

**Professor Catalin Zaharia**

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**Web of Science Researcher ID:** B-9587-2012

**Brainmap profile:** <https://www.brainmap.ro/public-profile-86927>

## **1. DATE AND PLACE OF BIRTH, EDUCATION, ACADEMIC EXPERIENCE**

### *1.1 Date and place of birth:*

### *1.2 Studies:*

2006 – PhD (engineering sciences – *chemical engineering*) – University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Science and Engineering of Polymers

2006 – PhD (cell biology) – University of Angers, Faculty of Medicine, France (<http://www.univ-angers.fr/actualite.asp?ID=571&langue=1>)

2002 – Diplome engineer (Chemical Engineering) – University Politehnica of Bucharest, Faculty of Engineering in Foreign Languages, English stream, Chemical Division

1997 – Baccalaureate, “B.P. Hasdeu” National College, Buzau

### *1.3 Specialisations/Stages:*

2010 – Postdoctoral Research Fellow - Postdoctoral programme for advanced research in nanomaterials field, NANOMAT - ID 54785, POSDRU/89/1.5/S/54785, University Politehnica of Bucharest

2004 – Doctoral research stage for 6 months - University of Angers, Faculty of Medicine, France

2004 – Training course for European FP6 projects –University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science

2003 – Training course for e-learning system implementation (Authorware) - University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science

### *1.4 Foreign languages:*

English – C1 level according to The Common European Framework of Reference for Languages (CEFR): Learning, Teaching, Assessment; French – A2 level according to CEFR

## **2. ACADEMIC POSITIONS**

- 2017 - present – Full Professor, University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Bioresources and Polymer Science
- 2014 - 2017 – Associate Professor (Reader) - University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Bioresources and Polymer Science
- 2008 – 2014 – Assistant Professor – University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Bioresources and Polymer Science
- 2005 - 2008 – Junior Professor - University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Science and Engineering of Polymers
- 2002 – 2005 – PhD student (scholarship) - University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Science and Engineering of Polymers
- 2004 – PhD student – University of Angers, Faculty of Medicine, Angers, France
- 2002 – 2004 – Associate didactic activity, University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Science and Engineering of Polymers

## **3. ACADEMIC ACTIVITY**

### *3.1 Didactic interests:*

Courses:

Top methods for Polymers and Biopolymers Processing (master)

Advanced Technologies for Biomaterials Processing (master)

Settings of Biomaterials (master)

Additives for Polymer and Biopolymers (master)

Biopolymers and Biocomposites (bachelor)

Industrial Polymeric Materials (bachelor)

Polymer Processing (bachelor)

Additives for Polymer Processing (bachelor)

Biomedical Applications of Polymeric Materials (master)

Proteins and Cell Adhesion (bachelor, master)

Member in the diploma projects juries for Faculty of Engineering in Foreign Languages and Faculty of Applied Chemistry and Materials Sciences

Member of the jury for master dissertation – Faculty of Applied Chemistry and Materials Science, Faculty of Medical Engineering

Diploma supervisor for bachelor students

Master dissertation supervisor

### *3.2 Technical interests:*

Arranging and maintaining a modern laboratory of Polymer Processing for students and research activities (since 2003)

Arranging and maintaining a modern laboratory of Biopolymers and Polymeric Biomaterials for research activities, diploma projects and master activities (since 2008)

### *3.3 Research interests:*

- Organs on chips and microfluidics, 3D printing
- Micro- and nanoparticles loaded with active principles and biological active molecules for target therapies (cancer management)
- Silk biomaterials for tissue engineering (fibroin and sericin)
- Bacterial cellulose materials for wound dressing therapy
- Hydrogels for tissue engineering
- Polymer-clays composites for tissue engineering
- Polymeric composite materials with magnetic nanoparticles
- *In vitro* and *in vivo* assays for polymeric biomaterials
- Characterization of various materials by DLS, MFI, contact angle, optical microscopy, rheometry
- Processing techniques for polymeric materials: 3D printing, electrospinning, extrusion, injection moulding

## **4. PUBLISHING ACTIVITY**

*Published papers (see the list):*

PhD thesis: Engineering Sciences – Chemical Engineering and Biology and Medicine – Molecular Biology (2006)

title “Studies regarding the synthesis and characterisation of new biopolymers for bone implants”

**7** book contributions

**>70** publications in peer-reviewed journals (ISI-quoted)

**10** publications in national journals (CNCSIS quoted)

1 publication in national journals with ISSN  
25 publications in the volumes of international scientific conferences  
1 publication in the volume of a national scientific conference  
**More than 70** presentations at international scientific meetings (invited/oral/poster)  
6 presentations at national scientific meetings (lecture/poster)  
420 SCOPUS citations

*Research projects (researcher):*

**Director of PCE projects:** Non-viral vectors based on polymeric nanoparticles for cancer gene therapy (NANOVEC), 27PCE/2021

**Partner coordinator of PED projects:** Screen-Printed Hybrid Electrodes for Detecting and Monitoring Lipopolysaccharides as Gram-Negative Bacteria Endotoxin Representative (TOXINSENS), 2555PED/2020

