana-Maria Gurban, Lucian-Gabriel Zamfir, Mihaela Doni, Mihai Mitrea, Petru Epure, Maria-Luiza Jecu, Cristina Firinca, Mariana Constantin, Iuliana Raut. | 48th International Invention Show – INOVA2024, October 16-19, 2024, Zagreb, Croatia. Medalie argint |
| 8 | *Procedure for manufacturing of a miniaturized nanocomposite based multisensing platform for the monitoring of clinically relevant biomarkers*. Ana-Maria Gurban, Lucian-Gabriel Zamfir, Mihaela Doni, Catalina Gifu, Luiza Jecu, Iuliana Raut, Mariana Constantin, Cristina Firinca. | International Invention and Trade Expo London, Kingston University- ITE2024, September 24-25, London, Great Britain. Medalie de aur |

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| 9 | *Procedure for realization of electrochemical biosensors based on nanomaterials for biogenic amines determination*. Zamfir LG, Gurban AM, Doni M, Jinga ML, Raut I, Constantin M, Jecu ML. | The 16th Edition of EUROINVENT – European Exhibition of Creativity and Innovation Iași, Romania, June 6-8, 2024. Medalie de aur |
| 10 | *Procedure for realization of electrochemical biosensors based on nanomaterials for biogenic amines determination.* Zamfir LG, Gurban AM, Doni M, Jinga ML, Raut I, Constantin M, Jecu ML. | Salonul Internațional de Invenții și Inovații „TRAIAN VUIA" Timișoara, ediția a X -a, în perioada 13-15 iunie 2024. Medalie de aur |
| 11 | *Procedure for realization of a miniaturized electrochemical multisensing platform based on nanocomposites and enzymatic bioreceptors for the monitoring of clinically relevant biomarkers*. Ana-Maria Gurban, Lucian-Gabriel Zamfir, Mihaela Doni, Iuliana Raut, Mariana Constantin, Cristina Firinca, Luiza Jecu. | Kaohsiung International Invention and Design EXPO (KIDE) 2024, Kaohsiung Exhibition Center (KEC), December 5-7, 2024, Qianzhen District, Kaohsiung, Taiwan. Medalie de aur |
| 12 | *Procedure for realization of electrochemical biosensors based on nanomaterials for biogenic amines determination*. Zamfir LG, Gurban AM, Doni M, Jinga ML, Raut I, Constantin M, Jecu ML. | Kaohsiung International Invention and Design EXPO (KIDE) 2024, Kaohsiung Exhibition Center (KEC), December 5-7, 2024, Qianzhen District, Kaohsiung, Taiwan. Medalie de aur |

Data: ianuarie 2026

Răut Iuliana