



Europass Curriculum Vitae

Personal information

First name(s) / Surname(s) **Marian ZAMFIRESCU**
Address(es) Bucharest, România
Telephone(s) +40 21 457 4550/ext. 2500
E-mail marian.zamfirescu@inflpr.ro
Nationality Romanian
Date of birth 19.01.1975
Gender male

Work experience

Dates	Since 2005
Occupation or position held	2009 – Senior Research Scientist, 1 st degree 2005-2009 – Research Scientist 3 th degree 2000-2001 – Junior Scientist
Main activities and responsibilities	Management Activities: - 2015 to Nov. 2020 and from Jul. 2021 to Dec. 2023 Head of CETAL department from INFLPR - Nov. 2020 – Jul. 2021 – General Director of INFLPR - 2014 – 2015 Coordinator of the Solid-State Lasers Groups at INFLPR Scientific research: - Laser micro- and nano-structuring using ultrafast pulsed lasers - Ultrafast laser spectroscopy - Nanophonics and integrated optics - Design and fabrications of lasers equipment for laser-based applications - Laser Physics and nonlinear optics.
Name and address of employer	National Institute for Laser, Plasma and Radiation Physics (INFLPR), Atomiștilor 409, Măgurele.
Type of business or sector	Scientific Research
Dates	2010, three months
Occupation or position held	Research fellowship
Main activities and responsibilities	Characterization of the dynamics of laser-induced nanostructure formation (LIPSS) by the pump-probe method
Name and address of employer	Laboratoire Hubert Curien (IaHC), UMR CNRS 5516, Bâtiment F 18 Rue du Professeur Benoît Lauras, 42000 Saint-Etienne, FRANCE
Type of business or sector	Scientific Research
Dates	2003-2005
Occupation or position held	Post-doctorate
Main activities and responsibilities	- Ultra-fast spectroscopy of semiconductor nanostructures. - Study of carriers dynamics on nitride based photonic structures.
Name and address of employer	University of Florence, Physics Department Via Sansone 1, Sesto-Fiorentino, Italy
Type of business or sector	Scientific Research

Dates **2000, six months**
 Occupation or position held Research fellowship
 Main activities and responsibilities Characterization of the surface of the Cobalt single crystal by the nanoidentification technique using AFM with diamond tip
 Name and address of employer **IPCMS – Strasbourg, France**
 Type of business or sector Scientific Research

Dates **1999-2000**
 Occupation or position held Research Assistant
 Main activities and responsibilities - Lasers physics and nonlinear optics
 - Study of the phase conjugation in optical fibres using stimulated Brillouin scattering
 Name and address of employer **National Institute for Laser, Plasma and Radiation Physics (INFLPR), Atomiștilor 409, Măgurele.**
 Type of business or sector Scientific Research

Education and training

Dates **2000 - 2003**
 Title of qualification awarded Doctor of Science
 Principal subjects/occupational skills covered "Light-matter coupling in semiconductor heterostructures with large band gap"
 - Theoretical and experimental study of light-matter interaction in semiconductor microcavities.
 - Optical spectroscopy of ZnO and GaN-based semiconductor structures.
 Name and type of organisation providing education and training Blaise-Pascal University, LASMEA
 24 Avenue des Landais, Aubière, Clermont-Ferrand, France

Dates **1998-1999**
 Title of qualification awarded Master of Science
 Principal subjects/occupational skills covered Optics and Nonconventional Techniques using Lasers and Plasma.
 Name and type of organisation providing education and training University of Bucharest, Faculty of Physics
 Atomiștilor 405, Măgurele, România

Dates **1993-1998**
 Title of qualification awarded Physicist engineer
 Principal subjects/occupational skills covered Optics, Spectroscopy, Plasma and Lasers Physics.
 Name and type of organisation providing education and training University of Bucharest, Faculty of Physics
 Atomiștilor 405, Măgurele, România

Personal skills and competences

Mother tongue(s) **Romanian**

Other language(s)

Self-assessment
European level ()*

English

French

Italian

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B2	Independent user	C1	Proficient user	B1	Independent user	B2	Independent user	C1	Proficient user
C1	Proficient user	C1	Proficient user	B2	Independent user	B2	Independent user	C1	Proficient user
C1	Proficient user	C1	Proficient user	B1	Independent user	B2	Independent user	B2	Independent user

(*) [Common European Framework of Reference for Languages](#)

Social skills and competences Communication and teaching skills (participations in multiple outreaching activities and OpenLabs actions).

