

**PERSONAL INFORMATION Prof. Florin MICULESCU (Dr. Habil. Eng. BSc.)**



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Researcher ID: A-4524-2011

Brainmap ID: U-1700-039K-8235

Sex: Male

Nationality: Romanian

**OCUPATIONAL FIELD**

Higher Education – Scientific Research

**WORK EXPERIENCE**

**Period**

2015 - present	Professor
2013 - 2015	Associate Professor
2009 - 2013	Lecturer
2006 - 2009	Assistant Professor

**Materials Engineering**

Materials Science and Engineering Faculty, University Politehnica of Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

• Teaching courses: • Materials Science; • Materials Characterization Techniques; • Electron Microscopy and Microanalysis; • Biomaterials Analysis and Control Techniques; • Biomaterials Testing and Investigation

• Research in the field of materials, biomaterials and nanomaterials synthesis, processing and characterization

• Head of: • Electron Microscopy Laboratory (since 2001); • Biomaterials and Nanomaterials Synthesis, Processing and Characterization Laboratory (since 2017)

Business or sector: Higher Education – Scientific Research

**EDUCATION AND TRAINING**

2014

Habilitation title – PhD. Students coordinator in Materials Engineering field  
University Politehnica of Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania  
Habilitation Thesis: "Materials for bones reconstruction and thin layers analysis by computer simulation and microanalytical experiment", Dr.Habil. Title by Ministerial Order No. 378/15.07.2014

2010-2013

**Post-doctoral training**

University Politehnica of Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania  
Materials Science and Engineering field, on "Nanostructured thin layers with multiple applications" in the Sectorial Operational Program Human Resources Development 2007 - 2013, POSDRU / 89 / 1.5 / S / 54785

2007

**Post-doctoral training**

Kavli Institute of Nanoscience, Technical University of Delft, Netherlands  
3 months on Electron Microscopy and Nanotechnology - Intensive Program for Transfer of Knowledge to Eastern Europe Reference Pole for Micro- and Nanotechnologies (NANOTEC-EST), FP6-Marie Curie Actions-ToK, Contract no. 014059/2005

**Qualification awarded / main themes**

- Analytical Transmission Electron Microscopy in Nanomaterials Science, • Techniques for Structural Nanomaterials Investigation: Practical Applications, • Nano Membrane Materials, • Nanomaterials for Advanced Magnetic Separation, • Chemical Nanosystems, • Clean and Green Technologies, • Biomaterials, Nanotechnology and Biocompatibility, • Nanosize Effect and Critical Dimension in Bioapplications • Composition-Structure-Microstructure-Properties Correlations in Oxide Nanomaterials, • Methods of Synthesis of Nanostructured Materials, • Micro and Mesoporous Materials - Synthesis Techniques and Applications, • Hybrid and Composite Materials. Properties and Applications, • Bioanalysis with Trends and Requirements in the Field of Nanotechnology, • Biosensing and Biosensors with Nanomaterials, • Validation and Standardization of (Bio)analytical Methods
- Communication skills using advanced techniques
- Research and teaching on materials synthesis, processing and characterization

- 2006 **Doctoral degree in Materials Engineering**  
 University Politehnica of Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania  
 PhD. Thesis: "Experimental research on the biomaterial-tissue interface interactions"  
 • Materials Science, Electron Microscopy and Microanalysis, Materials Analysis Techniques  
 • Skills on materials synthesis and precessing, materials and nanomaterials investigation techniques, implantology and biomaterials - tissue interactions
- 1996-2001 **Engineer degree- Valedictorian**  
 University Politehnica of Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania  
 • Material Science, Chemistry, Materials Analysis Techniques, Materials Structural Theory, Surface Engineering, Materials Thermal Processing  
 • Skills on materials synthesis, processing and characterization
- Additional training**
- Teaching training courses**
- Psychopedagogical training course I<sup>st</sup> level, Teacher Training Department from University Politehnica of Bucharest, Order Nr. 123 / 22.01.2002, Diploma Series D, No. 0002823
  - Psychopedagogical training course II<sup>nd</sup> level, Teacher Training Department from University Politehnica of Bucharest, Order, No. 0199 / 09.07.2018, Diploma Series A, No. 0002174
- Advanced training programs**
- June 2007 – on materials thermophysical properties, at ANTER Corporation in Pittsburgh, USA
  - May 2006 – on biomaterials, at the Technical University of Lisbon, Portugal
  - December 2005 – on scanning electron microscopy and EDS spectrometry, at the Institute of Chemistry and Materials Physics of Strasbourg, France
  - July 2003 – on ESEM microscopy and EDS spectrometry, at the Technical University of Vienna, Austria
  - September 2002 – on SEM microscopy and EDS microanalysis, at FEI Philips Company, Eindhoven, Netherlands

