

PERSONAL INFORMATION

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


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ResearcherID: A-4524-2011

Sex: Male

Nationality: Romanian

OCUPATIONAL FIELD

Higher Education – Scientific Research

WORK EXPERIENCE

03.2015 - present

Full Professor

University POLITEHNICA from Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

- Teaching courses: Materials Science, Electron Microscopy Materials Testing, Techniques for Biomaterials Analysis and Control, Materials Testing Methods, Biomaterials Testing Methods;
- Research in the field of materials, biomaterials and nanomaterials synthesis, processing and characterisation
- Head of the Electron Microscopy and Microanalysis Laboratory – since 2009 (Room JK 011)
- Head of the Methods for Materials Analysis and Characterisation Laboratory – since 2012 (Room JK 210)
- Head of the Biomaterials and Nanomaterials Synthesis and Processing – since 2017 (Room JK 005)

Business or sector: Higher Education – Scientific Research

11/2013 - 03.2015

Associate Professor

University POLITEHNICA from Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

- Teaching courses: Materials Science, Modern Methods of Characterization and Investigation of Advanced Materials, Electron Microscopy Testing, Techniques for Biomaterials Analysis and Control, Materials Analysis Techniques
- Laboratory activities: Modern Methods of Characterization and Investigation of Advanced Materials, Electron Microscopy Testing, Techniques for Biomaterials Analysis and Control, Materials Analysis Techniques
- Research in the field of synthesis and characterisation of materials, nanomaterials, biomaterials, magnetic and non-magnetic thin films
- Head of two research laboratories in materials science domain

Business or sector: Higher Education – Scientific Research

03/2009 - 10/2013

University Lecturer

University POLITEHNICA from Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

- Teaching courses: Techniques for Biomaterials Analysis and Control, Materials Analysis Techniques
- Laboratory activities disciplines: Techniques for Biomaterials Analysis and Control, Materials Analysis Techniques, Biomaterials Testing Methods, Techniques of Composition and Structure Analysis, Structural Theory of Biomaterials Properties, Implants Quality Assurance, Electron Microscopy and Microanalysis, Modern Methods for Advanced Materials Investigation, Technology projects
- Research in the field of synthesis and characterisation of materials, nanomaterials, biomaterials, magnetic and non-magnetic thin films
- Head of two research laboratories in materials science domain

Business or sector: Higher Education – Scientific Research

02/2006-02/2009

Assistant Professor

University POLITEHNICA from Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

- Teaching laboratory at disciplines: Techniques for Biomaterials Analysis and Control, Materials Analysis Techniques, Biomaterials Testing Methods, Techniques of Composition and Structure Analysis, Structural Theory of Biomaterials Properties, Implants Quality Assurance, Electron Microscopy and Microanalysis, Fracture Mechanics of Metallic Materials, Amorphous and Nanocrystalline Materials.
- Research activities in the field of synthesis and characterisation of materials and nanomaterials.

Business or sector: Higher Education – Scientific Research

11/2001-10/2005

PhD Student

University POLITEHNICA from Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

- Development of the thesis entitled "Experimental research on the interactions that occur at biomaterial-tissue interface"
- Teaching laboratories at disciplines: Techniques for Biomaterials Analysis and Control, Materials Analysis Techniques, Biomaterials Testing Methods, Techniques of Composition and Structure Analysis, Structural Theory of Biomaterials Properties
- Research activities in the fields of production and investigation of biomaterials

Business or sector: Higher Education – Scientific Research

EDUCATION AND TRAINING

2014 Habilitation title – PhD. Students coordinator in Materials Engineering field

Habilitation Thesis: "Materials for bones reconstruction and thin layers analysis by computer simulation and microanalytical experiment"

2010-2013 Post-doctoral degree

University POLITEHNICA from Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

- Materials Science and Engineering field on "Nanosized thin layers with multiple applications" in the Sectorial Operational Programme Human Resources Development 2007 - 2013, POSDRU/89/1.5/S/54785

2007 Kavli Institute of Nanoscience, Technical University of Delft, Holland

- 3 months in electron microscopy and nanotechnology FP6-Marie Curie Actions-ToK; Contract no. 014059/2005; Intensive Program for Transfer of Knowledge to Eastern Europe Reference Pole for Micro- and Nanotechnologies (NANOTEC-EST)

Qualification awarded / main themes

- "Analytical Transmission Electron Microscopy in Nanomaterials Science", "Techniques in 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 synthesis and characterization of nanostructured materials

2006 Doctoral degree in engineering

University POLITEHNICA from Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

- Materials science, electron microscopy and microanalysis, materials analysis techniques
- Outstanding skills in the production of nanomaterials and investigation techniques of materials and nanomaterials, implantology and biomaterials and tissue interactions

1996-2001 Engineer - valedictorian

University POLITEHNICA from Bucharest, 313 Splaiul Independenței, District 6, Bucharest, Romania

- Material science of amorphous and nanocrystalline materials, chemistry, materials analysis techniques, structural theory, surface engineering, thermal treatments
- Skills in obtaining and characterization of materials

