
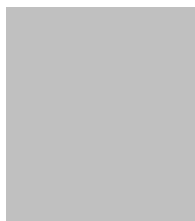




PERSONAL
INFORMATION

Corneliu Constantin POROSNICU

 National Institute for Laser, Plasma and Radiation Physics +40214574468  +40744310570 corneliu.porosnicu@inflpr.ro <https://eppa.inflpr.ro>

Sex M | Date of birth 16/12/1981 | Nationality Romanian

POSITION WITHIN THE
PROJECT**Key Member**WORK
EXPERIENCE

Aprilie – Iunie 2021 Noiembrie 2021-prezent	Head of Low Temperature Plasma Laboratory National Institute for Laser, Plasma and Radiation Physics, Atomistilor Street no. 409 , Magurele, 077125, Ilfov, Romania Type or area of activity Leading Position
Oct. 2020-Mar 2021 Iulie- Septembrie 2021	Deputy Head of Low Temperature Plasma Laboratory National Institute for Laser, Plasma and Radiation Physics, Atomistilor Street no. 409 , Magurele, 077125, Ilfov, Romania Type or area of activity Leading Position
2020-prezent	Scientific researched 1st degree National Institute for Laser, Plasma and Radiation Physics, Atomistilor Street no. 409 , Magurele, 077125, Ilfov, Romania Type or area of activity Research
2019-2020	Scientific researched 2nd degree National Institute for Laser, Plasma and Radiation Physics, Atomistilor Street no. 409 , Magurele, 077125, Ilfov, Romania Type or area of activity Research
2012-2019	Scientific researched 3rd degree National Institute for Laser, Plasma and Radiation Physics, Atomistilor Street no. 409 , Magurele, 077125, Ilfov, Romania Type or area of activity Research
2009-2012	Scientific researched degree National Institute for Laser, Plasma and Radiation Physics, Atomistilor Street no. 409 , Magurele, 077125, Ilfov, Romania Type or area of activity Research
2007-2008	Asistant Researcher National Institute for Laser, Plasma and Radiation Physics, Atomistilor Street no. 409 , Magurele, 077125, Ilfov, Romania Type or area of activity Research

EDUCATION
AND TRAINING

2008 - 2011

PhD in Physics

University of Bucharest, Faculty of Physics, Romania

Thesis title: "Synthesis and characterization of films of interest for nuclear physics using thermionic vacuum arc method (T.V.A.)"

2008-2010

Master in Physics

University of Bucharest, Faculty of Physics, Romania

Thesis title: "Fusion plasma – Tokamak first wall interactions"

2003-2008

Physics Engineer

University of Bucharest, Faculty of Physics, Romania

Thesis title: "Deposition parameters optimization for thin films obtained using thermionic vacuum arc method"

PERSONAL SKILLS
Mothertongue(s) Romanian

Otherlanguage(s)

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	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spokeninteraction	Spokenproduction	
Replacewithlanguage	C 2	C2	C2	C2	C2
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Communication skills

- Good communication skills obtained through project director experience, member in a research team and PhD students coordination.

Organisational / managerial skills

- Deputy Head of Low Temperature Plasma Laboratory: October 2020-March 2021 and July- September 2021
- Head of Low Temperature Plasma Laboratory: April – June 2021 and November 2021- present
- Team work and experience within scientific research gained as team member in more than 10 projects.
- Project manager of a national research contract and two international research contracts.
- Partner Responsible in two national partnership projects
- Certificate of Project Manager issued by the National Qualifications Agency
- Certified Executive Manager issued by the National Qualifications Agency
- Member in more than 10 projects, director of 3 projects, partner responsible of 2 projects

Job-related skills

- Contribution in thermionic vacuum arc method development with applications in obtaining nanostructured and multifunctional thin films
- Contribution to preparation and characterization of carbon layers
- Nanocomposite thin films deposition of direct interest for fusion (Be-W-C)
- Contribution to pure and composite beryllium layers preparation for thermonuclear applications. Be coatings on „smart“ witness tiles and on Inconel tiles for ITER-like wall Project developed at JET.UK. Fundamental studies on Be-C-W film formation and on nuclear fuel retention inside them.
- Nuclear fuel desorption and retention study in nanocomposite thin films (Be-W-C)
- Deposition and characterization of nanocomposite films obtained by thermionic vacuum arc method..
- Electrical and optical characterization of arc plasma.
- Deposition parameters correlation.
- Data acquisition systems.
- Fabrication of nanostructures using thermionic vacuum arc method.
- Low Temperature Plasma.

