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PERSONAL INFORMATION

Prof. Florin MICULESCU (Dr. Habil. Eng. BSc.)



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ORCID ID: 0000-0001-6757-5616
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, România

- 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, România
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, România
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 Bioaplications ◆ 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, precessing and characterization

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Doctoral degree in Materials Engineering

2006

University Politehnica of Bucharest, 313 Splaiul Independenței, District 6, Bucharest, România
PhD. Thesis: "Experimental research on the biomaterial-tissue interface interactions"

- Biomaterials, Materials Science, Electron Microscopy and Microanalysis, Materials Characterisation Techniques
- Skills on materials synthesis and precessing, materials and nanomaterials investigation techniques, implantology and biomaterials - tissue interactions

Engineer degree- Valedictorian

1996-2001

University Politehnica of Bucharest, 313 Splaiul Independenței, District 6, Bucharest, România

- Material Science, Chemistry, Materials Analysis Techniques, Materials Structural Theory, Surface Engineering, Materials Thermal Processing
- Skills on materials synthesis, processing and characterization

Aditional training

Teaching training courses

• Psychopedagogical training course Ist level, Teacher Training Department from University Politehnica of Bucharest, Order Nr. 123 / 22.01.2002, Diploma Series D, No. 0002823
• Psychopedagogical training course IInd 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
- January 2023 – on SEM microscopy and EDS microanalysis, Thermo Fischer Company

PERSONAL SKILLS

Mother tongue: Romanian

Other language(s)	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

- "Novel technology for implants manufacturing from 3D printable reinforced composite filaments for guided bone regeneration", PN-III-P2-2.1-PED-2021-1650, Contract number 583PED/2022, BoneGapFill (2 years). Publications: WoS 000901197100001, WOS:001149426100001, WOS:000958878300001
- "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, BioImMS (2 years). Publications: WoS:000416184600078, WoS:000425731200016, WOS:000425731200017

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- "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 CNCSIS 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

- **Gold medals (44)**: 2 at ICAN 2025, Toronto, Canada, 1 at the 49th International Invention Show, Zagreb, Croatia, 1 at the "Traian Vuia" Inventions and Innovations International Salon 2025, Timisoara, România, 1 at Euroinvent European Exhibition of Creativity and Innovation, Iasi, Romania, 2025, 1 at Worldinvent Singapore 2024, 3 at Euroinvent 2023; 3 at iCan 2022 Toronto, Canada; 2 at INOVA 2022, Osjiek, Croația; 3 at PRO INVENT 2022, Cluj-Napoca, România; 2 at Salonul Internațional de Invenții și Inovații "Traian Vuia" 2022, Timișoara, Romania; 2 at EUROINVENT 2022, Iasi, România; 1 at INVENTCOR 2022, Deva, Romania; at Inventica 2022, Iasi, România; 2 at INOVA 2021 Zagreb, Croatia; 2 at Kaohsiung International Invention & Design Expo, 2021, Kaohsiung, Taiwan; at iCAN 2021, Toronto, Canada; at INTARG Poland, 2021; at the EIS Euroinvent 21, Chișinău, Republica Moldova; at INOVA 2019, Zagreb, Croația; at "IWIS", 2019, Warsaw, Poland; at the at the" Traian Vuia '19" Salon, 2019, Timisoara, România; at Pro Invent 2018, Cluj-Napoca, România; at IWIS 2017, Poland; 2 at 2017, Iasi, România; 2 at the "Traian Vuia" Inventions and Innovations International Salon 2017, Timisoara, România; 3 at Inventica 2017, Iasi, România; at Invent Invest 2017, Ungheni, Republica Moldova; at RoInvent 2017, Cluj-Napoca, România
- **Diplomas of excellence (17)**: 2 at Croatia Invention and Innovation show INOVA, Zagreb, 2023; 2 at at Istambul International Fair ISIF 2023, Istambul, Turkie; 1 at INOVA 2022, Osjiek, Croatia; 2 at PRO INVENT 2022, Cluj-Napoca, România; at EUROINVENT 2022, Iasi, Romania; at EIS Euroinvent 21, Chișinău, Republica Moldova; at ICAN 2021, Toronto, Canada; from the "Iustin Capră" Asscociation of Inverntors, 2019; at the 22nd International Salon of Inventory and Exhibition 2019, Iasi, România; at the" Traian Vuia '19" Salon, 2019, Timisoara, România; at Pro Invent 2018, Cluj-Napoca, România; at the International Fair of Inventions and Practical Ideas Invent Invest 2017, Ungheni, Republica Moldova; at the "Traian Vuia" Inventions and Innovations International Salon, 2017, Timisoara, România; at RoInvent 2017, Cluj-Napoca, România
- **Special Awards (26)**: 1 at The 38th World Genius Convention and Education Expo 2024, 1 Best international invention & innovation Award (National Research Council of Thailand), 2024, 1 at Istambul International Fair ISIF 2023, Istambul, Turkie; 2 at 9th International Salon of Inventions and Innovations "Traian Vuia", Timișoara 2023; 5 at Eurinvent 2023; 2 at iCan 2022, Toronto, Canada; 5 at INOVA October 2022, Osjiek, Croatia; at Inventica 2022, Iasi, România; 3 at EUROINVENT 2022, Iasi, Romania; at EUROINVENT 2021, Iași, România; at INTARG Poland, 2021; at INOVA, 2019, Zagreb, Croația; at "IWIS" 2019, Warsaw, Poland; at the" Traian Vuia '19" Salon 5th edition, Timisoara, România
- **Diamond Awards (2)**: 2 at INTARG 2022, Katowice, Poland
- SRB Excellence Award, for the contribution in the biomaterials field in 2018
- SRB Excellence Award, for the contribution in the biomaterials field in 2016
- 4th place, at the 13th 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 5th International Conference Bioremed, 2005, Iasi, România
- 2nd place, at the International Conference Journees Scientifiques du CFBD, 2003, Neuchâtel, l'Espace Perrier de Marin-Epagnier, Suisse
- >25 CNCSIS - prizes - Awarding of the research results