Organisational skills and competences	<ul style="list-style-type: none"> ▪ Principal Investigator (PI) in 13 scientific research projects (period 2006-2025). Scientific coordinator or responsible partner in 4 other research projects. Responsible in 4 collaborative projects with European research institutes. (Laboratoire Hubert Curien - Jean Monnet University, France; University of Rostock, Germany; Institute for Solid-State Physics, Sofia; Vinca Institute, Belgrade). ▪ Responsible for INFLPR in the European project LASERLAB V (2019-2024) ▪ Coordinator of the Solid-State Lasers Laboratory - SSSL research group in the INFLPR Lasers Department. ▪ During 2010 – 2014, the commissioning of the ISO 7 Clean Room and the equipment for the "Laser Micro and Nanostructuring" laboratory (3D Laser Lithography, Laser ps Microprocessing Workstation, Optomechanical Kits, Optical Tables) within the CETAL infrastructure. ▪ November 2020 – July 2021 - General Director of INFLPR. ▪ 2015 – 2023 - Coordinator of CETAL Research Infrastructure.
Technical skills and competences	<p>Design and construction of optical systems for experimental physics:</p> <ul style="list-style-type: none"> - Multifunctional microscope for Direct Laser Writing (DLW) technique, 3D Laser lithography by Two-Photon Photopolymerization (2PP), Multiphotonic microscopy, Pump-Probe experiments. - Integration of laser systems for laser processing. - Experimental setups for time-resolved spectroscopy with high spatial and temporal resolution. <p>Development of new laser-processing techniques and applications:</p> <ul style="list-style-type: none"> - Laser nanostructuring of surfaces using optical near-field enhancement effect. - Laser nanotexturing of surfaces using Laser Induced Periodical Surfaces Structuring (LIPSS) effect. - Laser fabrication of 3D targets for interaction with ultraintense lasers. <p>Coordination of contracts for services with industrial partners:</p> <ul style="list-style-type: none"> - testing the laser field destruction threshold of optical components for high-power lasers; - laser nanotexturing of surfaces for security marking against counterfeiting of original products.
Computer skills and competences	<p>Programming Matlab, LabView, Visual C++, php, MySQL, Python and G-script:</p> <ul style="list-style-type: none"> - Software for command of laser microprocessing and laser microscopy systems. <p>CAD software; Web design; Image Processing; Data Processing; Machine Learning, Office applications.</p>
Other skills and competences	<p>Reviewer for: Opt. Express; Opt. Lett.; Appl. Surf. Science; J. Optoelect. Adv. Mat.; Appl. Phys. A.; J Opt. Laser Tech;</p> <p>Invited lecturer in International Conferences and Workshops LNN2015 19-23 October 2015, Hissar, Bulgaria; Lights of the World, 30 Oct - 1 Nov 2015, Bucharest; IBWAP 2-4 July 2014 Constanta, Modern Laser Applications-4th Edition, 15-23 May 2014, Bran; ISCP 2014, 23-26 September 2014, Orăștie; EuroNanoForum 2019, 12-14 June 2019, Bucharest, 3OM – 7-11 Dec. 2025 Timișoara.</p> <p>Member of ASRO (Organization of Romanian Standardisation) – Technical Committee 390 – Additive Manufacturing.</p> <p>Didactic activity:</p> <ul style="list-style-type: none"> - Laser Physics lectures and Master Courses - Faculty of Physics – Bucharest University (2020-2021, 2023-2024, 2023-2025, 2025-2026). - Laser Physics lectures – Internal courses at INFLPR (2020-2024). - Mentoring of students for internships and master thesis. - Mentoring of students in MSciTech Summer Schools. <p>Organizer and trainer of CoderDojo CETAL – free programming and robotics courses for children.</p> <p>Participation on art and science projects: FUSION, 2018 (iHUMAN and PERSPECTRUM installations); Fusion Air, 2021 (The CELL); Uncanny Order 2023, Coding Drops 2025.</p>