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Experienced user	Experienced user	Experienced user	Experienced user	Experienced user

Research internships and collaborations

- 15 August-15 October 2011
Training courses
Deuterium desorption measurements using Thermal Desorption Spectroscopy (TDS) within Max-Planck-Institut für Plasmaphysik, Material Science Laboratory, Garching, Germany.
- 2008-2011 (5 months per year),
International internships within Max-Planck-Institut für Plasmaphysik, Material Science Laboratory, Garching, Germany.
- 15 April – 15 July 2009
Training courses
Sample characterization using Rutherford Backscattering Spectroscopy (RBS) within Max-Planck-Institut für Plasmaphysik, Material Science Laboratory, Garching, Germany.
- 15 October – 15 November 2009
Training courses
Deuterium retention measurements using Nuclear Reaction Analysis (NRA) within Max-Planck-Institut für Plasmaphysik, Material Science Laboratory, Garching, Germany

Other skills

- Windows skills: Origin, Corel 12, Adobe Photoshop, Microsoft Office, Labview, SIMNRA
- Design knowledge and solutions applicable in electronics and mechanics
- Hardware interface, computer aided processes
- Operation on DOS/ Windows/Linux/Unix systems

Relevant experience gained within national and international research

2016 – Project director: Romania Participation in WP-JET 3 and complementary research /JET 3/ EUROfusion

- projects
- 2014-2017 – Project director:** Energetically independent ecologic module for venting and illumination with antibacterial properties used for exterior walls covering; UEFISCDI;
 - 2014-2016 – Partner responsible:** Extreme Light Induced Ablation Plasma Jet And Nanopatterning - ELIAN RO-CERN competition, 2014;
 - 2012-2014 – Project director:** Gaseous inclusion trapping mechanism study of ITER beryllium related mixed materials: **EFDA Post Doctoral Fellowship;**
 - 2012-2016 – Partner responsible:** Carbon and titanium based complex nanocomposite for industrial applications / CREATIF/ 160/2012/ UEFISCDI;
 - 2011-2015 -Specialist:** The study of giga and terra watt laser beam interaction with carbon fibers, tungsten and beryllium; UEFISCDI-IDEI 4/2011
 - 2014-2016 - Specialist:** Studies of the plasma facing components after fusion plasma irradiation; FP7-EURATOM;
 - 2008-2010 - Specialist:** Production of Beryllium Coatings for Inconel Cladding and Beryllium tile Markers for the ITER; FP7-EURATOM
 - 2009-2011 Specialist-** Technology for coating anti reflexive and protective diamond like carbon DLC on optic elements; OPTICDLC
 - 2012-2013 - Specialist:** Study of deuterium trapping mechanisms of ITER beryllium-related mixed materials: WP12-IPH-A01-3-01/BS FP7-EURATOM

ADDITIONAL INFORMATION

Scientific articles published in ISI journals relevant for project (selection)