**PERSONAL SKILLS**

 Mother tongue  
 Other language(s)

Romanian

UNDERSTANDING

SPEAKING

WRITING

Listening

Reading

Spoken interaction

Spoken production

English

C1

C1

C2

C2

C2

French

A2

A2

A2

A2

A2

 Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
 Common European Framework of Reference for Languages

Communication skills

- Good communication and integration skills gained through teaching and research experience

Organisational and Managerial skills

- Good organizational skills demonstrated as research projects team leader and working in teaching activities, also coordinating research activities as head of laboratory, project manager for teams involving teaching fellows, PhD. students, master students and bachelor students
- Leadership

Job-related skills

- Technical skills confirmed and shown in the statement of activities: design, implementation, analysis, characterization and demonstration on the properties and characteristics of materials, nanomaterials, biomaterials and devices

Computer skills

- Specialized on electron microscopy and microanalysis software
- Good command on software for: • simulation of accelerated particle beams interaction with the solid state; • molecular dynamics modelling; • image analysis; • micro&nano-CT; • Microsoft Office™ tools

Driving licence

- Category: B

**ADDITIONAL INFORMATION**
**Managed grants and resulting publications**
**Project manager**

- "New technology for the synthesis and manufacturing of biomimetic implants derived from biogenic resources used for bone reconstruction surgery", Grant PN-III-P2-2.1-PED-2016-0892, BiolMS (2 years). Publications: WoS:000416184600078, WoS:000425731200016, WoS:000425731200017
- "Integrated technology for custom-made biomimetic implants development used for major bone defects reconstruction" Grant PN-II-RU-TE-2014-4-0590, BioMimBone (2 years). Publications: WoS:000374585600001, WoS:000405772200015, WoS:000412382700002, WoS:000416184600080, WoS:000425731200017
- "Combined methods for evaluation of the heavy metals contamination of human beings correlated with human hard tissues metabolism" Contract TE Nr.144/2010. (3 years). Publications: WoS:000289716200028, WoS:000297986100026, WoS:000308047400007, WoS:000308313002379, WoS:000312710300032, WoS:000315547300022, WoS:000323397900019, WoS:000336552600022

- "New methods for investigating the mechanisms involved in the tissue-biomaterial interaction", Grant CNCIS Theme 11, Cod 190/2002 (3 years). Publications: WoS: 000251435200002; WoS: 000275165700018

#### Project team leader

- "Advanced research for producing combinatorial coatings of interest for fusion", Contract CNMP Nr. 72-223/2008, CAPACIF (3 years). Publications: WoS: 000286575200010
- "Spin valves: from combinatorial methods of processing to performance properties", Contract CNMP Nr. 71-032/2007, VALS (3 years). Publications: WoS: 000278579400006, WoS: 000286575200010
- "Production and study the behavior of coatings of carbon, tungsten and beryllium used in the first wall of thermonuclear fusion facilities", Contract CEEX nr. 10-89/2006, FUSITERMAT (2 years)
- "Depth analysis on the structural implications resulting from the use of alternative fuels in cement obtaining", Contract CEEX nr.121/10.10.2005, IARIS (3 years)

