

Curriculum Vitae

Cristian URSU



Personal data

Born on April 18, 1982 in Botosani, Romania

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Institutional address

"Petru Poni" Institute of Macromolecular Chemistry 41A Gr. Ghica
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Education

2010 – 2013

Postdoctoral studies on “Complex materials processing and characterization by excimer laser ablation”, "Petru Poni" Institute of Macromolecular Chemistry, Iasi, Romania

2006 – 2010

Doctoral studies on “Characterization by optical and electrical methods of laser ablation generated plasmas”, University of Lille, France and Faculty of Physics, “Al.I. Cuza” University, Romania

2004 – 2006

Master in Plasma Physics, Faculty of Physics, “Al.I. Cuza” University

2000 – 2004

Faculty of Physics, “Al.I. Cuza” University

Known languages

English and French

Professional experience

2014 – Present

Scientific Researcher, “Petru Poni” Institute of Macromolecular Chemistry, Iasi

2013 – 2014

Researcher Assistant, “Petru Poni” Institute of Macromolecular Chemistry, Iasi

Research stages

- 2011 (May–June) Postdoctoral research stage on Pulsed Laser Deposition (PLD) of carbon-based thin films materials and plasma diagnosis by using a femtosecond laser –University of Lille, France
- 2009 (Oct.–Dec.) Doctoral research stages – University of Lille, France
- 2007 (Oct.) – 2008 (Mar.)
- 2007 (Feb.–July)

Scientific field of expertise

Pulsed Laser Deposition of transparent and conductive oxide thin films, graphene, ferrite thin films and characterization;
Nanosecond laser produced plasma characterization (time- and space- resolved optical emission spectroscopy, ICCD fast imaging; Langmuir and emissive probes, electrostatic energy analyzer);
Excimer laser material processing (photochemical and physical surface modifications induced on polymers by the UV laser)

Research projects

Representative of Romania in the management committee of COST Action BM1205 European Network for Skin Cancer Detection using Laser Imaging, 2013-2017 (web link: <http://www.skin-laser-imaging.org/>);
Member in different national research projects: Satellite hybrid micro-thrusters (SATY), 169/20.07.2017, CDI type national project, duration 2016-2019, total funds 2000000 RON, funder Romanian Space Agency (ROSA); project PN-II-PT-PCCA-2013-4-1861 (Flexible white OLED for lighting applications), total funds 1400000 RON, funder *UEFISCDI*; etc.

Reviewer

Applied Surface Science, Material Chemistry and Physics, Journal of Alloys and Compounds, Vacuum (Web of Science ResearcherID [G-2272-2019](#))

Scientific research activity 29 Web of Science rated papers (and 32 powered by Scopus) of which 8 as main author: 229 citations (from which 194 without self-citations), Hirsch index 10;

4 invited lectures:

- i) 12th International Conference on Physics of Advanced Materials (ICPAM-12), 22 - 28 September 2018, Heraklion, Greece;
- ii) 6th National Conference of Applied Physics (CNFA), November 2016, "Gheorghe Asachi" Technical University of Iasi, Romania;
- iii) 5th International Conference on the Characterization and Control of Interfaces for High Quality Advanced Materials, July 7-10, 2015, Kurashiki, Japan;
- iv) 13th International Balkan Workshop on Applied Physics, 4 - 6 July, 2013, Constanta, Romania;

18 oral communications at international conferences

Links

UEFISCDI ID (UEF-iD): U-1700-031Y-4841; Web of Science ResearcherID [G-2272-2019](#);

ORCID <https://orcid.org/0000-0003-3568-920X>;

<https://www.scopus.com/authid/detail.uri?authorId=25121762900>

Invited lectures

- 1) P.E. Nica, S. Gurlui, S. Irimiciuc, **C. Ursu**, M. Agop, M. Ziskind, C. Focsa, Experimental and theoretical studies on the complex dynamics of transient plasmas generated by laser ablation in various temporal regimes, 12th International Conference on Physics of Advanced Materials, 22 - 28 September 2018, Heraklion, Greece
- 2) **C. Ursu**, C. Tugui and P.E. Nica, Enhancement of carbon dimers formation in graphite excimer laser ablation plasma, 6th National Conference of Applied Physics, "Gheorghe Asachi" Technical University, November 26 - 27, 2016, Iasi, Romania

- 3) E. Puiu, D. Nedelcu, **C. Ursu**, D. Vaideanu, M. Agop, 3D printing of the "liquid wood", 5th International Conference on the Characterization and Control of Interfaces for High Quality Advanced Materials and the 51st Summer Symposium on Powder Technology, July 7-10, 2015, Kurashiki, Japan
- 4) **C. Ursu**, T. Coman, O.F. Călțun, Sequential pulsed laser deposition of Al doped and Ni-Al co-doped ZnO thin films, 13th International Balkan Workshop on Applied Physics, July 4-6, 2013, Constanta, Romania