Additional information

Books and chapters in books

- High Resolution Laser Microprocessing: Implementation and Techniques (Coherent Sources and Applications), Authors: Bogdan-Stefanita Calin, Niculae N. Puscas, **Marian Zamfirescu**, IOP Publishing Ltd, 2025, ISBN-13 : 978-0750332378
- Femtosecond Laser Lithography in Organic and Non-Organic Materials, Authors: F. Jipa, **M. Zamfirescu**, A. Velea, M. Popescu and R. Dabu. IntechOpen 2013. ISBN: 978-953-51-5709-0. DOI: 10.5772/56579.
- Ultrashort Pulsed Lasers – Efficient Tools for Materials Micro-Processing, Authors: **Marian Zamfirescu**, M. Ulmeanu, A. Bunea, G. Sajin and R. Dabu, IntechOpen 2011. ISBN: 978-953-51-5554-6 DOI: 10.5772/22699.
- Couplage excitons-lumière dans des hétérostructures en GaN et ZnO, **Marian Zamfirescu**, Editions universitaires europeennes 2010. ISBN-13: 978-6131527883.

Patents

- Bogdan CĂLIN; **Marian ZAMFIRESCU**; Alexandru FILIP, Dispozitiv și metodă de cuplare a fibrelor optice la circuite optice integrate, OSIM nr. a 2019 00338.
- **Marian Zamfirescu**, Florin Jipa, Iulia Anghel, Procedeu de structurare a suprafețelor cu radiație laser prin efect de intensificare optică în câmp apropiat, OSIM nr. a 2010 01174.

ResearcherID profile at:

<http://www.researcherid.com/rid/G-3266-2011>

Scientometric Indicators:

- h-Index: 21
- Number of ISI publications: 115
- Citations (without self-citations) : > 1700 (according to Web of Science)

A1. List of the coordinated grants

- Project no. **CEEX-RP 1492** (2006-2008). "Study of photonic nanostructures by ultrafast laser pulses" – **Project Director**,
- Project no. **CEEX-ET 5848** (2007-2008). "Fabrication of ZnO-based photonic structures using pulsed laser deposition technique" – **Project Director**.
- Project no. **NATO/RIG982600** (2007-2009). "Development of new materials by direct laser writing of nano-structures" – **Project Director**.
- Project no. **PNCD2-PCE – IDEI 268** (2007-2010). "Study of deterministic nanostructuring methods" – **Project Director**,
- Project no. **PNCD2-D1_11-0 – FEMAT** (2007-2010). "Advanced femtosecond laser system for metamaterials and photonic crystals nanostructuring" – Scientific Coordinator.
- Project no. **PNCD2-D7_71-005 – PRESTO** (2007-2010). "Advance processing of microwave and optical signals by structured materials with negatives electromagnetic parameters", Coordinator of P3-INFLPR.
- Project no. **PNCD2-Capacities 2008-90 – MULTITERA** (2008-2009). "Multi-terawatt laser system with high repetition rate femtosecond pulses" – Scientific Coordinator.
- Project no. **PNCD2-D7_72-230 – SCRILAM** (2008-2011). "Selective and tuneable liquid crystal-based structures for microwave application" – Coordinator of P3-INFLPR.
- Project no. **490/2011 – METHLAS** (2011-2012). Bilateral Collaboration **BRANCUSI**. "Nanoscale laser processing of materials by designed ultrashort laser pulses" – **Project Director**.
- Project No. **130CI/2012 – OPTIMARC** (4 months - 2012). Innovation program, Support for innovation – **Project Director**
- Project No. **PN-II-ID-JRP-2011-2 – DYLPSS** (2013-2015) UEFISCDI. "Dynamics of Laser-Induced Periodic Surface Structures" – **Project Director**.
- Project No. **PN-II-ID-PCE-2012-4-0539** (2013-2015) UEFISCDI. "Probing the mechanism of nanostructures formation on ultrafast timescales" – **Project Director**.
- Project No. **25 ELI-RO** (2016-2019) IFA. "Laser targets for ultra-intense laser experiments" – **Project Director**.
- Project No. **PCCDI 79 – QUTECH-RO** (2018-2021). "Developing quantum information and quantum technologies in Romania", Coordinator of P1-INFLPR.
- Project No. **PCE58/2022: PCE58 – PHOTONIQS** (2022-2024) UEFISCDI. "Nanophotonic structures for integrated quantum sources" – **Project Director**.
- Project No. **PED110: SPECTRA** (2025-2027) UEFISCDI. "Spectroscopic Product Evaluation and Control Tool for Agri-food" – **Project Director**.
- Project No. **ELI-32/2025 - eTARGET** (2025-2027) IFA "Optimized design of 2D and 3D structured targets for ultra-intense laser-induced secondary sources used for materials in extreme environments" – **Project Director**.

