



Stefan Andrei Irimiciuc

Experience: 10 years

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Position: Scientific Researcher 2nd Rank

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EDUCATION

- 2014–2017 **PhD in Optical and Laser Physics** - "Experimental and Theoretical studies on laser ablation plasma plumes generated by laser ablation at different temporal regimes, Université Lille 1/France (Supervisor: Prof. Cristian Focsa) and “Alexandru Ioan Cuza” University of Iasi /Romania (Supervisor: Prof. Maricel Agop)
- 2012 –2014 Master degree in Nanotechnologies and Advanced Materials - "Optical and Electrical Diagnosis of a Laser Ablation Plasma" (in English), “Alexandru Ioan Cuza” University of Iasi /Romania
- 2009 –2012 Bachelor degree in Plasma Physics - "Diagnostic tools for low temperature plasmas", “Alexandru Ioan Cuza” University of Iasi/Romania

ACADEMIC POSITIONS

2023 – present Scientific Researcher Rank 2 - National Institute for Lasers Plasma and Radiation Physics/Romania

2018-2022 – present Scientific Researcher Rank 3 - National Institute for Lasers Plasma and Radiation Physics/Romania

2020- Present Scientific Researcher Rank 3 – Project manager, Development of Synchronous Optical and Electrical Techniques for Real-time, in situ Monitoring of Pulsed Laser Deposition Process, UEFISCDI Grant/Romania

2021 – present Scientific Researcher Rank 3 – Project manager, Understanding the limitation of Langmuir probe method for pulsed laser deposition monitorization: Academy of Romanian Scientists Grant/Romania

2020- present Scientific Researcher Rank 3 – Key member, Synthesis of oxide crystalline nanoparticles by plasma microwave generator, UEFISCDI Grant/Romania

2020- present Scientific Researcher Rank 3 – Key member, ELI 04- Real time investigations of Langmuir probe and target current measurements for fs irradiation of ELI related optical components and targets, UEFISCDI Grant/Romania

Other projects:

Sept 2020 - Mar 2021 Postdoctoral grant at Physics Institute of Czech Academy of Science / Czechia

May - Nov 2019 Postdoctoral grant at Physics Institute of Czech Academy of Science/ Czechia.

2017 –2018 Research Assistant – SATY: Satellite hybrid micro-thrusters/ “Alexandru Ioan Cuza” University of Iasi/Romania

2017–2018 Research Assistant ISTAPLAS: Electrostatic instabilities in magnetized an unmagnetized low temperature plasmas, “Alexandru Ioan Cuza” University of Iasi/Romania

2017–2018 Research Assistant: AirFRAME (Star Rosa 162/20.07.2017), “Alexandru Ioan Cuza” University of Iasi/Romania

2014 –2016 Research Assistant: RO-CERN (ELI-NP; FAIR) Program, “Alexandru Ioan Cuza” University of Iasi/Romania

Mar– Oct 2014 Member in WP S1 (W7-X Campaigns) Project, Innsbruck University/Austria Fellowships

May – Jul 2017 Erasmus Scholarship, Université Lille 1 - Sciences et Technologies/France

Sept 2016 Summer School: Physics of Advanced Materials, “Alexandru Ioan Cuza” University of Iasi/Romania

Jul 2016 – Jul Summer School: Lasers in Materials Science Lasers for the Nano-Engineering of Surface, Polytechnic University of Milan/Italy.

Jul – Dec 2015 Doctoral Scholarship recipient „Prin burse doctorale spre o nouă generație de cercetători de elită” Contract no. POSDRU/187/1.5/S/155397, “Alexandru Ioan Cuza” University of Iasi/Romania

Mar –Aug 2014, Ceepus Scholarship, University of Innsbruck Institut für Ionenphysik und Angewandte Physik, Innsbruck/Austria.