Oral cummunications

- 1) **C. Ursu**, B.G. Rusu, M. Olaru, P.E. Nica, C. Focsa; Dynamics of a V-shape plasma produced by excimer laser ablation of graphite, Spring Meeting of the European Materials Research Society (E-MRS), Nice, France, May 27 to 31, 2019
- 2) **C. Ursu**, P.E. Nica, Arrow like laser produced carbon plasma dynamics, European Materials Research Society Spring Meeting, May 02-06, 2016, Lille, France
- 3) **C. Ursu**, Pulsed laser deposition of non-polar Al-doped ZnO electrodes on polymer surfaces: a new approach, Eighth Cristofor I. Simionescu Symposium Frontiers in Macromolecular and Supramolecular Science, "Petru Poni" Institute of Macromolecular Chemistry, June 1-3, 2016, Iasi, Romania
- 4) D. Timpu, T. Coman, **C. Ursu**, Sequential PLD, an alternative method for producing highly conductive and transparent Al-doped ZnO thin films, 11th International Conference on Physics of Advanced Materials, September 8-14, 2016, Cluj-Napoca, Romania
- 5) **C. Ursu**, T. Coman, E.L. Ursu, D. Timpu, M. Olaru, Al-doped ZnO thin films deposition for flexible organic light emitting devices, European Materials Research Society Spring Meeting, 11-15 May 2015, Lille, France
- 6) D. Timpu, **C. Ursu**, Room temperature PLD of Al-doped ZnO thin films: WAXD and SPM investigations, 3th CEEP Workshop on Polymer Science, "Petru Poni" Institute of Macromolecular Chemistry, September 23-26, 2015, Iasi, Romania
- 7) C. Tugui, **C. Ursu**, M. Aflori, M. Cazacu, Metallic compliant electrodes for the dielectric silicone elastomers, Workshop Electromechanically Active Polymer (EAP) transducers & artificial muscles, Queen Mary University of London, November 25-26, 2014
- 8) **C. Ursu**, I. Bordianu, C. Cotofana, M. Olaru, Composites hybrides à base de PVA avec propriétés luminescentes pour l'élaboration des médicaments, X^{ème} Colloque Franco-Roumain

sur les Polymères, Polymères et Matériaux Avancés: Développement Durable et Performances, Septembre 6-8, 2011, Douai, France

- 9) C. Vitelaru, A.S. Chiper, V. Tiron, **C. Ursu**, G. Popa, On the transitory phenomena in pulse discharges, 10th International Conferances on Global Research and Education (inter-Academia), Septembre 26-29, 2011, Sucevita, Romania
- 10) **C. Ursu**, M. Drobotă, I. Bordianu, M.A. Olaru, B.C. Simionescu, Surface Properties of Excimer Laser Treated Poly(ethylene terephthalate) Films at 248 nm and 308 nm, The 4th National Conference of Applied Physics (CNFA), "Gh. Asachi" Technical University, November 19-20, 2010, Iasi, Romania
- 11) **C. Ursu**, O.G. Pompilian, S. Gurlui, C. Focsa, M. Dudeck, Optical characterization of Al₂O₃ laser produced plasma, 15th Conference on Plasma Physics and Applications (CPPA), "A.I. Cuza" University, July 1-4, 2010, Iasi, Romania
- 12) L. Balika, C. Focsa, **C. Ursu**, S. Gurlui, S. Pellerin, N. Pellerin, V. Freyssengeas, M. Dudeck, Laser-BNSiO₂ ceramic interactions in working Hall Effect Thruster: experiment and simulation, 15th Conference on Plasma Physics and Applications (CPPA), "A.I. Cuza" University, July 1-4, 2010, Iasi, Romania
- 13) C. Focsa, **C. Ursu**, S. Gurlui, I. Balika, S. Pellerin, N. Pellerin, M. Dudeck, Laser Energy Deposition on the Chamber Surface of the PPS100-ML Hall Effect Thruster: Experiment and Simulation, 6th International Spacecraft Propulsion Conference, May 3-6, 2010, San Sebastian, Espagne
- 14) C. Focsa, **C. Ursu**, S. Gurlui, D. Pagnon, S. Pellerin, N. Pellerin, P. Echegut, M. Dudeck, Energy Deposition on the Surfaces of Hall Effect Thrusters for Satellites – Simulation by Laser Beam, 3rd EUCASS, the European Conference for AeroSpace Sciences, Versailles conference center – Paris, July 6-9, 2009, France
- 15) **C. Ursu**, G.O. Pompilian, S. Gurlui, G. Popa, C. Focsa, Fundamental parameters of laser ablation plasma dynamics derived from space-and time-resolved optical diagnosis, E-MRS 2009, Spring Meeting, Congress Center, June 8 - 12, 2009, Strasbourg, France
- 16) **C. Ursu**, S. Gurlui, M. Ziskind, C. Focsa, P. Nemeč, V. Nazabal, Plasma plume dynamics in pulsed laser deposition of As_xSe_{1-x} chalcogenide glasses, 9th International Balkan Workshop on Applied Physics (IBWAP), July 7-9, 2008, Constanta, Romania

- 17) **C. Ursu**, S. Gurlui, G. Popa, M. Ziskind, C. Focsa, Combined optical/electrical investigations on the dynamics of laser ablation plasma plumes, 9th International Balkan Workshop on Applied Physics (IBWAP), July 7-9, 2008, Constanta, Romania
- 18) C. Focsa, P. Nemeč, M. Ziskind, **C. Ursu**, S. Gurlui, V. Nazabal, Laser Ablation of $\text{As}_x\text{Se}_{100-x}$ Chalcogenide Glasses: Plume Investigations, E-MRS Spring Meeting, Symposium B: Laser and plasma in micro- and nano-scale materials processing and diagnostics, May 26 - 30, 2008, Strasbourg, France