

Dr. Eng. Diana-Maria DRĂGUȘIN
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EDUCATION

2009 - 2012: Ph.D. student in Chemical Engineering, Faculty of Applied Chemistry and Materials Science, Department of Bioresources and Polymer Science, University POLITEHNICA of Bucharest, Romania.

2009 - 2011: MSc degree in Technology of Macromolecular Compounds, University POLITEHNICA of Bucharest, Romania.

2004 - 2009: BSc degree in Chemical Engineering, University POLITEHNICA of Bucharest, Romania.

RESEARCH

February 2015 – present: Assistant Professor

TOPICS: Synthesis and characterization of: porous polymeric structures, interpenetrated polymeric networks based on natural and synthetic polymers, hydrogels for tissue engineering;

Synthesis of biomaterials with nano-structured surfaces and tunable properties;

Functionalization of polymers for biomedical applications: bioinspired and biomimetic polymeric materials;

Polymeric surface engineering.

LABORATORY: Advanced Polymer Materials Group, University POLITEHNICA of Bucharest, Romania.

October 2014 – present: Junior researcher

TOPICS: Development of polymeric structures (multicomponent systems based on gelatin, alginate, etc.) with predefined physico-chemical properties for guiding and support of soft tissues;

Fabrication of biofunctionalized porous scaffolds with suitable mechanical properties and bioactivity for bone tissue regeneration;

Synthesis and characterization of (nano)structured hydrogels for soft and hard tissue regeneration.

LABORATORY: Advanced Polymer Materials Group, University POLITEHNICA of Bucharest, Romania.

December 2012 – September 2014: Postdoctoral fellowship

TOPICS: Development of dermal regeneration templates with antimicrobial properties using materials derived from the sea;

Synthesis and functionalization of heavy metal capture-systems using non-conventional exopolysaccharides;

Functionalization of starch like materials for printing applications;

Synthesis of polymers for fabrication of active multifocal contact lens.

LABORATORY: Polymer Chemistry and Biomaterials Group, Ghent University, Belgium.

October 2009 - October 2012: PhD student

TOPICS: Hydrogels for biomedical applications;

Synthesis and biocompatibility of biomaterials based on natural and synthetic polymers for soft tissue replacement;

Synthesis and characterization of biomineralization potential of interpenetrated polymer matrix;

Spontaneous mineralization on active nanostructured coating based on functionalized gold nanoparticles.

LABORATORY: Engineered Polymers and Biomaterials, Faculty of Applied Chemistry and Materials Science, Department of Bioresources and Polymer Science, University POLITEHNICA of Bucharest, Romania.

March - June 2011, April - June 2012: PhD student – internship

TOPICS: Synthesis and biocompatibility of biomaterials based on natural and synthetic polymers for soft tissue replacement.

LABORATORY: Polymer Chemistry and Biomaterials Group, Ghent University, Belgium.

October 2009 - February 2011: Master student

TOPICS: Polymer hybrids based on casein and synthetic polymers for in vitro mineralization.

LABORATORY: Engineered Polymers and Biomaterials, Faculty of Applied Chemistry and Materials Science, Department of Bioresources and Polymer Science, University POLITEHNICA of Bucharest, Romania.

SPECIALIZATIONS

Free radical polymerization, photo-curing polymeric systems, synthesis and characterization and functionalization of hydrogels for biomedical applications, fabrication of 3D polymeric structures through rapid prototyping techniques;

Characterization of polymer bulk properties: H-NMR, FT-IR, UV spectrophotometry, Rheology, DSC, TGA;

Surface Modification and characterization: ATR-IR imaging, Desktop Scanning Electron Microscopy (Desktop SEM), Plasma apparatus (Ar & O₂);

Polymer processing: Electrospinning, Rapid prototyping (Bioscaffolder);

RESEARCH PROJECTS

1. “Innovative Technologies for Materials Quality Assurance in Health, Energy and Environmental – Center for Innovative Manufacturing Solutions of Smart Biomaterials and Biomedical Surfaces (INOVABIOMED)” – *management team member*
2. UPB-GEX – Internal UPB research grant, „Structuri inteligente nanostructurate cu proprietati de regenerare tisulara” 68/2016 – *director*
3. TE-80/2010 “Study of the Biomimetic Mineralization using Specifically Functionalized 3D Hydrogels” – BIOMCAS – *research assistant*
4. “Bioactive Injectable Macroporous Biomaterials for Bone Regeneration” – SmartBIMBBone, 183/2012 – *research assistant*
5. PN-II-PT-PCCA-2013-4-0816 “Designul rațional și sinteza unor suporturi inteligente bioactive pentru tratamentul personalizat al plăgilor cutanate acute și cronice” - ZETTAskin – *research assistant*
6. EU Interreg 2 Seas “Biocare Marine – Biomolecules of the sea for environmental remediation and healthcare” – *coordinator research team*

PROFESSIONAL ACHIEVEMENTS

1. European Doctoral Award 2014 (EDA) – awarded by European Society of Biomaterials
2. Travel Scholarship 2013 – awarded by The Research Foundation - Flanders, Belgium
3. Rudolf Cimdins Scholarships 2010 - awarded by European Society of Biomaterials