Representative publications

- 5 books
- 9 book chapters at international publishing houses (4 at Wiley/ 3 at Springer/ 2 at IntechOpen)
- 1 book as Editor at international publishing house (MDPI)
- >130 Web of Science (WoS) quoted papers (>150 indexed papers), 31 in Q1 category (13 as principal author) and 37 in Q2 category (9 as principal author)
- >200 SCOPUS indexed papers
- Web of Science (WoS) cumulative impact factor as principal author >150, from a total >250
- >2000 Web of Science citations, excluding self-citations of all coauthors
- >2000 SCOPUS citations, excluding self-citations of all coauthors
- Web of Science h index = 34 (22 excluding self-citations of all coauthors)
- SCOPUS h index = 35 (23 excluding self-citations of all coauthors)
- scholar.google h index = 38
- >160 conference presentations (>30 oral communications - 17 as invited speaker, Chairperson at 14 conferences)
- **Editorial Board Member** of WoS indexed journals: ◆ Materials (Q1); ◆ Metals - MDPI (Q2); ◆ Journal of Advanced Biotechnology and Bioengineering; ◆ Journal of Functional Biomaterials;
- **Guest Editor** of: ◆ Journal of Functional Biomaterials – MDPI, „Bioceramics and Bioactive Glass-Based Materials" –2nd Ed. (2023-2024); ◆ Materials, Biomaterials and Implant Biocompatibility 2nd 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, Politechnica University of Bucharest (2020 – 2024, 2024-present)
- **Member** of the Scientific Experts Comitee from the National Council for the Attestation of Titles, Diplomas and Academic Certificates - CNATDCU (2024-present)
- **President** of the Materials Engineering and Science Committee from the National Council for the Attestation of Titles, Diplomas and Academ-ic 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 (2016-2024, 2024-2029)
- **Treasurer** of the Romanian Society for Biomaterials SRB (2012-2014, 2017-2020 and 2021-2024)
- **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 8 international and over 60 national projects
- **Reviewer** of: ◆ Materials Letters; ◆ Applied Surface Science; ◆ Ceramics International; ◆Acta Biomaterialia**;** ◆ 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 Materials Science; ◆ Materials Today Communications; ◆ Journal of the Australian Ceramic Society; ◆ Additive Manufacturing, Engineering Science and Technology; ◆ Journal of Polymers and the Environment; ◆ Frontiers in Bioengineering and Biotechnology; ◆ Journal of Pharmaceutical and Biomedical Analysis; ◆ Bioengineering; ◆ 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, ◆ Tymken, ◆ Lindab, ◆ Mechel, ◆ Lukoil, ◆ Scandia, ◆ LAREX, ◆ ALSTOM, ◆ Steinel, ◆ Afriso, ◆ ALRO, ◆IcemEnerg, ◆ Kvaerner, ◆ ISPAT SIDEX, ◆ IMNR, ◆ UMF, ◆ INEC, ◆ INFLPR, ◆ ICAA, ◆ ICEM

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References

◆ Prof. C. James Kirkpatrick, ◆ Vicerector Prof. Horia Iovu, ◆ Dean Prof. Radu Ștefănoiu, ◆ Prof Iulian Antoniac, ◆ 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:
September 2026

Signature:
Prof. Florin Miculescu