#### Honours and awards

- Special Honour of Invention from TISIAS Toronto International Society of Innovation & Advanced Skills, for the Patent "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the Hrvatski Salon Inovacija S Medunarodnim Sudjelovanjem - INOVA, 13-16<sup>th</sup> of November 2019, Zagreb, Croatia.
- Special Award by Norton University for the Patent "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the Hrvatski Salon Inovacija S Medunarodnim Sudjelovanjem - INOVA, 13-16<sup>th</sup> of November 2019, Zagreb, Croatia.
- Gold Medal for the Patent "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the Hrvatski Salon Inovacija S Medunarodnim Sudjelovanjem - INOVA, 13-16<sup>th</sup> of November 2019, Zagreb, Croatia.
- Certificate of Excellence for the Patent "Mechano – electric laundry dryer", from the "Iustin Capră" Association of Inventors, 2019
- Gold Medal for the Patent "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the XIII<sup>th</sup> International Warsaw Invention Show "IWIS", 16<sup>th</sup> of October 2019, Warsaw, Poland
- Special Award from the Chinese Innovation & Invention Society (Taiwan) for the Patent "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the XIII<sup>th</sup> International Warsaw Invention Show "IWIS", 16<sup>th</sup> of October 2019, Warsaw, Poland
- Diploma of Excellence and Inventory Medal 2019, for the invention "Mechano - electric laundry dryer", at the 22<sup>nd</sup> International Salon of Inventory and Exhibition 2019, 26-28<sup>th</sup> of June, Iasi, Romania
- Special Award of the UMFT "Victor Babes" from Timisoara, for the patent application "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the "Traian Vuia '19" Salon 5<sup>th</sup> edition, 12-14<sup>th</sup> of June 2019, Timisoara, Romania
- Diploma of Excellence "King Michael the 1<sup>st</sup> of Romania" of USAMVB from Timisoara, for the patent application "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the "Traian Vuia '19" Salon 5<sup>th</sup> edition, 12-14<sup>th</sup> of June 2019, Timisoara, Romania
- Certificate of Excellence, for the invention "Mechano - electric laundry dryer", at the "Traian Vuia '19" Salon 5<sup>th</sup> edition, 12-14<sup>th</sup> of June 2019, Timisoara, Romania
- Diploma of Excellence and Gold Medal, for the patent application "Method for obtaining scaffolds with predetermined physico - chemical characteristics for major bone reconstruction", at the "Traian Vuia '19" Salon 5<sup>th</sup> edition, 12-14<sup>th</sup> of June 2019, Timisoara, Romania
- Diploma of Excellence and Gold Medal, for the patent application "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the International Exhibition of Scientific Research, Innovation and Inventions Pro Invent, 16<sup>th</sup> edition, 21-23<sup>rd</sup> of March 2018, Cluj-Napoca, Romania
- SRB Excellence Award, for the contribution in the biomaterials field in 2018
- Gold Medal and 4<sup>th</sup> place, for the patent "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the International Warsaw Invention Show IWIS 2017, Poland
- Excellence Diploma and Gold Medal, for the patent application "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the International Fair of Inventions and Practical Ideas Invent Invest 2017, 12-15<sup>th</sup> of November 2017, Ungheni, Republica Moldova
- Excellence Diploma, from the Technical University of Moldova, for the invention "Mechano - electric laundry dryer"
- Gold Medal, for the invention "Mechano - electric laundry dryer" at the European Exhibition of Creativity and Innovation Euroinvent 2017, 25-27<sup>th</sup> of May 2017, Iasi, Romania
- Gold Medal, for the invention "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the European Exhibition of Creativity and Innovation Euroinvent 2017, 25-27<sup>th</sup> of May 2017, Iasi, Romania
- Prize of the Romanian Inventors Forum, at the European Exhibition of Creativity and Innovation Euroinvent 2017, 25-27<sup>th</sup> of May 2017, Iasi, Romania

