PERSONAL INFORMATION

Sașa-Alexandra Yehia

National Institute for Laser, Plasma and Radiation Physics (NILPR) Romania
40754883863
sasa.yehia@inflpr.ro

Sex Female| Date of birth 15/06/1996| Nationality Romanian

POSITION WITHIN THE PROJECT

PhD student

WORK EXPERIENCE

2018-Present

Scientific Research Assistant

National Institute for Laser, Plasma and Radiation Physics (NILPRP), Romania, http://www.inflpr.ro/ro

- Plasma characterization by Optical Emission Spectroscopy (OES), UV-VIS Spectroscopy, working with various type of RF plasma sources at low or atmospheric pressure (and plasma source immersed in liquid), operation with CNC technology (CNC programming), processing and interpretation of experimental data

Business or sector Low Temperature Plasma Laboratory; Plasma Processes, Materials and Surfaces Group; http://plasmat.inflpr.ro

EDUCATION AND TRAINING

2020-Present

PhD student

8 EQF/CEC

Faculty of Physics, University of Bucharest, Romania, https://www.fizica.unibuc.ro/Fizica/Main.php

- Optics, spectroscopy, plasma, lasers
- Exploring the applicative potential of gas discharges in the field of nuclear fusion

2018-2020

MSc

7 EQF/CEC

Faculty of Physics, University of Bucharest, Romania, https://www.fizica.unibuc.ro/Fizica/Main.php

- Optics, Lasers and Application Physics
- Exploring the applicative potential of gas discharges in the field of nuclear fusion

2014-2018

BSc

6 EQF/CEC

Faculty of Physics, University of Bucharest, Romania, https://www.fizica.unibuc.ro/Fizica/Main.php

- Applied (Engineering) Physics
- Exploring the applicative potential of gas discharges in the field of nuclear fusion

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Certificate of language proficiency issued by the Faculty of Foreign Languages and Literatures - Department of Modern Languages (University of Bucharest, Romania)

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

Communication skills

Volunteering in project and activities:
- European Research Night 2015, 2021
- AstroFest 2021
- Faculty of Physics from A to Z (FFAZ), 2nd edition, 2019

Job-related skills

Scanning Electron Microscopy (SEM)
- Basic knowledge of SEM analysis (in progress for full individual operation)

Digital competence

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

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

- Good command of office suite (word processor, spread sheet, presentation software)
- Good command of photo editing software gained as an amateur photographer
- Basic command of programming language Mathematica and Matlab gaind in university studies
- Good command of scientific graphing OriginPro gaind for processing and interpretation of experimental data during the work experience
- Basic command of technical drawing AutoCad (2D) gaind during the university studies
- Good command of spectral simulation software (LifBase, Irfan View) gaind for processing and interpretation of experimental data during the work experience

Driving licence AM, B1, B

ADDITIONAL INFORMATION

Publications

S. A. Yehia, M. Zarif, B. Bita, M. Teodorescu, L. G. Carpen, S. Vizireanu, N. Petrea, G. Dinescu, Development and optimization of single filament plasma jets for wastewater decontamination,Plasma Chemistry and Plasma Processing, https://doi.org/10.1007/s11090-020-10111-0

Bogdan Bita, Sorin Vizireanu, Daniel Stoica, Adrian Radu,Valentin Ion, *Sasa Yehia*, Sorina Iftimie, Gheorghe Dinescu, On the structural, morphological and electrical properties of carbon nanowalls obtained by plasma-enhanced chemical vapor deposition, Journal of Nanomaterials, https://doi.org/10.1155/2020/8814459

B.I. BIȚĂ, A. M.I. TREFILOV, S. M.IORDACHE, S. IFTIMIE, *S. YEHIA*, S. VIZIREANU, G. DINESCU - Electrical and morphological characterization of carbon nanowall layers obtained by a low-pressure plasma jet, OPTOELECTRONICS INTOAPOWERFUL ECONOMY.Book of Proceedings, ISBN: 978-973-720-822-4

Zarif ME, Yehia SA, Biță B, Sătulu V, Vizireanu S, Dinescu G, Holban AM, Marinescu F, Andronescu E, Grumezescu AM, Bîrcă AC, Farcașiu AT. Atmospheric Pressure Plasma Activation of Hydroxyapatite to Improve Fluoride Incorporation and Modulate Bacterial Biofilm. Int J Mol Sci. 2021 Dec 3;22(23):13103. doi: 10.3390/ijms222313103. PMID: 34884908; PMCID: PMC8658314.

