




PERSONAL INFORMATION

Laura Mădălina Cursaru

 102 Biruintei Blvd., PO 077145, Ilfov county, Romania
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WORK EXPERIENCE

January 2022 – present

Senior researcher 1st degree (CS I)

NATIONAL RESEARCH–DEVELOPMENT INSTITUTE FOR NON-FERROUS AND RARE METALS, INCDMNR-IMNR, Pantelimon, 077145, Ilfov, Romania, www.imnr.ro

Hydrothermal synthesis of nanostructured materials; Participation as project responsible / project director in national and international projects; Mentoring young researchers in the field of synthesis and characterization of nanostructured materials; Hydrothermal-electrochemical deposition of thin films.

Business or sector Research and development

May 2017 – December 2021

Scientific researcher 2nd degree (CS II)

NATIONAL RESEARCH–DEVELOPMENT INSTITUTE FOR NON-FERROUS AND RARE METALS, INCDMNR-IMNR, Pantelimon, 077145, Ilfov, Romania, www.imnr.ro

Hydrothermal synthesis of nanostructured materials; Hydrothermal-electrochemical deposition of thin films; Preparation of "pastes" for obtaining 3D structures; FT-IR characterization of powders, liquids and thin films; In situ monitoring of hydrothermal reactions using RAMAN probe; Participation as project responsible / project director in national and international projects.

Business or sector Research and development

January 2009 – April 2017

Scientific researcher 3rd degree (CS III)

NATIONAL RESEARCH–DEVELOPMENT INSTITUTE FOR NON-FERROUS AND RARE METALS, INCDMNR-IMNR, Pantelimon, 077145, Ilfov, Romania, www.imnr.ro

Hydrothermal synthesis of nanostructured materials; Hydrothermal-electrochemical deposition of thin films; Preparation of "pastes" for obtaining 3D structures; FT-IR characterization of powders, liquids and thin films; In situ monitoring of hydrothermal reactions using RAMAN probe; Participation as key person/project responsible /project director in national and international projects.

Business or sector Research and development

January 2008 – December 2008

Scientific research assistant (ACS)

NATIONAL RESEARCH–DEVELOPMENT INSTITUTE FOR NON-FERROUS AND RARE METALS, INCDMNR-IMNR, Pantelimon, 077145, Ilfov, Romania, www.imnr.ro

Hydrothermal synthesis of nanostructured materials; Hydrothermal-electrochemical deposition of thin films FT-IR characterization of powders, liquids and thin films using FT-IR spectrometer ABB MB 3000; Participation as young researcher in national and international projects.

Business or sector Research and development

June 2005 – December 2007

Engineer

NATIONAL RESEARCH–DEVELOPMENT INSTITUTE FOR NON-FERROUS AND RARE METALS, INCDMNR-IMNR, Pantelimon, 077145, Ilfov, Romania, www.imnr.ro

Hydrothermal synthesis of nanostructured materials; Hydrothermal-electrochemical deposition of thin films; Participation as young researcher in national and international projects.

Business or sector Research and development

November 2002 – May 2005

Engineer

S.C. INSTITUTE FOR NON-FERROUS AND RARE METALS S.A. (S.C. I.M.N.R. S.A.), Pantelimon, 077145, Ilfov, Romania, www.imnr.ro,

Hydrothermal synthesis of hybrid nanostructured materials; Hydrothermal-electrochemical deposition of thin films; Participation as young researcher in national and international projects.

Business or sector Research and development

EDUCATION AND TRAINING

11 November – 02 December 2021

Entrepreneurial skills

FRONTIER Management Consulting SRL

22 June 2020 – 29 June 2020

Entrepreneurial skills course graduation certificate

Training program "Entrepreneurial skills" (online course) CIT-IRECSON, Technological Information Center SRL, Bucharest

7 May 2018 – 11 May 2018

Graduation certificate for the occupation "Expert in accessing European structural and European cohesion funds", COR code 242213

Intratest S.A., Bucharest

15 March 2011 – 29 March 2011

Graduation certificate for the occupation "Trainer", code COR 241205

Euro Best Team SRL, Buharest

Course accredited by the National Council for Professional Training of Adults (CNFPA), Bucharest

June 2010 – March 2013	Postdoctoral researcher in the field of BIOMATERIALS Romanian Academy - "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania Postdoctoral research contract no. 2078/01.06.2010, title "Hybrid nanostructured materials based on ionic polyurethanes and calcium phosphates with potential applications in tissue engineering"	EQF level 8
November 2003 – May 2008	PhD in Chemistry University POLITEHNICA of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Applied Physical Chemistry and Electrochemistry Thesis title: "Hybrid nanocomposite materials based on hydroxyapatite and maleic copolymers"	EQF level 8
October 2002 – June 2003	Postgraduate diploma in the field of Thermodynamics and Advanced Electrochemistry University POLITEHNICA of Bucharest, Faculty of Industrial Chemistry, Applied Physical Chemistry and Electrochemistry Department	EQF level 7
October 1997 – July 2002	Diplomat engineer in chemistry University POLITEHNICA of Bucharest, Faculty of Industrial Chemistry, Department of Macromolecular Compounds Technology	EQF level 6

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C1	C1	C2
French	B1	C2	A2	A1	A2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Digital competence Known programs: Microsoft Office, Origin Pro 8, HSC Chemistry 9, equipment software(Horizon MB™ FT-IR, NOVA2.1 – Metrohm Autolab potentiostat PGSTAT 128N).

