

CURRICULUM VITAE



Dr. Murariu Mioara (Maiden name: **Miron**)

Nationality: Romanian

Date and place of birth: *****, Falticeni, Suceava, Romania

Researcher at the "Petru Poni" Institute of Macromolecular Chemistry of Romanian Academy, Iasi, Polyaddition and Photochemistry Department

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Research profile

Design of functional polymeric materials for photophysical investigations and optical sensing applications. Research interests include polymer chemistry, fluorescence spectroscopy, structure–property relationships and advanced physicochemical characterization of functional polymeric materials.

Education, degree and diplomas

➤ **Nov. 2007 – Feb. 2016 | Ph.D. in Chemistry** Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania *Thesis title:* “Optically active acrylate monomers and copolymers. Synthesis, characterization, applications” *Scientific Coordinator:* Dr. Emil C. Buruiana *Degree officially awarded by Ministry Order no. 3209 / 23.02.2016*

➤ **Oct. 2007 – Jun. 2008 | Master of Science in Polymeric Biomaterials** “Ghe. Asachi” Technical University of Iasi, Romania Faculty of Chemical Engineering and Environmental Protection

➤ **Oct. 2003 – Jun. 2007 | Bachelor of Science in Chemistry** “Al. I. Cuza” University of Iasi, Romania Faculty of Chemistry

Professional experience:

➤ **April 2020 – present | Scientific researcher** "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania Polyaddition and Photochemistry Department

Main tasks: Design, synthesis and photophysical investigation of functional polymeric materials, with emphasis on fluorescence modulation, structure–property relationships and optical sensing applications.

➤ **November 2013 – March 2020 | Research assistant** "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania Polyaddition and Photochemistry Department

Main tasks: Design, synthesis and physicochemical characterization of functional amino acid-based polymeric materials. Investigation of self-assembly behaviour, fluorescence properties and structure–property relationships using complementary spectroscopic techniques.

➤ **November 2007 – Feb. 2016 | PhD Student / Research Assistant** "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania Polyaddition and Photochemistry Department | Tutor: Dr. Emil C. Buruiana

Main tasks: Synthesis and characterization of chiroptically active monomers with/without amino acids pendant sequences and their corresponding copoly(meth)acrylates; functionalization of polymeric materials with fluorescent chromophores for investigating photophysical behaviour and molecular recognition processes. Materials characterization using spectral analysis (FTIR, $^1\text{H}/^{13}\text{C}$ NMR, UV-Vis), thermal methods (TGA, DSC), molecular weight measurements (GPC), optical activity (polarimetry and circular dichroism) and fluorescence measurements.

Researcher unique identifiers:

Personal profile on the BrainMap platform; UEFISCDI ID (UEF-iD): U-1700-035R-1402

ORCID: 0000-0002-5330-3887

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Web of Science ResearcherID: QPA-2231-2026

<https://www.webofscience.com/wos/author/record/QPA-2231-2026>

Scopus Author ID: 36904888500

<https://www.scopus.com/authid/detail.uri?authorId=36904888500>

Google Scholar:

https://scholar.google.com/citations?user=W1vPS_oAAAAJ

ResearchGate:

<https://www.researchgate.net/profile/Mioara-Murariu>

LinkedIn:

<https://www.linkedin.com/in/mioara-murariu-b479a41b6>

Publications and research projects :

Publications: 12 articles ISI indexed | 3 Chapters in Books (*Elsevier & Palatul Culturii*)

Scientific presentations: 18 presentations (*10 oral presentations and 8 posters*)

Research projects: member in 2 national projects (*PN-II and PN-III*)

Digital skills:

Microsoft Office (Word, Excel, PowerPoint)

ChemDraw

Origin / OriginPro

Adobe Photoshop

Microsoft Paint

MestReNova (NMR spectral processing)

OPUS (Bruker FTIR data acquisition and processing)

Scientific literature databases: Web of Science, Scopus, Google Scholar

Laboratory techniques:

Polymer synthesis: organic synthesis, free-radical polymerization, ATRP

Spectroscopic characterization: FTIR, $^1\text{H}/^{13}\text{C}$ -NMR, UV-Vis spectroscopy, fluorescence spectroscopy, circular dichroism (CD), polarimetry.

Physicochemical characterization: gel permeation chromatography (GPC), differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), surface tension measurements, self-assembly studies of amphiphilic polymers.

