

PERSONAL INFORMATION



Valentina MĂRĂSCU

📍 National Institute for Laser, Plasma and Radiation Physics (INFLPR), Low Temperature Plasma Laboratory – 409 Atomiștilor Street, Po- Box Mg- 36, RO-077125 Măgurele, ROMANIA.

✉ valentina.marascu@inflpr.ro | *Experience in R&D: > 12 years*

🆔 <https://orcid.org/0000-0002-5170-1398>

🔗 <https://scholar.google.ro/citations?user=lsJzsb0AAAAJ&hl=ro>

🗺 <https://www.brainmap.ro/valentina-marascu>

📊 <https://www.scopus.com/authid/detail.uri?authorId=55980918200>

Nationality: Romanian | WoS H-index: 10 | WoS Citations: 201

PROFESSIONAL EXPERIENCE

Present-
October 2023



Lecturer

Faculty of Engineering and Computer Science, *SPIRU HARET* University – 46 G Fabricii Street Sector 6, Bucharest, ROMANIA.

<https://misn-b.spiruharet.ro/>

- Courses: *Computational Methods in Natural Sciences*.
- Laboratories for the discipline: *Computational Methods in Natural Sciences; Functional Programming; Development of Web Applications*.

Educational Sector

Present -
September 2022



Scientific Researcher 3rd degree

National Institute for Laser, Plasma and Radiation Physics (INFLPR), Low Temperature Plasma Laboratory – 409 Atomiștilor Street, Po- Box Mg- 36, RO-077125 Măgurele, ROMANIA.

<http://www.inflpr.ro>

- Studies/experiments on interactions between plasma and fusion-related materials;
- Proposal and development of laboratory-scale experiments related to fusion;
- Materials relevant to fusion and dust production by plasma methods;
- Numerical calculation/statistical analysis of nano- and microstructures;
- Development of algorithms for laboratory-scale plasma simulations;
- Characterization of materials, deposited by different plasma and laser techniques, by AFM, FTIR, profilometry, contact angle, and optical microscopy.
- Experimental physics laboratories/practice internships/preparatory internships, etc., with undergraduate/master's students;
- Dissemination of scientific results.

Research & Development Sector

June 2023-
February 2023



Teaching Assistant (*associate teaching staff*)

Faculty of Engineering and Computer Science, *SPIRU HARET* University – 46 G Fabricii Street Sector 6, Bucharest, ROMANIA.

<https://misn-b.spiruharet.ro/>

- Laboratories for the discipline: *Development of Web Applications*.

Educational Sector

Present-
October 2021



Volunteer - Mentor

The Michigan Institute for Plasma Science and Engineering (MIPSE)– 2236 EECS Bldg., 1301 Beal Avenue, Ann Arbor, Michigan 48109-2122, USA.

<https://mipse.umich.edu/mentors.php>

- To offer advice and discuss their experiences in proposal development, teaching, and other areas.

Educational Sector

August 2022-
July 2021



Scientific Research Assistant

National Institute for Laser, Plasma and Radiation Physics (INFLPR), Low Temperature Plasma Laboratory – 409 Atomiștilor Street, Po- Box Mg- 36, RO-077125 Măgurele, ROMANIA.

<http://www.inflpr.ro>

- Production of W particles using atmospheric and low-pressure plasma jets;
- RF (13.56 MHz) plasma-surface interaction studies/experiments;
- Numerical calculation/ statistical analysis of particles;
- Characterization of materials, deposited by different plasma and laser techniques, by AFM, FTIR, profilometry, contact angle, and optical microscopy;
- Dissemination of scientific results.

Research & Development Sector

July 2021–
January 2020



Postdoctoral Fellowship

Commissariat à l'énergie atomique et aux énergies alternatives (CEA), Paris-Saclay Center, DRF/ JOLIOT/ SCBM/ Tritium Labelling Laboratory, 91191 Gif-sur-Yvette Cedex, FRANCE.

<http://www.cea.fr/>

- Experiments on tritium loading studies in different materials (dust and bulk materials) via the gas phase;
- Ambient/high-temperature desorption analyses of tritiated materials;
- Plasma matter interaction studies/experiments in microwaves (2.45 GHz);
- Numerical calculation/statistical analysis of material structures;
- Material characterization by LSC and LVEM-TEM/ SEM techniques;
- Dissemination of scientific results.

Research & Development Sector

January 2020-
July 2014



Scientific Research Assistant

National Institute for Laser, Plasma and Radiation Physics (INFLPR), Low Temperature Plasma Laboratory – 409 Atomiștilor Street, Po- Box Mg- 36, RO-077125 Măgurele, ROMANIA.

<http://www.inflpr.ro>

- Production of W particles using atmospheric and low-pressure plasma jets;
- RF (13.56 MHz) plasma-surface interaction studies/experiments;
- Numerical calculation/ statistical analysis of particles;
- Characterization of materials, deposited by different plasma and laser techniques, by AFM, FTIR, profilometry, contact angle, and optical microscopy;
- Dissemination of scientific results.