Projects / Publications

Projects list (selection)

- POC/62/1/3 Cod SMIS 2014+: 114698, nr. 319/28.08.2020 „Development of the innovation capacity of HYNAMAT SRL by obtaining new types of nanostructured hybrid powders based on nanostructured biocompatible ceramic materials and commercial polymers with biomedical applications” – **Project director** (2020-2022)
- New product fabricated by extrusion-based 3D printing from marine bio-waste (3D BIOPRO), ctr. 499PED/01.10.2020 - **Project director**
- MANUNET 208/01.12.2020 Manufacturing technologies for environmental and energy applications (acronym NYMPH) – **key person**
- Postdoctoral research project - type PD CNCISIS-UEFISCDI, PNII-RU-PD16, title “New hybrid materials based on inorganic nanoparticles functionalized with macromolecular structures with controlled architectures” – **Project director** (2010-2012)
- PN-II-PT-PCCA-2011-3.2-1368, ctr. 167/2012 / Technologies for obtaining leather articles with self-protection properties, by functionalizing the surface with oxide and metal nanoparticles, for advanced applications, Acronym SELFPROPIEL (2012-2016) – **Project responsible**
- Core Programme 2019, Cod PN 19190101 „3D structures based on advanced materials, obtained by additive manufacturing, with environmental and energy storage applications” – **Project responsible** (2019-2022)
- Core Programme 2018, Cod PN 18070101, “3D printing processes for the use of nanostructured materials in the development of porous ceramic structures” – **Project responsible** (2018)
- Translational proof of concept of spintronic micro-nanoparticle non thermal vibrational therapy for glioblastomas, project code ERANET-EURONANOMED II-NANOVIBER (2017-2020) – **key person**
- Development of a non-invasive breath test for early diagnosis of tropical diseases, Acronym TROPSENSE, project MSCA-RISE-2014: Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE), Grant no. 645758 (2015-2019) – **key person**
- New ocular implant with high biocompatibility and proliferation rate, Acronym ORBIMPLANT, ctr. PN-II-PT-PCCA-2013-4, Ctr. 114/2014 (2014-2017) – **key person**
- PPI/PEI dendrimers immobilised iron oxide nanoparticles as contrast agents for cancer detection, Acronym NANOCAGE, JRP Ctr. IZERZO No. 14214 and PNII-Ideii, Ctr. 4/RO-CH/RSRP/2012 (2012-2016) – **key person**
- Innovative methods for enhancing high temperature thermal energy storage properties of phase change materials, Acronym EHERHIGH, POC-A1-A1.1.4-E-2015, Ctr. no. 93/2016-2019 - **member of the project management and implementation team**

Publications list (selection)

- L. M. Cursaru**, M. Iota, R. M. Piticescu, D. Tarnita, S. V. Savu, I. D. Savu, G. Dumitrescu, D. Popescu, R.-G. Hertzog, M. Calin, Hydroxyapatite from Natural Sources for Medical Applications, **Materials** 15(15), 5091, **2022**.
- S. Chiriac, M.-E. Puscasu, I. A. Tudor, A. C. Matei, **L. M. Cursaru**, R. R. Piticescu, Development of 3D ZnO-CNT Support Structures Impregnated with Inorganic Salts, **Membranes** 12(6), 588, **2022**.

