PERSONAL INFORMATION

Ionuț-Cătălin CONSTANTIN

National Institute for Laser, Plasma & Radiation Physics (INFLPR)

0736560919

catalin.constantin@inflpr.ro

Sex::Male Date of birth:06/03/1996 Nationality: Romanian

WORK EXPERIENCE

Sept 2022 - Present

Research Assistant

INFLPR, Ilfov, Măgurele, România

Nov 2019 – May 2021

Trainee Physicist

INFLPR, Ilfov, Măgurele, România

- Projects:
  - Textiles with electromagnetic shielding and flame retardant properties obtained by plasma-based methods (TexEMFire)
  - EURATOM WPFFC-C
  - EURATOm- WP-EDU

Main activities and responsibilities:

- Production of thin films using low pressure deposition methods
- Characterization of the obtained materials
- Results interpretation

Jul 2018 – Aug 2018

Student

INFLPR, Ilfov, Măgurele, România

Internship

- Production of thin metal films using magnetron sputtering
- Characterization of materials obtained by Contact Profilometry

EDUCATION AND TRAINING

Oct 2021 - Present

PhD Student

Faculty of Physics of the University of Bucharest

Optics Spectroscopy Plasma and Lasers

Oct 2019 – Jul 2021

Master in Optics, Lasers and Applications

Faculty of Physics of the University of Bucharest

Thesis Title: Use of optical emission spectroscopy for plasma process diagnostics

Oct 2015 – Jul 2019

Bachelor's degree (physics engineer)

Faculty of Physics of the University of Bucharest

Thesis Title: Comparative study of metal thin films deposition by magnetron sputtering with rectangular and circular magnetron

PERSONAL SKILLS

Mother tongue Romanian

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	C1	C1
Certificate provided by Ministry of Education CLS				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
Common European Framework of Reference for Languages

Organizational / managerial skills

- I participated in mentoring team for the Summer School of Science & Technology from Măgurele - MSciTeh2020. (Spectroscopy and color)
- Volunteer in the organizing team for INFLPR (National Institute for Laser, Plasma and Radiation Physics) at the European Researcher's Night project in 2015, 2018, 2019, Bucharest, Romania
- Volunteer for NILPRP (National Institute for Laser, Plasma and Radiation Physics) at Sci + Fi Fest Project in 2016, Bucharest, Romania

Job-related skills

- Production of thin films using various methods of deposition at low pressure
- Characterization of the materials obtained by Contact Profilometry
- Interpretation of the obtained experimental data
- Use of emission spectroscopy to diagnose plasma processes (Stark Broadening evaluation to determine electron number density, determination of rotational and vibrational temperature using N2-SPS and N2 + - FNS spectra, determination of electron temperature from Argon lines)
- The absolute calibration in the intensity of a spectral system
- Handling and use of plasma sources at atmospheric pressure

ADDITIONAL INFORMATION

Publications

- Modelling the Woven Structures with Inserted Conductive Yarns Coated with Magnetron Plasma and Testing Their Shielding Effectiveness by Ion Razvan Radulescu, Lilioara Surdu, Razvan Scarlat, **Catalin Constantin**, Bogdana Mitu, Cristian Morari and Marian Costea Textiles 2021, 1(1), 4-20; https://doi.org/10.3390/textiles1010002 (ISI)
- INFLUENCE OF PLASMA COATED WOVEN FABRICS YARN'S DENSITY ON ELECTROMAGNETIC SHIELDING EFFECTIVENESS RĂDULESCU Ion Răzvan, SURDU Lilioara, VISILEANU Emilia, SCARLAT Răzvan, **CONSTANTIN Cătălin**, MORARI Cristian, MITU Bogdana, ANNALS OF THE UNIVERSITY OF ORADEA , FASCICLE OF TEXTILES, LEATHERWORK, vol 21, no. 1, 2020, pag 97-102 (BDI)
- Construcția unui spectrograf Arduino pentru studiul interacțiunii dintre lumină și materiale Elevi: Ana LUPOAE, Vlad-Ștefănuț RADU, Georgiana TREISTA, Octavian SUSANU, Mentors: Bogdana MITU, Ciprian DUMITRACHE, Tomy ACSENTE, **Cătălin CONSTANTIN**, Alina ARDELEANU, Curierul de Fizică, Publicația IFIN-HH și a societății Română de Fizică, Nr. 2 (88), Decembrie 2020, pag 16-20 (non-ISI)

International conferences

- 1. **I. C. Constantin**, A. A. Ardeleanu, V. Marascu, C. Stancu, B. Mitu, G. Dinescu, Improvement of Cu magnetron sputtering deposition process for textile fabrics application, The 6th International Colloquium „Physics of Materials" (PM 6), 15 – 16 November, 2018, Bucharest, Romania (Poster).
- 2. V. Marascu, A. Lazea-Stoyanova, A. Bonciu, C. Stancu, B. Mitu, **C. Constantin**, G. Dinescu, Synthesis and characterization of Tungsten particles obtained in controlled atmospheric plasma jet, The 5th International Colloquium "Physics of Materials" (PM5), University "Politehnica" of Bucharest, November 10- 11, 2016, Bucharest, Romania (Poster).
- 3. **C. I. Constantin**, C. Dumitrache, B. Mitu, Characterization of a filamentary argon plasma jet by optical emission spectroscopy, 19th INTERNATIONAL CONFERENCE

ON PLASMA PHYSICS AND APPLICATIONS & 1st Workshop on Plasma Applications for Smart and Sustainable Agriculture under COST Action CA 19110 – PlAgri, CPPA 2021, August 31 – September 3, Magurele, Bucharest, ROMANIA Poster

National conferences

- 1. V. Marascu, **C. Constantin**, A. Lazea-Stoyanova, A. Bonciu, S. D. Stoica, C. Stancu, M. Teodorescu, G. Dinescu, Production of tungsten particles with various shapes by using controlled atmospheric pressure plasma, Annual Scientific Conference of Faculty of Physics, University of Bucharest, 17 June, 2016,Bucharest, Romania
- 2. **C.I. Constantin**, C. Dumitrache, B. Mitu, The use of optical emission spectroscopy in the study of a fillamentary argon plasma jet, Annual Scientific Conference of Faculty of Physics, University of Bucharest, 18 June, 2021,Bucharest, Romania