Research & Development Sector

September 2017-
January 2016

Scientific Research Assistant

Research Center for Polymers, Mesophases and Unconventional Methods for Environmental Protection/ Faculty of Physics University of Bucharest- 405 Atomistilor Street, Po- Box Mg- 11, 077125 Măgurele, ROMANIA.

<http://fizica.unibuc.ro/>



- Deposition of polymer thin films and nanomaterials by different plasma techniques;
- High-resolution optical emission spectroscopy measurements;
- Characterization of materials, deposited by different plasma and laser techniques, by AFM, FTIR, profilometry, contact angle, and optical microscopy;
- Numerical calculation and statistical analysis of nanostructures;
- Dissemination of scientific results.

Research & Development Sector

Trainee Scientific Research Assistant

July 2014 -
January 2014

National Institute for Laser, Plasma and Radiation Physics (INFLPR), Low Temperature Plasma Laboratory – 409 Atomiștilor Street, Po- Box Mg- 36, RO-077125 Măgurele, ROMANIA.

<http://www.inflpr.ro>

- Synthesis of metal particles through plasma at atmospheric pressure RF (13.56 MHz);
- Numerical calculation and statistical analysis of nanostructures;
- Characterization of materials, deposited by different plasma and laser techniques, by AFM, FTIR, profilometry, contact angle, and optical microscopy;
- Dissemination of scientific results.

Research & Development Sector



December 2013 –
March 2012

Technician 3rd degree

National Institute for Laser, Plasma and Radiation Physics (INFLPR), Low Temperature Plasma Laboratory – 409 Atomiștilor Street, Po- Box Mg- 36, RO-077125 Măgurele, ROMANIA.

<http://www.inflpr.ro>

- Measurement and interpretation of FTIR spectra of various materials deposited by plasma and laser techniques;
- Dissemination of scientific results.

Research & Development Sector



EDUCATION AND TRAINING

May 2019 -
October 2015



Ph.D. in Exact Sciences (*physics field*);

- score: *Excelent (Summa cum Laudae)*

Faculty of Physics University of Bucharest- 405 Atomistilor Street, Po- Box Mg- 11, 077125 Măgurele, ROMANIA.

<http://www.fizica.unibuc.ro>

June 2024 -
October 2022



Master in Computer Science

Faculty of Engineering and Computer Science, *SPIRU HARET* University – 46G Fabricii Street Sector 6, Bucharest, ROMANIA.

<https://misn-b.spiruharet.ro/>

June 2015 -
October 2013



Master in Physics

Faculty of Physics University of Bucharest- 405 Atomistilor Street, Po- Box Mg-11, 077125 Măgurele, ROMANIA.

<http://www.fizica.unibuc.ro>

February 2013 -
October 2009



Bachelor in Mathematics

Faculty of Mathematics and Computer Science, University of Bucharest, 14 Academiei Street, Sector 1, 010014, Bucharest, ROMANIA.

<http://www.fmi.unibuc.ro>

PERSONAL SKILLS

Mother tongue(s)

ROMANIAN

Another language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
ENGLISH	Proficient user	Proficient user	Proficient user	Proficient user	Proficient user
	C1				
FRENCH	Independent user	Independent user	Independent user	Independent user	Independent user
	B2				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user. [Common European Framework of Reference for Languages](#)

Job-related skills

- Nano-, micro- materials and thin film depositions at low/atmospheric pressure plasma;
- Analyses via high-resolution optical emission spectroscopy (OES);
- Statistical analysis of nano- and micro-materials from SEM images with ImageJ/ Matlab;
- Materials characterization and interpretation via Thermo desorption, LSC, FTIR, Optical Microscopy, AFM, LVEM-TEM/ SEM, Profilometry, and Contact Angle.

Membership

- Romanian Physical Society (RPS)- since 2013;
- European Physical Society (EPS)- since 2013;
- American Physical Society (APS)- since 2019;
- IEEE Advancing Technology for Humanity (IEEE)- since 2019;
- IEEE Nuclear and Plasma Sciences Society (IEEE NPSS)- since 2019;
- American Nuclear Society (ANS)- since 2020;
- IEEE Quantum- since 2021.