3. **L.-M. Cursaru**, S.N. Valsan, M.-E. Puscasu, I.A. Tudor, N. Zarnescu-Ivan, B.S. Vasile, R.M. Piticescu, Study of ZnO-CNT Nanocomposites in High Pressure Conditions. **Materials** 14, 5330, **2021**.
4. I. D. Savu, D. Tarniță, S. V. Savu, G. C. Benga, **L.M. Cursaru**, D. V. Dragut, R. M. Piticescu, D. N. Tarniță, Composite Polymer for Hybrid Activity Protective Panel in Microwave Generation of Composite Polytetrafluoroethylene -Rapana Thomasiana, **Polymers**, 13, 2432, **2021**.
5. M.F. Diouani, M. Sayhi, Z.R. Djafar, S.B. Jomaa, K. Belgacem, H. Gharbi, M. Ghita, **L.M. Popescu**, R. Piticescu, D. Laouini, Magnetic Separation and Centri-Chronoamperometric Detection of Foodborne Bacteria Using Antibiotic-Coated Metallic Nanoparticles, **Biosensors**, 11(7), 205, **2021**.
6. **L.M. Popescu**, R.M. Piticescu, A.M. Motoc, L.M. Voinea, S.L. Gradinaru (Istrate), D. Ulieru, A. Topor, Three-dimensional structures based on hydroxyapatite and polyurethane diol obtained through 3D printing technology, **Brevet European EP 3366319B1 / 26.08.2020**.
7. **L.M. Cursaru**, R. M. Piticescu, D.V. Dragut, R. Morel, C. Thébault, M. Carrière, H. Joisten, B. Dieny, One-Step Soft Chemical Synthesis of Magnetite Nanoparticles under Inert Gas Atmosphere. Magnetic Properties and In Vitro Study, **Nanomaterials**, 10(8), 1500, **2020**.
8. **L.M. Cursaru**, R. M. Piticescu, D. V. Dragut, I. A. Tudor, V. Kuncser, N. Iacob, F. Stoiciu, The Influence of Synthesis Parameters on Structural and Magnetic Properties of Iron Oxide Nanomaterials, **Nanomaterials**, ISSN 2079-4991, 10(1), 85, **2020**.
9. A.M. Mocioiu, R. Tutuianu, **L.M. Cursaru**, R.M. Piticescu, P. Stanciu, B.S. Vasile, R. Trusca, V. Sereanu, A. Meghea, 3D structures of hydroxyapatite obtained from Rapana venosa shells using hydrothermal synthesis followed by 3D printing, **Journal of Materials Science**, 54(22), 13901-13913, **2019**.
10. R. M. Piticescu, **L.M. Cursaru**, D. N. Ciobota, S. Istrate, D. Ulieru, 3D Bioprinting of Hybrid Materials for Regenerative Medicine: Implementation in Innovative Small and Medium-Sized Enterprises (SMEs), **JOM**, 71(2) 662-672, **2019**.
11. S. Motia, I.A. Tudor, **L.M. Popescu**, R.M. Piticescu, B. Bouchikhi, N. El Bari, Development of a novel electrochemical sensor based on electropolymerized molecularly imprinted polymer for selective detection of sodium lauryl sulfate in environmental waters and cosmetic products, **Journal of Electroanalytical Chemistry**, 823, p.553-562, **2018**.
12. N. El Alami El Hassani, E. Llobet, **L.M. Popescu**, M. Ghita, B. Bouchikhi, N. El Bari, Development of a highly sensitive and selective molecularly imprinted electrochemical sensor for sulfaguanidine detection in honey samples, **Journal of Electroanalytical Chemistry**, 823, p. 647-655, **2018**.

Published book chapters

1. Chapter (20 pages) entitled: "*Innovative Hybrid Materials with Improved Tensile Strength Obtained by 3D Printing*", autori: R.M. Piticescu, **L.M. Cursaru**, G. Negroiu, C.F. Ciobota, C. Neagoe, D. Safranchik, publicat in Biomaterials, Editor Prof. Petrică Vizureanu, **Publisher IntechOpen**, DOI: 10.5772/intechopen.91296, published March, 11, 2020
2. Chapter 16 (p. 695-727) entitled: "High pressure hydrothermal procedure: A tool for surface modification of super-paramagnetic nanostructured materials for medical applications", authors: **L. M. Popescu**, R. M. Piticescu, D. Appelhans, M. Schöneich, M. Meyer, A. Burlacu, B. Preda, G. Schinteie, V. Kuncser, E. Vasile published in "Hybrid Organic-Inorganic Interfaces - Towards Advanced Functional Materials", Volume 2, Editors Marie Helene Delville, Andreas Taubert, Edited by Wiley-VCH Verlag GmbH, January 2018 (1016 pag). ISBN: 978-3-527-34255-6.
3. Chapter 1 (pag. 3-30) entitled: "*Fabrication Methodologies of Biomimetic and Bioactive Scaffolds for Tissue Engineering Applications*", authors: M. Prakasam, **M. Popescu**, R. Piticescu, A. Largeau, publicat în "Materials, Technologies, Clinical Applications", Editor Francesco Bano, ISBN 978-953-51-3642-2, Print ISBN 978-953-51-3641-5, 330 pages, Edited by InTechOpen 13 December 2017. CC BY 3.0 license, DOI: 10.5772/66016.

Other information

- **Mentor in the doctoral guidance committee** for doctoral student IOȚA C. MIRUNA-ADRIANA, in the field of MATERIALS ENGINEERING, UNIVERSITY OF PITEȘTI, INTERDISCIPLINARY DOCTORAL SCHOOL.
- **Mentor for young researchers** in IMNR (5 people during 2018-2022).
- **Administrator of a Spin-off company** SPIN OFF HYNAMAT S.R.L., created alongside INCDMNR-IMNR through the project POC/62/1/3 SMIS Code 2014+: 114698, no. 319/28.08.2020 "Development of the innovation capacity of HYNAMAT SRL by obtaining new types of nanostructured hybrid powders based on nanostructured biocompatible ceramic materials and commercial polymers with biomedical applications" (2020-2022), Project Director (I was responsible for a team of 16 people).
- **Dissemination Coordinator** of COST Action CA16122 "Biomaterials and advanced physical techniques for regenerative cardiology and neurology", acronym BIONECA (2017-2021).
- **Member** of the Scientific Council of INCDMNR-IMNR starting from 2019
- **Evaluator** of national projects PN III-1.2PDI-PFC-C1-2018 and PN-III-P1-1.1-TE-2019