



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) **Marian ZAMFIRESCU**  
Address(es) Bucharest, România  
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E-mail [marian.zamfirescu@inflpr.ro](mailto:marian.zamfirescu@inflpr.ro)  
Nationality Romanian  
Date of birth 1 [REDACTED]  
Gender male

### Work experience

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

|                                      |   |
|--------------------------------------|---|
| Dates                                | <b>2000, six months</b>   |
| 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         | <b>IPCMS – Strasbourg, France</b>   |
| Type of business or sector           | Scientific Research   |
| Dates                                | <b>1999-2000</b>  |
| Occupation or position held          | Research Assistant  |
| Main activities and responsibilities | - Lasers physics and nonlinear optics<br>- Study of the phase conjugation in optical fibres using stimulated Brillouin scattering |
| Name and address of employer         | <b>National Institute for Laser, Plasma and Radiation Physics (INFLPR), Atomîștilor 409, Măgurele.</b>                            |
| Type of business or sector           | Scientific Research   |

## Education and training

|  |  |
|--|--|
| Dates  | <b>2000 - 2003</b>   |
| Title of qualification awarded                                 | Doctor of Science  |
| Principal subjects/occupational skills covered                 | "Light-matter coupling in semiconductor heterostructures with large band gap"<br>- Theoretical and experimental study of light-matter interaction in semiconductor microcavities.<br>- Optical spectroscopy of ZnO and GaN-based semiconductor structures. |
| Name and type of organisation providing education and training | Blaise-Pascal University, LASMEA<br>24 Avenue des Landais, Aubière, Clermont-Ferrand, France   |
| Dates  | <b>1998-1999</b>   |
| 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<br>Atomîștilor 405, Măgurele, România  |
| Dates  | <b>1993-1998</b>   |
| 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<br>Atomîștilor 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"> <li>▪ 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).</li> <li>▪ Responsible for INFLPR in the European project LASERLAB V (2019-2024)</li> <li>▪ Coordinator of the Solid-State Lasers Laboratory - SSSL research group in the INFLPR Lasers Department.</li> <li>▪ 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.</li> <li>▪ November 2020 – July 2021 - General Director of INFLPR.</li> <li>▪ 2015 – 2023 - Coordinator of CETAL Research Infrastructure.</li> </ul>   |
| Technical skills and competences      | <p><b>Design and construction of optical systems for experimental physics:</b></p> <ul style="list-style-type: none"> <li>- Multifunctional microscope for Direct Laser Writing (DLW) technique, 3D Laser lithography by Two-Photon Photopolymerization (2PP), Multiphotonic microscopy, Pump-Probe experiments.</li> <li>- Integration of laser systems for laser processing.</li> <li>- Experimental setups for time-resolved spectroscopy with high spatial and temporal resolution.</li> </ul> <p><b>Development of new laser-processing techniques and applications:</b></p> <ul style="list-style-type: none"> <li>- Laser nanostructuring of surfaces using optical near-field enhancement effect.</li> <li>- Laser nanotexturing of surfaces using Laser Induced Periodical Surfaces Structuring (LIPSS) effect.</li> <li>- Laser fabrication of 3D targets for interaction with ultraintense lasers.</li> </ul> <p><b>Coordination of contracts for services</b> with industrial partners:</p> <ul style="list-style-type: none"> <li>- testing the laser field destruction threshold of optical components for high-power lasers;</li> <li>- laser nanotexturing of surfaces for security marking against counterfeiting of original products.</li> </ul>   |
| Computer skills and competences       | <p>Programming Matlab, LabView, Visual C++, php, MySQL, Python and G-script:</p> <ul style="list-style-type: none"> <li>- Software for command of laser microprocessing and laser microscopy systems.</li> </ul> <p>CAD software; Web design; Image Processing; Data Processing; Machine Learning, Office applications.</p>   |
| Other skills and competences          | <p><b>Reviewer</b> for: Opt. Express; Opt. Lett.; Appl. Surf. Science; J. Optoelect. Adv. Mat.; Appl. Phys. A.; J Opt. Laser Tech;</p> <p><b>Invited lecturer in International Conferences and Workshops</b><br/> 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><b>Member of ASRO</b> (Organization of Romanian Standardisation) – Technical Committee 390 – Additive Manufacturing.</p> <p><b>Didactic activity:</b></p> <ul style="list-style-type: none"> <li>- Laser Physics lectures and Master Courses - Faculty of Physics – Bucharest University (2020-2021, 2023-2024, 2023-2025, 2025-2026).</li> <li>- Laser Physics lectures – Internal courses at INFLPR (2020-2024).</li> <li>- Mentoring of students for internships and master thesis.</li> <li>- Mentoring of students in MSciTech Summer Schools.</li> </ul> <p><b>Organizer and trainer of CoderDojo CETAL</b> – free programming and robotics courses for children.</p> <p><b>Participation on art and science projects:</b> 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, Nicolae 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>