- Guest Editor**
- ❖ Special Issue *Advances in Fundamental and Applied Fusion Research domain*; Jurnalul COATINGS (ISSN 2079-6412), MDPI (Basel, Switzerland);
https://www.mdpi.com/journal/coatings/special_issues/fusion_research
- Board Reviewers**
- ❖ COATINGS Journal (ISSN 2079-6412), MDPI (Basel, Switzerland);
https://www.mdpi.com/journal/coatings/submission_reviewers
- Education**
- ✚ Informatics/experimental physics laboratories/internships/preparatory internships, etc., with undergraduate/graduate students.
- Chair Member**
- ♣ **Chair at Artificial Intelligence and Expert Systems II Session**, 15th Edition International Conference on Electronics, Computers and Artificial Intelligence (ECAI 2023), June 29-30 2023, Politehnica University, Bucharest, Romania.
 - ♣ **Chair at Morning Sessions, Virtual Plasma Hack Week**, June 28 - July 2nd, 2021, SUA.
 - ♣ **Chair at Tritium Side Session**, at the **Virtual FuseNet PhD Event**, The European Fusion Education Network, November 23, 2020.
- Jury Member**
- **Member** of International Jury (oral sessions) at the **Virtual American Nuclear Society Student Conference 2021**, April 10, 2021, Nord Carolina State University, USA.
 - **Member of National Jury at 14th Edition Informatics Project Competition (INFOMATRIX)**, Lumina- The University of South-East Europe, April 8th, 2016 Bucharest Romania.
- Member of the organizing team**
- ✓ Member of the organizing team at the online event **Plasma Hack Week**, July 11 – July 15, 2022, Online, USA.
<https://hack.plasmapy.org/2022/about/>
 - ✓ Member of the organizing team at the online event **Plasma Hack Week**, 28 June – 2 July 2021, Online, USA.
<https://hack.plasmapy.org/2021/about/>
 - ✓ **Member of the INFLPR** organizing team: the European Researcher's Night project in 2018, 2015, 2014, and 2013, Bucharest, Romania.
 - ✓ **Member of the INFLPR** organizing team: at the 19th, 17th, and 16th International Conference on Plasma Physics and Applications, in 2021, 2017, and 2013, Măgurele, Ilfov, Romania.
- Member of the volunteer team**
- ♣ **Reviewer @ American Nuclear Society Student Conference 2022**, April 14-16, 2022, at the University of Illinois at Urbana-Champaign, USA.
 - ♣ **Reviewer @ Virtual American Nuclear Society Student Conference 2021**, April 8-10, 2021, Nord Carolina State University, USA.
 - ♣ **Volunteer -Help Desk @ APS DPP Job Faire from Virtual 62nd Annual Meeting of the American Physical Society, Division of Plasma Physics**, November 10 – 12, 2020, Memphis, Tennessee, USA.
 - ♣ **Proctor Volunteer @ IEEE Xtreme 14.0 Programming Competition**, October 24th, 2020, Romanian Section.

Digital competence

SELF-ASSESSMENT

Information processing	Communication	Content creation	Safety	Problem-solving
Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user
Digital competencies - Self-assessment grid

Romanian Ministry of Education, Research and Innovation Certificate of Professional Competence- Knowledge of computer operating, August 14th, 2009

Licenses and Certifications

- March 23rd, 2021, IOP Publishing: **First stage of Peer Review Excellence: IOP training and certification.**
- **IBM Data Science Professional Certificate**- *authorized by IBM and offered through Coursera.*
 - a) course 1: **What is Data Science?** *Issued Dec 30, 2021- no expiration date*
<https://www.coursera.org/account/accomplishments/certificate/9PJBH72WFJZF>
- **IBM Cybersecurity Analyst Professional Certificate** - *authorized by IBM and offered through Coursera.*
 - a) course 1: **Introduction to Cybersecurity Tools & Cyber Attacks.** *Issued Jan 4, 2022- no expiration date*
<https://www.coursera.org/account/accomplishments/certificate/Y6YRAS87KTPB>
 - b) course 2: **Cybersecurity Roles, Processes & Operating System Security.** *Issued Jan 11, 2022- no expiration date*
<https://www.coursera.org/account/accomplishments/certificate/PYNDB43EBD2D>
 - c) course 3: **Cybersecurity Compliance Framework & System Administration.** *Issued Jan 11, 2022- no expiration date*
<https://www.coursera.org/account/accomplishments/certificate/KHFJP458J5YR>
 - d) course 4: **Network Security & Database Vulnerabilities.** *Issued Jan 11, 2022- no expiration date*
<https://www.coursera.org/account/accomplishments/certificate/4JGOEGXRECEZA>
 - e) course 5: **Penetration Testing, Incident Response and Forensics.** *Issued Jan 11, 2022- no expiration date*
<https://www.coursera.org/account/accomplishments/certificate/2WBLV4Q52QZM>
 - course 6: **Cyber Threat Intelligence.** *Issued Jan 12, 2022- no expiration date*
<https://www.coursera.org/account/accomplishments/certificate/H6Q6PBKNG9LV>
 - f) course 7: **Cybersecurity Capstone: Breach Response Case Studies.** *Issued Jan 17, 2022- no expiration date*
<https://www.coursera.org/account/accomplishments/certificate/8FP2EYPO558M>
 - g) course 8: **IBM Cybersecurity Analyst Assessment.** *Issued Jan 26, 2022- no expiration date*

<https://www.coursera.org/account/accomplishments/certificate/J97AAWCQUHXN>

Awards

- **Journal of Physics D: Applied Physics, IOP Outstanding Reviewer Awards 2023**
<https://accreditations.ioppublishing.org/f12c87d5-add1-44fa-9edb-9abf0dacbd82#gs.ckcj56>
- **Coatings 2021 Outstanding Reviewer Award**
<https://www.mdpi.com/journal/coatings/awards/1745>

July 2024

Dr. Valentina MĂRĂSCU