- Excellence Diploma and Special Prize (Trophy), for valuable inventions (RO001/2017), at the "Traian Vuia" Inventions and Innovations International Salon, 3<sup>rd</sup> edition, 7-9<sup>th</sup> of June 2017, Timisoara, Romania
- Gold Medal, for the invention "Mechano - electric laundry dryer", at the "Traian Vuia" Inventions and Innovations International Salon 3<sup>rd</sup> edition, 7-9<sup>th</sup> of June 2017, Timisoara, Romania
- Gold Medal, for the invention "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the "Traian Vuia" Inventions and Innovations International Salon 3<sup>rd</sup> edition, 7-9<sup>th</sup> of June 2017, Timisoara, Romania
- Excellence Diploma and Gold Medal for the invention "Mechano - electric laundry dryer", at the International Salon of Research Innovation and Inventics Rolnvent, 15<sup>th</sup> edition, 2017, Cluj-Napoca, Romania
- Gold Medal Inventica 2017, for the invention "Method for obtaining scaffolds with predetermined physico-chemical characteristics for major bone reconstruction", at the 22<sup>nd</sup> International Salon of Research, Innovation and Technological Transfer Inventica 2017, 28-30<sup>th</sup> of June, Iasi, Romania
- Gold Medal Inventica 2017, for the invention "Mechano - electric laundry dryer", at the 22<sup>nd</sup> International Salon of Research, Innovation and Technological Transfer Inventica 2017, 28-30<sup>th</sup> of June, Iasi, Romania
- Grand Prize and Cup, in recognition of high scientific contribution and loyalty to the 22<sup>nd</sup> International Salon of Research, Innovation and Technological Transfer Inventica 2017, 28-30<sup>th</sup> of June, Iasi, Romania
- SRB Excellence Award, for the contribution in the biomaterials field in 2016
- 4<sup>th</sup> place, at the 13<sup>th</sup> Edition of the National Contest for Scientific-Technic Creations, awarded by the Romanian Society of Metallurgy (SRM)
- SRB Scholarship, awarded by the Romanian Society for Biomaterials in 2007
- SRB Award, Poster Session at the 5<sup>th</sup> International Conference Bioremed, 2005, Iasi, Romania
- 2<sup>nd</sup> place, at the International Conference Jumees Scientifiques du CFB, 2003, Neuchâtel, l'Espace Perrier de Marin-Epagnier, Suisse
- >20 CNCSIS - prizes - Awarding of the research results

#### Representative publications

- 5 books
- 8 book chapters at international publishing houses (4 at Wiley/ 2 at Springer/ 2 at IntechOpen)
- 1 book as Editor at international publishing house (MDPI)
- >105 Web of Science (WoS) quoted papers (>125 indexed papers), 33 in Q1 category (14 as principal author) and 13 in Q2 category (3 as principal author)
- >165 SCOPUS indexed papers
- Web of Science (WoS) cumulative impact factor as principal author >90, from a total >225
- >900 Web of Science citations, excluding self-citations of all coauthors
- >1000 SCOPUS citations, excluding self-citations of all coauthors
- Web of Science h index = 22 (17 excluding self-citations of all coauthors)
- SCOPUS h index = 23 (17 excluding self-citations of all coauthors)
- scholar.google h index = 24
- >160 conference presentations (>30 oral communications / 12 as invited speaker / Chairperson at 12 conferences)
- **Editorial Board Member** of WoS indexed journals: • Materials (Q1); • Journal of Functional Biomaterials; • Journal of Advanced Biotechnology and Bioengineering
- **Topic Editor** of Metals - MDPI (Q1)
- **Guest Editor** of: • Materials, Biomaterials and Implant Biocompatibility 2<sup>nd</sup> Ed., MDPI, (Q1) 2020-2021; • Metals – MDPI (Q2), „Metals as Biomaterials" (2020-2021), • Materials– MDPI (Q1), „The Synthesis and Characterization of Biocompatible Materials" (2019-2020); • Journal of Functional Biomaterials – MDPI, „Bioceramics and Bioactive Glass-Based Materials" (2019-2020), Materials (Q2) – MDPI, „Biomaterials and Implant Biocompatibility" (2018-2019); • Journal of Nanomaterials (Q3) - Hindawi Publishing Corporation, „Graphene Based Composites: From Theories to Advanced Applications" (2016-2017)