**Complex projects in CDI Partnerships (PCCDI 2018-2021):** coordinator of subprojects or research team member, INTELMAT, NAPOLI, REGMED

Director or partner coordinator for PNIII national projects (2014-2017)

Long time or short time expert for European Projects (POSDRU, POCU projects)

4 CeEx national projects

5 RELANSIN projects

5 CNCSIS projects

1 VIASAN project

1 CNCSIS scientific research platform (3-MN)

2 PN2 – INNOVATION 2008 projects

2 PN2 – Partnership Programme 2008 (CNMP 2008)

1 SPINOFF-project no. 281/26.11.2010

2 International Projects: EUREKA E !3523, Recovery of polyethylene terephthalate and other secondary polymers in composite and nanocomposite parts with medium and long life - R 47 /2006; MANUNET ERA-NET PROJECT, Acronym AIM CO-CO, Atoxic Inorganic Material for Coating for Cookware, 2010-2012 (No. MNT 7, 020/03.02.2010, CNMP)

## 5. OTHER DATA

- **Head of Department of Bioresources and Polymer Science, Faculty of Applied Chemistry and Materials Science, University Politehnica of Bucharest (2016-present)**

- **Scientific Director**, Advanced Polymer Materials Group (2021-present), <http://www.apmg.pub.ro/>
- **Project Team Leader**, Advanced Polymer Materials Group (2011-present), <http://www.apmg.pub.ro/>
- **Head of the Laboratory of Advanced Processing Methods for Polymers and Nanomaterials**, (LMAPPN) LIM1 since 2016
- Member of the Board of the Department of Bioresources and Polymer Science, Faculty of Applied Chemistry and Materials Science, University Politehnica of Bucharest (2008-2016)
- Member of the European Organ-on-Chip Society (EUROoCS, 2021)
- Member of the Group for the Promotion of Pharmaceutical chemistry in Academia (GP2A, 2020)
- Member of the European Society of Biomaterials (ESB, 2007)
- Member of the Romanian Society of Biomaterials (SRB, 2002)
- Member of the Chemical Romanian Society (SchR, 2007)
- Member in the Scientific Committee of Bucharest Polymer Conference (BPC 2018, 2021)
- Member of the Organizing Committee of the International Conference on Chemistry and Chemical Engineering RICCCCE (2007, 2009, 2013, 2015 in Romania)
- Member in the Scientific Committee of the International Conference on Chemistry and Chemical Engineering RICCCCE (2017, 2019, Romania)
- Expert for the evaluation of the National Research Projects
- Reviewer Board of Polymers (IF 4.329)
- Reviewer Board of Gels (IF 4.702)
- Guest Editor for Materials (IF 3.623)
- Guest Editor for Applied Science (IF 2.679)
- Reviewer for the international journals: *Materials*, *Molecules*, *Materials Science and Engineering C*, *Nanomaterials*, *Membranes*, *Carbohydrate Polymers*, *Polymers*, *Gels*, *Sustainability*, *Pharmaceutics*, *Acta Biomaterialia*, *Polymer*, *Journal of Applied Polymer Science*, *Journal of Chemical Technology and Biotechnology*, *Cell proliferation*, *Ceramics International*, *Macromolecules*, *Surface Coating and Technology*, *Journal of Nanotechnology*, *ACS Applied Materials & Interfaces*, *Cellulose*, *Revista Materiale Plastice*, *Revista Romana de Materiale* etc.

- Coordinator of the foreign student programme for the Faculty of Applied Chemistry and Materials Science (FILS, 2009)
- Coordinator of the practical activity of the FILS students (English stream, 2<sup>nd</sup> year of study, 2009)
- Socrates Teaching Staff Mobility, University of Patras, Greece (19-30 May 2008)

**International cooperation:**

- 1) Prof. Kelly Velonia, Department of Materials Science and Technology, University of Crete, University Campus Voutes -Chemistry Building, 70013 Heraklion, Crete, Greece
- 2) Prof. Aristidis Tsatsakis, Department of Toxicology and Forensic Sciences, Faculty of Medicine, University of Crete, 71003 Heraklion, Greece
- 3) Dr. Gabor Sziebig - SINTEF Manufacturing (SINTEF), Trondheim, Norway
- 4) Prof. Maria Helena Godinho – New University of Lisbon | NOVA, Centre of Materials Research (CENIMAT), Head of Soft and Biofunctional Materials Group at CENIMAT
- 5) Prof. Giulio Malucelli, Materials Science and Technology, DISAT-Department of Applied Science and Technology, Politecnico di Torino, Italy
- 6) Prof. Alexandru Vlad, Institute of Condensed Matter and Nanoscience (IMCN), Molecules, Solid and Reactivity (MOST), Université Catholique de Louvain, Place L. Pasteur, 1, 1348 Louvain-la-Neuve, Belgium
- 7) Dr. Yaroslav O. Mezhev, Institute of Chemistry and Problems of Sustainable Development, Mendeleev University of Chemical Technology of Russia, Moscow 125047, Russia.

**CONTACT:**

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