Nov 2014 Summer School: Physics of Advanced Materials, “Alexandru Ioan Cuza” University of Iasi/Romania

Nov 2013 Summer School: Plasma Physics and Fusion Research, IPP Max Plank Institute, Greifswald/Germany

Jun – Aug 2011 Erasmus Scholarship, Université Lille 1 - Sciences et Technologies, Lille (France)

Nov 2011 Summer School: Plasma diagnostics by electrical probes and lasers, “Alexandru Ioan Cuza” University of Iasi/Romania

TEACHING

REVIEWER IN SCIENTIFIC JOURNALS

Member of Reviewer Board for Symmetry.

Registered Reviewer for IOP, Wiley, Elsevier and MDPI

Reviewed over 25 manuscripts for Applied Surface Science, Thin Solid films, International Journal of Molecular sciences, Applied Physics D, Symmetry, Coatings, Molecules, Journal of Applied Physics, Metals, Measurement Science and Technology,

SOCIETY MEMBERSHIP

2010 – 2014 Member of Iasi Plasma Advanced Research Center, "Alexandru Ioan Cuza" University of Iasi/Romania
2014 –2017 Member in LOA-SL Laboratory, “Alexandru Ioan Cuza" University of Iasi/Romania
2018 - present Alumni Society of Ceepus Program/Austria.
2022- present Member of Romanian Physics Society
2022- present Member of Association Interactions, Complex Phenomena and Advanced Materials Society

DISTINCTIONS-AWARDS-HIGHLIGHT

- 2022 Special mention prize „Young Reseachers in science and engineering” offered by Cluj-Napoca city in partnership with Prof. Dr. Rada Mihalcea
- 2021 Ilie Bursuc Prize for most original work presented by a young researcher at International Conference on Advanced Materials 24-30 September 2021, Saint Lieu du Galois/Spain
- 2018 Young researcher awards by European Material Research Society at 2021 EMR-Spring meeting.
- Prix de these “Recherche Internationale” awarded by University of Lille for the exceptional results obtained during the development of the PhD. thesis, 2018/France
- 2018 Best PhD Student – awarded for outstanding work during the development of the PhD thesis - by Alexandru Ioan Cuza University of Iasi, 1 Oct - 2018/Romania
- 2018 Best Poster Prize at 2018 European Materials Research Society Spring Meeting, 17-22 June Strasbourg, France
- 2016 Best original work presented by a young scientist prize at International Conference on Advanced Materials 7-14 September 2016, Cluj/Romania
- 2016 2nd place in the best poster competition at International Conference of Photoexcited Processes and Applications 28 August – 2 September 2016, Brasov/ Romania
- 2016 Best Poster Prize at 2016 European Materials Research Society Spring Meeting, 2-6 May Lille/France
- 2015 2nd place in the best poster competition Prize at Physics and Modern Education Technologies National Conference, 22 May, Iasi/Romania
- 2014 2nd place at 2014 Physics and Modern Education Technologies National Conference, 22 May Iasi/Romania
- 2013 Romanian National Finals of 2013 FameLab competition, Bucharest/Romania
- 2013 Best young student researcher prize awarded in 2013 by "Alexandru Ioan Cuza" University of Iasi/Romania

CURRENT RESEARCH INTERESTS

pulsed laser deposition; laser produced plasmas plasma diagnostics; optical emission spectroscopy; Langmuir Probe; Laser induced damage threshold; fs-laser matter interaction; ion acceleration; protective coatings;

PAST RESEARCH ACTIVITIES

pulsed laser deposition; laser produced plasmas plasma diagnostics; optical emission spectroscopy; Langmuir Probe; Laser induced damage threshold; fs-laser matter interaction; ion acceleration; protective coatings;

FUNDED RESEARCH PROJECTS

- Aug 2020- Aug2022 Scientific Researcher Rank 3 – Project manager, Development of Synchronous Optical and Electrical Techniques for Real-time, in situ Monitoring of Pulsed Laser Deposition Process, UEFISCDI Grant
- Oct 2021 – 2022 Project manager, Understanding the limitation of Langmuir probe method for pulsed laser deposition monitorization: AOSR grant

PUBLICATIONS - CITATIONS

Hirsh Index **14**

Citation **588**

56 Articles in ISI indexed journals, 2 Books and 4 book chapters.

35 oral talks and, 45 poster type presentation at International Conferences; 1 invited talk at International Conference on Advanced Materials 24-30 September 2021, Saint Lieu du Galois, Spain