Communication skills:

Certificate of attendance of the psycho-pedagogical - Module I „Alexandru Ioan-Cuza” University, Teacher Training Department

Strong communication and scientific presentation skills developed through psycho-pedagogical training, supervision of laboratory activities, student training and presentations at national and international scientific conferences.

Selected Scientific Publications

A complete and regularly updated list of publications is available through ORCID, Web of Science, Scopus and Google Scholar profiles.

1. Resmeriță A.-M., [Murariu M.](#) *Dual-mode Fluorescence Modulation of PEDOT/HP β CD Polyrotaxane Induced in the Presence of Metal Ions.* **Journal of Photochemistry and Photobiology A: Chemistry**, **2027**, 482, 117417.
2. [Murariu M.](#), Stroea L. *Increasing Detection Sensitivity of Fluorescent Polymeric Sensors Containing Fluorescein Derivatives by Au Nanoparticles.* **Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy**, **2023**, 291, 122279.
3. Trifan I.-S., Biliuta G., [Murariu M.](#), Coșeri S. *Two-Step Synthesis of a Pullulan-Derived Polymeric Fluorophore with Metal Ion Sensing Abilities.* **Macromolecular Rapid Communications**, **2025**, 46, 2500560.
4. [Murariu M.](#), Stroea L., Melinte V. *Synthesis and Self-Assembly of Optically Active Random Copolymers Bearing L-Alanine and L-Glutamic Acid Moieties in Aqueous Medium.* **Reactive and Functional Polymers**, **2020**, 157, 104778.
5. Stroea L., [Murariu M.](#), Melinte V. *Fluorescence Quenching Study of New Coumarin-Derived Fluorescent Imidazole-Based Chemosensor.* **Journal of Molecular Liquids**, **2020**, 318, 114316.
6. [Murariu M.](#), Nechifor M., Fifere N., Buruiana E.C. *Pyrene Functionalized Side Chain Alanine and Histidine Containing Copolyacrylates Prepared by Free Radical Copolymerization.* **Journal of Applied Polymer Science**, **2017**, 134, 44457.
7. [Murariu M.](#), Buruiana E.C. *Synthesis and Characterization of New Optically Active Poly(acrylamide/methacrylurea-co-vinyl acetate) Copolymers with Dansyl Units.* **Designed Monomers and Polymers**, **2015**, 18(2), 118–128.
8. Buruiană E.C., [Murariu M.](#), Buruiană T. *Copolyacrylates with Phenylalanine and Anthracene Entities Prepared by ATRP and Microwave Irradiation.* **Journal of Luminescence**, **2010**, 130(10), 1794–1801.
9. Oancea A.V., Simionescu B., Ursu L.E., [Murariu M.](#), Dobromir M., Geba M., Stratulat L., Olaru M. *The Investigation of Stefan Luchian Heritage Paintings-A Multi-Analytical Approach.* **Heritage**, **2025**, 8, 26.
10. [Murariu M.](#), Oancea A.V., Ursu C., Rusu B.G., Cotofana C., Simionescu B., Olaru M. *Surface Properties of POSS Nanocomposites.* In: **Polyhedral Oligomeric Silsesquioxane**

(POSS) Polymer Nanocomposites: From Synthesis to Applications, Elsevier, 2021, pp. 421-448.

Research projects

2022–2024 | Team Member

Photosensitized Hybrid Coatings Based on Polyurethane Matrices and Metal Oxide Nanoparticles with Tunable Photocatalytic Characteristics (PHYCOMAT). Project code: **PN-III-P4-PCE-2021-0933 (PCE 33/2022)**. Funded by the **Ministry of Research, Innovation and Digitization (MCID)** through **CNCS-UEFISCDI**. **Project Director:** Dr. V. Melinte. **Total budget:** 1,200,000 RON.

Project webpage: <https://icmpp.ro/projects/12/about.php?id=51>

Role: Physicochemical characterization of photosensitive polyurethane-based hybrid materials using advanced spectroscopic techniques and investigation of their photophysical and photocatalytic properties.

2014–2017 | Team Member

Innovative Interactive Artistic Mediation System for the Valorization of Museum Heritage in Romania (SIMAP). Project code: **PN-II-PT-PCCA-2013-4-2158**, Contract No. **330/2014**. Funded by **UEFISCDI**. **Project Director:** (*completează numele directorului de proiect*). **Total budget:** 1,029,387 RON. **Project webpage:** (....).

Role: Spectroscopic characterization of cultural heritage materials using complementary analytical techniques.