Conferences

S.A.Yehia, B.Burghelea - Investigarea prin metoda Schlieren a interacției plasmei cu lichidele,Pentagon of the Faculty of Physics 2016 - ClujNapoca - 4th place

S.A.Yehia, B.Burghelea - Investigarea prin metoda Schlieren a interacției plasmei cu lichidele, National Conference on Physics and Modern Educational Technologies 2016 –Iași

Bogdan BITA, *Sasa YEHIA*, Catalina CIRNECI, Maria Elena ZARIF, Sorin VIZIREANU, Gheorghe DINESCU, SEM characterization techniques of carbon nanostructures on different substrates, Bucharest University Faculty of Physics 2019 Meeting

S.A.Yehia, M.Zarif, L.Carpen, B.Bita, N.Petrea, S.Vizireanu,G.Dinescu, Methylene blue dye decolorizationin water using atmospheric pressure plasma jet immersed in liquid, Bucharest University Faculty of Physics 2021 Meeting, online Magurele-Ilfov, Romania, June 18, 2021

S.A. Yehia, M. Zarif, B. Bita, M. Teodorescu, L. G. Carpen, S. Vizireanu, N. Petrea , G. Dinescu, Dezvoltarea și optimizarea unei surse de plasmă filamentară la presiune atmosferică pentru decontaminarea apelor poluate, Workshop CETAL 2020, online, Magurele-Ilfov, Romania

S.A. Yehia, M. Zarif, L.G. Carpen, B.I. Bita, S. Vizireanu, G. Dinescu - Atmospheric pressure plasma jet submerged in liquid for dyes decomposition, XVIIIth International Conference on Plasma Physics and Application , June 2019, Iasi, Romania - Young Researcher Poster Presentation Prize

M. Zarif, *S.A. Yehia*, S. Vizireanu1, V. Satulu, V. Marascu, B.I. Bita, G. Dinescu- Atmospheric pressure plasma treatment of surfaces for cleaning and modication, XVIIIth International Conference on Plasma Physics and Application , June 2019, Iasi, Romania

B.I. Bita, S. Vizireanu, S.D. Stoica, *S.A. Yehia*, A. Radu, S. Iftimie, G. Dinescu - Conduction anisotropy in carbon nanowall layers obtained by a low-pressure plasma jet, XVIIIth International Conference on Plasma Physics and Application , June 2019, Iasi, Romania

B.Biță, S.Vizireanu, D.Stoica, *S.Yehia*, A.Radu, S.Iftimie, Gh.Dinescu, Conduction anisotropy in carbon nanowall layers obtained by a low-pressure plasma jet, CREMS 2019, Proceedings International of the 3rd Conference of the Romanian Electron Microscopy Society

S.Vizireanu, *S.A Yehia*, M.Zarif, L.G.Carpen, B.Bita, N.Petrea, N.Grigoriu, G. Dinescu, Submerged plasma in liquid for wastewater decontamination, Poster, RICCCE 21 - Romanian International Conference on Chemistry and Chemical Engineering, Mamaia - Constanta, Romania, 04-07/09/2019

Bogdan I. Bita, Alexandra M.I. Trefilov, Stefan-Marian Iordache, SorinaIftimie, *Sasa Yehia*, Sorin Vizireanu, Gheorghe Dinescu, Electrical and morphological characterization of carbon nanowall layers obtained by a low-pressure plasma jet, OPTOELECTRONICS FOR POWERFUL ECONOMY, INOE 2000 on-line conference, Invited Paper 20-23 October 2020

Bita B., Vizireanu S., *Yehia S.*, Trefilov A.I., Dinescu G, Development Of Vertically Graphene Electrode Structures With Anisotropic Conductivity, EmergeMAT, 3RD INTERNATIONAL CONFERENCE ON EMERGING TECHNOLOGIES IN MATERIALS ENGINEERING, 29-30 October, Bucharest, Romania, 2020

Sasa Yehia, Gheorghe Dinescu, Use of laboratory plasmas for testingfusion relevant materials, FuseNet PhD Event 2020 - The Virtualternative, 23-24 November 2020

N.Petrea, R.Ginghina, R.Petre, G.Epure, C.Lazaroaie, *S.A.Yehia*, S.Vizireanu, Mobile plasma system for the decontaminarion of waters contaminated with highly toxic compounds, EURO INVENT 13 EDITION European Exhibition of Creativity and Innovation 2021, online Iasi-Romania, May 22, 2021 – GOLD MEDAL

M. Zarif, *S.A. Yehia*, B.I. Biță, V. Mărăscu, S. Vizireanu, G. Dinescu, C.Corobea, Material- and gas-dependent changes induced by atmospheric pressure plasma treatments on metallic surfaces, 19th INTERNATIONAL CONFERENCE ON PLASMA PHYSICS AND APPLICATIONS & 1st WORKSHOP ON PLASMA APPLICATIONS FOR SMART AND SUSTAINABLE AGRICULTURE, August 31 - September 3, 2021, Magurele, Bucharest, ROMANIA

S.A. Yehia, M. Zarif, L.G. Carpen, B. Bita, N. Petrea, S. Vizireanu, C. Stancu, G. Dinescu, Organophosphorus toxic compounds degradation in aqueous solutions using single filament DBD plasma jet source, 19th INTERNATIONAL CONFERENCE ON PLASMA PHYSICS AND APPLICATIONS & 1st WORKSHOP ON PLASMA APPLICATIONS FOR SMART AND SUSTAINABLE AGRICULTURE, August 31 - September 3, 2021, Magurele, Bucharest, ROMANIA