PERSONAL SKILLS

Mother tongue(s)

Romanian

Other language(s)

English
French

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C2	C2	C2	C2	C2
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
- managerial skills

- Very good organizational skills demonstrated by team working in teaching activities and coordinating research activities as laboratory as head of laboratory, project manager in teams involving bachelor students, master students, PhD students and teaching fellows
- Leadership

Job-related skills

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

Computer skills

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

Driving licence

Category: B

ADDITIONAL INFORMATION

Managed Grants and
resulting publications

- 1) Grant CNCSIS Tema 11, Cod 190/2002, "New methods for investigating the mechanisms involved in the tissue-biomaterial interaction" (3 years) - Project Director. Publications: WOS: 000251435200002; WOS: 000275165700018
- 2) Contract CEEX nr.121/10.10.2005, "Depth analysis on the structural implications resulting from the use of alternative fuels in cement", IARIS (3 years)
- 3) Contract CEEX nr. 10-89/2006, "Production and study the behavior of coatings of carbon, tungsten and beryllium used in the first wall of thermonuclear fusion facilities", FUSITERMAT (2 years).
- 4) Contract CNMP Nr. 71-032/2007, "Spin valves: from combinatorial methods of processing to performance properties", VALS (3 years). Publications: WOS: 000278579400006, WOS: 000286575200010.
- 5) Contract CNMP Nr. 72-223/2008, "Advanced research for producing combinatorial coatings of interest for fusion", CAPACIF (3 years). Publications: WOS: 000286575200010
- 6) Contract TE Nr.144/2010. "Combined methods for evaluation of the heavy metals contamination of human beings correlated with human hard tissues metabolism" (3 years) - Project Director Publications: WOS: 000289716200028, WOS: 000297986100026, WOS: 000308047400007, WOS:000308313002379, WOS:000312710300032, WOS: 000315547300022, WOS:000323397900019, WOS:000336552600022
- 7) Grant PN-II-RU-TE-2014-4-0590, Romanian National Authority for Scientific Research and Innovation, CNCS – UEFISCDI, "Integrated technology for custom-made biomimetic implants development used for major bone defects reconstruction" BioMimBone (2 years) - Project Director. Publications: WOS: 000374585600001, WOS: 000405772200015, WOS:000412382700002, WOS:000416184600080, +AppSurfSci
- 8) Grant PN-III-P2-2.1-PED-2016-0892, Romanian National Authority for Scientific Research and Innovation, CNCS – UEFISCDI, "New technology for the synthesis and manufacturing of biomimetic implants derived from biogenic resources used for bone reconstruction surgery", BioImMS (2 years). - Project Director. Publications: WOS:000416184600078, +AppSurfSci

Honours and awards

- 1) **IInd place** at the International Conference Journées Scientifiques du CFBF, 2003, Neuchâtel, l'Espace Perrier de Marin-Epanier, Suisse, D. Bunea, D. Bojin, S. Zamfir, F. Miculescu, M. Miculescu, Experimental research concerning the Co-Cr-Mo alloys used in implantology
- 2) **2005 SRB prize** – Poster session - F. Miculescu, I. Antoniac, M. Miculescu, L.T. Ciocan, Influence of the implant surface preparation on the bone ingrowth, 5th National Biomaterials Symposium, Iași, România
- 3) **2007 SRB scholarship**, awarded by Romanian Society for Biomaterials (SRB)
- 4) **4th place** to the Thirteenth edition of the National Scientific and Technical Creation Contest awarded by the Romanian Metallurgy Society (SRM)
- 5) **SRB Excellence Award** for the contribution in the biomaterials field in 2016