#### Memberships

- **Director** of the Doctoral School of the Faculty of Materials Science and Engineering, Politehnica University of Bucharest (2020 - 2024)
- **President** of the Materials Engineering and Science Committee from the National Council for the Attestation of Titles, Diplomas and Academic Certificates - CNATDCU (2020-2024)
- **Member** of the Materials Engineering Committee from the National Council for the Attestation of Titles, Diplomas and Academic Certificates - CNATDCU (2016-2020)
- **Member** of the Directorial Board of the Doctoral School from Materials Science and Engineering Faculty (2016-2020)
- **Treasurer** of the Romanian Society for Biomaterials SRB (2012-2014 and 2017-2020)
- **President** of the Romanian Society for Biomaterials SRB (2014-2017)
- **Founding Member** of the Romanian Society of Electron Microscopy (2013)
- **Member** of the TERMIS International Society (2012 - present)
- **Evaluation Expert** of the UEFISCDI Materials Science Committee (2016 - present)
- **Member** of the research team in 5 international and over 60 national projects

## Curriculum Vitae

**Reviewer of:** ♦ Materials Letters; ♦ Applied Surface Science; ♦ Nanomaterials; ♦ Intermetallics; ♦ Materials Science & Engineering B; ♦ Carbohydrate Polymers; ♦ Materials&Design; ♦ Helyion; ♦ PLOS ONE; ♦ Metals; ♦ Polymers; ♦ Materials; ♦ Coatings; ♦ Symmetry; ♦ International Journal of Molecular Sciences; ♦ Journal of Materials Science in Semiconductor Processing; ♦ Corrosion Reviews; ♦ Surfaces and interfaces; ♦ Multidiscipline Modeling in Materials and Structures; ♦ Optics & Laser Technology; ♦ Materials Chemistry and Physics; ♦ Journal of the Australian Ceramic Society; ♦ Additive Manufacturing, Engineering Science and Technology; ♦ Journal of Polymers and the Environment; ♦ Journal of Pharmaceutical and Biomedical Analysis; ♦ Journal of Adhesion Science and Technology; ♦ Journal of Optoelectronics and Advanced Materials; ♦ Journal of Functional Biomaterials; ♦ University Politehnica of Bucharest Scientific Bulletin Series B - Chemistry and Materials Science; ♦ Revista de Chimie; ♦ Key Engineering Materials; ♦ Advanced Materials Research

### Reference collaborations

**Research Manager of third party projects (>60):** ♦ Henkel, ♦ Honeywell, ♦ Lindab, ♦ Mechel, ♦ Lukoil, ♦ Scandia, ♦ LAREX, ♦ ALSTOM, ♦ Steinel, ♦ Afriso, ♦ ALRO, ♦ IcemEnerg, ♦ Kvaerner, ♦ ISPAT SIDEX, ♦ IMNR, ♦ UMF, ♦ INEC, ♦ INFLPR, ♦ ICAA, ♦ ICEM

### References

♦ Prof. C. James Kirkpatrick, ♦ Prof. Viorel-Aurel Șerban, ♦ Prof. Horia Iovu, ♦ Prof. Iulian Ripoșan, ♦ Prof. Horia Țierean, ♦ Prof. Corneliu Munteanu, ♦ Prof. José Miguel Martín-Martínez, ♦ Prof. Marioara Abrudeanu, ♦ CS I George E. Stan, ♦ CS I Cristian Lungu, ♦ CS I Victor Kuncser

**Date:**  
05.07.2021

**Signature:**  
Prof. Florin Miculescu

