



Dr. Barbălată-Mândru Mihaela

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EDUCATION AND TRAINING:

- | Period: | Title of qualification awarded / Name and type of organization providing education and training / Grades and credits / Title of the thesis / Scientific Supervisor / Diploma / Institution |
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| 2009-2012 | - Doctor Diploma in Materials Engineering / “Gheorghe Asachi” Technical University, Faculty of Chemical Engineering and Environmental Protection, Iasi (Romania) and the University of Rouen, Laboratory "Polymers, Biopolymers, Surfaces", CNRS UMR 6270, France / Grade: Very Good / Contributions to the biomedical properties of some polyurethane materials / Prof. Univ., dr. ing., dr. h.c. Marcel Popa and Conf. dr. Laurent Lebrun |
| 2003-2009 | - Bachelor’s Diploma in Medical Bioengineering / Faculty of Medical Bioengineering within the University of Medicine and Pharmacy "Gr.T. Popa" from Iasi (Romania), Specialization: Medical Bioengineering |

SCIENTIFIC RESEARCH:

Projects:

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| 2016 - present | - Research assistant at “Petru Poni” Institute of Macromolecular Chemistry, Iasi (Romania) in the project “Partnerships for knowledge transfer in the field of polymer materials used in biomedical engineering” ID P_40_443, Contract no. 86/8.09.2016, MYSMIS 105689, cofinanced by the European Regional Development Fund by the Competitiveness Operational Programme 2014 – 2020, Axis 1 Research, Technological Development and Innovation in support of economic competitiveness and business development, Action 1.2.3 Knowledge Transfer Partnerships |
| 2010 - 2011 | - Research Assistant at “Petru Poni” Institute of Macromolecular Chemistry Iasi (Romania) in the project PNCDI II - IDEAS ID-988 - Biodegradable polyurethane supports, precursors for tissue engineering |

MAIN TASKS:

- Preparation of composites for biomedical applications by different methods: freeze-thaw; precipitate in non-solvent etc.;
- Physico-chemical (Profilometry, contact angle etc.) and biological characterization of hydrogels (water uptake behavior in simulated biological environment, drug loading and release studies);
- Performing of drug loading and release investigations from polymer matrices by using UV/VIS.

Author and co-author of 10 ISI articles, 1 book chapter, 6 posters, 3 oral communications.

IMPORTANT PUBLICATIONS:

1. **M. Mandru**, C. Ciobanu, S. Vlad, M. Butnaru, L. Lebrun, M. Popa, Characteristics of the polyurethane-based sustained release membranes for drug delivery, *Central European Journal of Chemistry*, 11(4), 542-553 (2013)
2. **M. Mandru**, M. Bercea, L.M. Gradinaru, C. Ciobanu, M. Drobotă, S. Vlad, R. Albușescu, Polyurethane/poly(vinyl alcohol) hydrogels: Preparation, characterization and drug delivery, *European Polymer Journal*, 118, 137–145 (2019)
3. **M. Mandru**, M. Spiridon, M. Aflori, D. Ichim, D. Șpaiuc, P. Plămădeală, Hydrogels–active wound dressing for drug delivery in wound healing and skin regeneration, *International Journal of Medical Dentistry*, 23, 1-3 (2019)
4. M. Aflori, M. Spiridon, M. Butnaru, **M. Mandru**, L. Romilă, O. Darabă, A. Burlui, Chitosan-based bionanocomposite for transdermal therapy, *International Journal of Medical Dentistry*, 23, 1-3 (2019)
5. M. Bercea, L.M. Gradinaru, **M. Mandru**, D.L. Tigau, C. Ciobanu, Intermolecular interactions and self-assembling of polyurethane with poly(vinyl alcohol) in aqueous solutions, *Journal of Molecular Liquids*, 274, 562-567 (2019)
6. M. Bercea, L.M. Gradinaru, I.-A. Plugariu, **M. Mandru**, D.L. Tigau, Viscoelastic behaviour of self-assembling polyurethane and poly(vinyl alcohol), *Polimer International*, 69, 149–155 (2020)
7. L.M. Gradinaru, **M. Barbalata-Mandru**, M. Drobotă, M. Aflori, M. Spiridon, G. Gradisteanu Pircalabioru, C. Bleotu, M. Butnaru, S. Vlad, Preparation and Evaluation of Nanofibrous Hydroxypropyl Cellulose and β -Cyclodextrin Polyurethane Composite Mats, *Nanomaterials*, 10(4), 754 (2020)

Other specializations and qualifications:

- 2013, July-August- "**Summer School a +**" at S.C. Antibiotice S.A.-module "**Technologies, techniques and quality assurance in the pharmaceutical industry**"
- 2014, **Delf B2** obtained at the French Institute Iasi, Romania