S.A.Yehia, L.Carpen, F. Stokker-Cheregi, C. Porosnicu, B.Butoi, V.Satulu, I. Lungu, G.Dinescu, Laser ablation technique for obtaining Be nanoparticles, 19th INTERNATIONAL CONFERENCE ON PLASMA PHYSICS AND APPLICATIONS & 1st WORKSHOP ON PLASMA APPLICATIONS FOR SMART AND SUSTAINABLE AGRICULTURE, August 31 - September 3, 2021, Magurele, Bucharest, ROMANIA

M. Zarif, S.A. Yehia, B. Bita, V. Satulu, S. Vizireanu, G. Dinescu, A.M. Grumezescu, A.T. Farcasiu, A.M. Holban, Atmospheric plasma fluoridation for application in dentistry, 19th INTERNATIONAL CONFERENCE ON PLASMA PHYSICS AND APPLICATIONS & 1st WORKSHOP ON PLASMA APPLICATIONS FOR SMART AND SUSTAINABLE AGRICULTURE, August 31 - September 3, 2021, Magurele, Bucharest, ROMANIA

Maria E. Zarif, Sasa A. Yehia, Veronica Satulu, Gheorghe Dinescu, Sorin Vizireanu, Alina Holban, Florica Marinescu, Alexandru Grumezescu, Ecaterina Andronescu, Titus Farcasiu. Atmospheric plasma treatment to modulate bacterial biofilms. International Scientific Conference “Applications of chemistry in Nanosciences and Biomaterials Engineering”, 25-27 November 2021, oral presentation

Citations

1 citation for https://doi.org/10.1007/s11090-020-10111-0 by 10.20535/wptstn.v28i3.207254

2 citation for https://doi.org/10.1155/2020/8814459 by 10.35848/1347-4065/ac26e2 and 10.1016/j.apt.2021.05.013

ANNEXES

Keywords:
experimental, tungsten, gas discharge, erosion, plasma cleaning, surface modification

Supervisor(s):
CS I. Prof. Gheorghe Dinescu

Started in:
2020

EUROfusion WP:
WP02 - JET2: Plasma Facing Components

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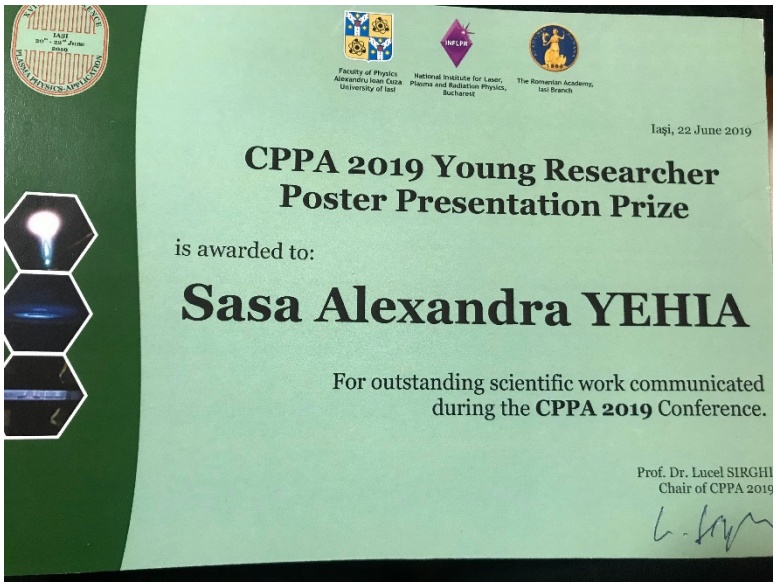
sasa.yehia@inflpr.ro

Use of laboratory plasmas for testing fusion relevant materials

Sasa Yehia

Project Aim:
The aim of my PhD project is to study the plasma interaction with different materials, in conditions relevant for fusion applications. Therefore, I will focus on morphology, microstructure and chemical materials properties after plasma and heat exposure. Based on these, I will select the optimal parameters for plasma discharge in terms of erosion rates, dust formation and yield of surface cleaning. Based on my previously work regarding tungsten erosion and nitriding, the first part of my thesis will provide the experimental systems optimization. Moreover, other experimental systems will be used to obtain erosion – redeposition and tungsten dust removal (for plasma mirrors surface cleaning applications). Another part of my thesis will focus on plasma characterization, respectively materials analysis after plasma interactions, using different and complementary characterization techniques.

Progress:
As I said at project aim, I performed experiments for the study of tungsten nitride formation and erosion in the bachelor's and master's thesis. Even if I am just at the beginning of my PhD stage, I already started with literature studies and completing experimental systems (hollow cathode discharge, pulsed laser ablation, plasma jet).



Faculty of Physics Alexandru Ioan Cuza University of Iasi

National Institute for Laser, Plasma and Radiation Physics, Bucharest

The Romanian Academy, Iasi Branch

Iași, 22 June 2019

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Mobile plasma system for decontamination of waters contaminated with highly toxic compounds

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Sasha Alexandra YEHIA, Sorin VIZIREANU

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