A2. Selective list of publications

- [1] Florin Jipa, Laura Ionel, **Marian Zamfirescu**, Advances in Design and Fabrication of Micro-Structured Solid Targets for High-Power Laser-Matter Interaction, *Photonics* 11 (11) 1008 (2024).
- [2] B.S. Calin, C. Dobrea, I. Tiseanu, **M. Zamfirescu**, Laser microfabrication of conical micro-targets for laser driven particle acceleration, *Journal of Laser Applications* 33, 012054 (2021).
- [3] Catalin Cretu, Gina Isar, **Marian Zamfirescu**, PERSPECTRUM - an audio-visual installation, *Information and Communication Technology in Musical Field* 10 (2) 65-71 (2019).
- [4] Calin, BS; Preda, L; Jipa; Zamfirescu, M, Laser fabrication of diffractive optical elements based on detour-phase computer-generated holograms for two-dimensional Airy beams. **APPLIED OPTICS**, 57, 1367-1372 (2018).
- [5] Florin Jipa, Adrian Dinescu, Mihaela Filipescu, Iulia Anghel, **Marian Zamfirescu**, and Razvan Dabu, "Laser parallel nanofabrication by single femtosecond pulse near-field ablation using photoresist masks" **OPT. EXPRESS**, Vol. 22, Issue 3, pp. 3356-3361 (2014).
- [6] **M. Zamfirescu**, A. Dinescu, M. Danila, G. Socol, C. Radu, "The Role of the Substrate Material Type in Formation of Laser Induced Periodical Surface Structures on ZnO thin Films", **APPL. SURF. SCIENCE** 258; pp. 9385-9388; 2012.
- [7] Maclair, C; **Zamfirescu, M**; Colombier, J P; Cheng, G; Mishchik, K; Audouard, E; Stoian, R, Control of ultrafast laser-induced bulk nanogratings in fused silica via pulse time envelopes, **OPT. EXPRESS** 20; pp.12997-13005; 2012 .
- [8] Radu, C; Simion, S; **Zamfirescu, M**; Ulmeanu, M; Enculescu, M; Radoiu, M ; Silicon structuring by etching with liquid chlorine and fluorine precursors using femtosecond laser pulses ; **J APPL. PHYS.**; 110 (3) ; pp. ; 2011.
- [9] Ulmeanu, M.; **Zamfirescu, M.**; Rusen, L.; Luculescu, C.; Moldovan, A.; Stratan, A.; Dabu, R. ; Structuring by field enhancement of glass, Ag, Au, and Co thin films using short pulse laser ablation ; **J APPL. PHYS.**; 106 (11) ; pp.114908 ; 2009.
- [10] **Zamfirescu, M.**; Ulmeanu, M.; Jipa, F.; Cretu, O.; Moldovan, A.; Epurescu, G.; Dinescu, M.; Dabu, R.; Femtosecond Laser Induced Periodic Surface Structures on ZnO Thin Films ; **J LASER MICRO NANOENG.**; 4 (1) ; pp.7-10 ; 2009.
- [11] **Zamfirescu, M.**; Dabu, R.; Dumitru, M.; Sajin, G.; Craciunoiu, F.; Femtosecond Laser Fabrication of Metamaterials for High Frequency Microwave Devices; **J LASER MICRO NANOENG.**; 3 (1); pp.5-8; 2008.
- [12] Sellers, I. R.; Semond, F.; Leroux, M.; Massies, J.; **Zamfirescu, M.**; Stokker-Cheregi, F.; Gurioli, M.; Vinattieri, A.; Colocci, M.; Tahraoui, A.; Khalifa, A. A. ; Polariton emission and reflectivity in GaN microcavities as a function of angle and temperature ; **PHYS. REV. B** ; 74 (19) ; pp.193308 ; 2006 .

Complete list of publications at: <http://www.researcherid.com/rid/G-3266-2011>