- 6) **Prize of the Romanian Inventors Forum** - for Patents Demands Ro131261(A0), Ro131379 (A0), Ro131543(A2), Ro131500(A0), Ro 0001/2017(A0) exhibited at European Exhibition of Creativity and Innovation - EUROINVENT 2017, Iași – Romania IXth Edition, 25-27 May 2017
- 7) **Gold Medal** - for patent demand “Method for Obtaining Hydroxyapatite Scaffolds with Predetermined Physico-Chemical Characteristics for Major Bone Reconstruction”, exhibited at European Exhibition of Creativity and Innovation - EUROINVENT 2017, Iași - Romania IXth Edition, 25-27 May, 2017
- 8) **Gold Medal** - for patent demand “Mechano-Electric Laundry Dryer”, exhibited at European Exhibition of Creativity and Innovation - EUROINVENT 2017, Iași - Romania IXth Edition, 25-27 May, 2017
- 9) **Gold Medal** - for patent demand “Mechano-electrical drier” exhibited at “Salonul Internațional al Cercetării, Inovării și Inventicii - Pro Invent” ediția a XV-a, 2017, Cluj-Napoca, Romania
- 10) **Gold Medal** - for patent demand “Uscator De Rufe Mecano-Electric”, exhibited at “Salonul Internațional de Inventii și Inovații - Traian Vuia” Timișoara, IIIrd edition, 7-9 June, 2017
- 11) **Gold Medal** - for patent demand “Procedeu de Obținere a unui Produs Tip Scaffold pe Bază de Hidroxiapatită pentru Reconstrucția Defectelor Osoase Majore, cu Proprietăți Fizico-Chimice Predeterminate”, exhibited at “Salonul Internațional de Inventii și Inovații - Traian Vuia” Timișoara, IIIrd edition, 7-9 June, 2017
- 12) **Special Prize (Trophy)** from Banat’s University of Agricultural Sciences and Veterinary Medicine “King Michael I of Romania” from Timișoara for Patents Demands Ro131261(A0), Ro131379 (A0), Ro131543(A2), Ro131500(A0), Ro 0001/2017(A0), exhibited at “Salonul Internațional de Inventii și Inovații - Traian Vuia” Timișoara, IIIrd edition, 7-9 June, 2017
- 13) **Gold Medal “Inventica 2017”** in Recognition of High Scientific Contribution and Loyalty to the XXIth International Salon of Research, Innovation and Technological Transfer, Iasi, Romania, 28-30 June 2017 offered for patent demand “Method for Obtaining Hydroxyapatite Scaffolds with Predetermined Physico - Chemical Characteristics for Major Bone Reconstruction”
- 14) **Gold Medal “Inventica 2017”** in Recognition of High Scientific Contribution and Loyalty to the XXIth International Salon of Research, Innovation and Technological Transfer, Iasi, Romania, 28-30 June 2017 offered for patent demand “Mechano-Electric Laundry Dryer”
- 15) **Grand Prize Cup “Inventica 2017”** In Recognition of High Scientific Contribution and Loyalty to the XXIth International Salon of Research, Innovation and Technological Transfer, Iasi, Romania, 28-30 June 2017, Offered for Patents Demands Ro131261(A0), Ro131379 (A0), Ro131543(A2), Ro131500(A0), Ro 0001/2017(A0)
- 16) **Excellence Diploma and Gold Medal** International Salon Invent – Invest 2017, Ungheni, Republica Moldova, 12-15 November 2017 offered for patent demand “Method for Obtaining Hydroxyapatite Scaffolds with Predetermined Physico - Chemical Characteristics for Major Bone Reconstruction”
- 17) **Gold Medal with Mention** - for patent demand “Method for Obtaining Hydroxyapatite Scaffolds with Predetermined Physico-Chemical Characteristics for Major Bone Reconstruction”, exhibited at International Warsaw Invention Show IWIS 2017, Poland
- 18) **20 CNCISIS prizes** – Awarding of research results

Representative publications

- 5 books in national publishing houses, 8 book chapters in international publishing houses
- 81 ISI quoted papers
- 21 ISI indexed papers
- 22 SCOPUS indexed papers
- ISI cumulative impact factor, as principal author >55
- >500 ISI citations, excluding self-citations
- >500 SCOPUS citations
- ISI h index = 14, SCOPUS h index = 15
- >140 conference presentations

Memberships

- Treasurer of the Romanian Society for Biomaterials SRB (2012-2014)
- Founding member of the Romanian Society of Electron Microscopy (2013)
- President of the Romanian Society for Biomaterials SRB (2014-2017)
- Member of the Materials Engineering CNATDCU Comitee (2016-2020)
- Evaluation expert in the UEFISCDI Materials Science Commission (2016 - present)
- Member of the TERMIS International Society (2012 - present)

- Chairman at International Conferences: ECOB 2015, București, Romania, BIOREMED 2015, Oradea, Romania, BIOMMEDD'2016, Constanța, Romania, RoMat 2016, București, Romania, NoRoTech 2017, București, Romania, BIOREMED 2017, Timisoara, Romania, ESB 2017, Athens, Greece
- Reviewer at: Buletinul UPB seria B, PLOS ONE, Materials Science in Semiconductor Processing, Journal of Optoelectronics and Advanced Materials, Journal of Adhesion Science and Technology, Key Engineering Materials, Advanced Materials Research, Helyion, Corrosion Reviews, Multidiscipline Modeling in Materials and Structures, Materials&Design, Optics & Laser Technology, Additive Manufacturing, Engineering Science and Technology, an international journal, Materials Letters, Polymers, Nanomaterials, Metals
- Member of the research team in 4 international and over 50 national contracts

Reference collaborations

Manager in third party contracts (>50): Henkel, Honeywell, Kvaerner, Lindab, Mechel, Lukoil, Scandia, LAREX, ALSTOM, Steinel, Afriso, ALRO, IcemEnergy, ISPAT SIDEX, IMNR, UMF, INEC, INFLPR, ICAA, ICEM

References

Prof. C. James Kirkpatrick, Prof. José Miguel Martín-Martínez, Prof. Marioara Abrudeanu, Prof. Dionezie Bojin, CPI Cristian Lungu, CS I Victor Kuncser, Prof. Cornel Munteanu,

Date:
08.01.2019

Signature:
Prof.Dr.Habil.Eng. Florin Miculescu