1. R. Mateus, **C. Porosnicu**, N. Franco, P.A. Carvalho, C. P. Lungu, E. Alves, Stability of beryllium coatings deposited on carbon under annealing up to 1073 K, Fusion Engineering and Design, Volume 146, Part A, September 2019, Pages 303-307
2. Zlobinski, M., Bernhard Unterberg, Gregory De Temmerman, Sebastijan Brezinsek, Marcin Rasiński, Christian Linsmeier, Cristian Lungu, Dirk Nicolai, Dmitry Matveev, Sören Möller, **Corneliu Porosnicu**, Paul Dinca, Benjamin Spilker, Yulia Martynova, Laser-Induced Desorption of co-deposited Deuterium in Beryllium Layers on Tungsten, Nuclear Materials and Energy, Volume 19, May 2019, Pages 503-509
3. Jepu, Ionut; Matthews, Guy; Widdowson, Anna; Rubel, Marek; Fortuna-Zalesna, Elzbieta; Zdunek, Joanna; Petersson, Per; Thompson, Vaughan; Dinca, Paul; **Porosnicu, Corneliu**; Coad, Paul; Heinola, Kalle; Catarino, Norberto; Pompilian, O; Lungu, Cristian, Beryllium melting and erosion on the upper dump plates in JET during three ILW campaigns, Nucl. Fusion 59 (2019) 086009 (21pp)
4. Vincent Nemanic, Marko Zumer, **Corneliu Porosnicu**, Bogdan Butoi, Eduardo Alves, Rodrigo Mateus, Deuterium Inventory Determination in Beryllium and Mixed Beryllium-Carbon Layers Doped with Oxygen, Fusion Engineering and Design, Volume 150, January 2020, Article 111365
5. M. Zlobinski , G De Temmerman , **C Porosnicu** , D Matveev , B Unterberg , G Sergienko , S Brezinsek , D Nicolai , A Terra , M Rasinski , B Spilker , M Freisinger , S Möller , Ch Linsmeier , C P Lungu and P Dinca, Efficiency of laser-induced desorption of D from Be/D layers and surface modifications due to LID, Physica Scripta T171 (2020) 014075 (7pp)
6. Hakola, Antti; Heinola, Kalle; Mizohata, Kenichiro; Likonen, Jari; Lungu, Cristian; **Porosnicu, Corneliu**; Alves, Eduardo; Mateus, Rodrigo; Bogdanović Radović, Iva; Siketic, Zdravko; Nemanic, Vincenc; Kumar, Mohit; Pardanaud, Cédric; Roubin, Pascale, Effect of composition and surface characteristics on fuel retention in beryllium-containing co-deposited layers, Physica Scripta - T171 (2020) 014038 (8pp)
7. Veis, Pavel; Marin Roldan, Alicia; Dwivedi, Vishal; Karhunen, Juuso; Paris, Peeter; Jogi, Indrek; **Porosnicu, Corneliu**; Lungu, Cristian; Nemanic, Vincenc; Hakola, Antti, Quantification of H/D content in Be/W mixtures coatings by CF-LIBS, Physica Scripta T171 (2020) 014073 (7pp)
8. Paul Dinca, Bogdan Butoi, **Corneliu Porosnicu**, Gloria Pompilian, Cornel Staicu, Cristian Lungu, Ion Burducea, Structure, morphology and deuterium retention and release properties of pure and mixed Be and W layers, Journal of Physics D: Applied Physics, Volume: 53 Issue: 32 Article Number: 325304
9. Peeter Paris, Indrek Jögi, Antti Hakola, Juuso Karhunen, **Corneliu Porosnicu**, Cristian Lungu, Hennie van der Meiden, Marín Roldán Alicia, Dwivedi Vishal, CF-LIBS quantification and depth profile analysis of Be coating mixed layers, Nuclear Materials and Energy, Volume 27, June 2021, Article Number: 100990
10. C. Pardanaud, M. Kumar, P. Roubin, C. Marn, Y. Ferro, J. Denis, A. Widdowson, D. Douai, M. J. Baldwin, A. Založnik, C. Lungu, **C. Porosnicu**, P. Dinca, T. Ditmar, A. Hakola, and EUROfusion WP PFC contributors and JET contributors, D retention and material defects probed using Raman microscopy in JET limiter samples and beryllium-based synthesized samples, Physica Scripta, vol 96 Article number: 124031

Date:

Dr. Corneliu Constantin Porosnicu