SELECTED PUBLICATIONS

1. Laser ablation of $(\text{GeSe}_2)_{(100-x)}(\text{Sb}_2\text{Se}_3)_x$ chalcogenide glasses: Influence of the target composition on the plasma plume dynamics, Irimiciuc, S; Boidin, R; Bulai, G; Gurlui, S; Nemeč, P; Nazabal, V; Focsa, C, Applied Surface Science, 2017, 418, 594-600
2. Langmuir probe investigation of transient plasmas generated by femtosecond laser ablation of several metals: Influence of the target physical properties on the plume dynamics, Irimiciuc, SA; Gurlui, S; Bulai, G; Nica, P; Agop, M; Focsa, C, Applied Surface Science, 2017, 417, 108-118
3. Target properties - Plasma dynamics relationship in laser ablation of metals: Common trends for fs, ps and ns irradiation regimes, Irimiciuc, SA; Nica, PE; Agop, M; Focsa, C, Applied Surface Science, 2020, 506, 144926
4. Multiple structure formation and molecule dynamics in transient plasmas generated by laser ablation of graphite, Irimiciuc, SA; Hodoroba, BC; Bulai, G; Gurlui, S; Craciun, V, Spectrochimica Acta Part B-Atomic Spectroscopy, 2020, 165, 105774
5. Investigation of laser-produced plasma multistructuring by floating probe measurements and optical emission spectroscopy, Irimiciuc, SA; Chertopalov, S; Craciun, V; Novotny, M; Lancok, J, Plasma Processes And Polymers, 2020, 17, 11, e2000136
6. In situ optical and electrical analysis of transient plasmas generated by ns-laser ablation for Ag nanostructured film production, Irimiciuc, SA; Chertopalov, S; Bulir, J; Fekete, L; Vondracek, M; Novotny, M; Craciun, V; Lancok, J, Vacuum, 2021, 193, 110528
7. Insight into the plasma oxidation process during pulsed laser deposition, Irimiciuc, SA.; Chertopalov, S; Bulir, J; Vondracek, M; Fekete, L; Jiricek, P; Novotny, M; Craciun, V; Lancok, J Plasma Processes And Polymers, 2021, e2100102
8. Multifractal Model for Transient Phenomena Analysis in Laser Produced Plasmas, Irimiciuc, SA; Agop, M, Symmetry-Basel, 2021, 13, 10, 1968
9. Investigations on the CuI thin films production by pulsed laser deposition Irimiciuc, S. A.; Chertopalov, S.; Buryi, M.; Remeš, Z.; Vondráček, M.; Fekete, L.; Novotný, M.; Lancok, J. Applied Surface Science Volume 606, 2022, 154868
10. On the Dynamics of Transient Plasmas Generated by Nanosecond Laser Ablation of Several Metals Irimiciuc, SA; Chertopalov, S; Novotny, M; Craciun, V; Lancok, J Materials 2021, 14, 23, 7336

11. Langmuir Probe Technique for Plasma Characterization during Pulsed Laser Deposition Process, Irimiciuc, SA; Chertopalov, S; Lancok, J; Craciun, V, Coatings, 2021, 11, 7, 762
12. Concentric double hollow grid cathode discharges. Spectral investigations and phenomenological approach Konrad-Soare, CT; Enescu, F; Dimitriu, DG; Dobromir, M; Teodorescu-Soare, E G; Mazzanti, F; Irimiciuc, SA; Ionita, C; Schrittwieser, R, Plasma Sources Science & Technology, 2021, 30, 8, 85006
13. A compact non-differential approach for modeling laser ablation plasma dynamics, Irimiciuc, SA; Gurlui, S; Nica, P; Focsa, C; Agop, M., Journal Of Applied Physics, 2017, 121,8, 83301
14. Understanding pulsed laser deposition process of copper halides via plasma diagnostics techniques, Irimiciuc, SA; Chertopalov, S; Novotný, M; Craciun, V; Lancok, J 2021, Journal of Applied Physics, 130, 24, 243302