



Europass Curriculum Vitae



Personal information

First name(s) / Surname(s) Sebastian POPESCU
Telephone(s) +40-232-201189
Fax +40-232-201150
E-mail seba@uaic.ro
Nationality Romanian
Date of birth 01.09.1972
Gender Male

Work experience

Dates 2009-present
Occupation or position held Associate Professor
Main activities and responsibilities Education and Research
Name and address of employer Alexandru Ioan Cuza University of Iasi, 11 Carol I Blvd., RO-700506, Iasi, Romania
Type of business or sector Higher Education

Dates 2002-2009
Occupation or position held Lecturer
Main activities and responsibilities Education and Research
Name and address of employer Alexandru Ioan Cuza University of Iasi, 11 Carol I Blvd., RO-700506, Iasi, Romania
Type of business or sector Higher Education

Dates 2001-2002
Occupation or position held Associate Lecturer
Main activities and responsibilities Education and Research
Name and address of employer Alexandru Ioan Cuza University of Iasi, 11 Carol I Blvd., RO-700506, Iasi, Romania
Type of business or sector Higher Education

Education and training

Dates 2005-2008
Title of qualification awarded Postdoctoral researcher
Principal subjects/occupational skills covered

- Fundamental research in RF plasma science for space applications;
- RF plasma sterilization of medical use materials;
- Design, building and optimization of a new type of device powered by microwaves for medical and household waste management

Name and type of organisation providing education and training	Department of Electrical and Electronic Engineering, Faculty of Sciences, Saga University, Japan
Dates	October-November 2003
Title of qualification awarded	Diploma of participation and completion of Autumn College on Plasma Physics “Long-Lived Structures and Self Organization in Plasmas”
Principal subjects/occupational skills covered	<ul style="list-style-type: none"> - Nonlinear and self-organization processes in astrophysics - Physics of Sun and solar atmosphere - Nonlinear dynamics of space plasmas: formation of self-organized structures in magnetosphere - Instabilities in plasmas produced by laser - Variational principles in plasmas in which self-organized structures emerge - Dynamics of Alfvén waves - Thermodynamics of self-organization processes - Solitary structures in relativistic plasmas - Wave-particle interaction in electromagnetic turbulence - Self-organization processes in L-H transition in fusion plasmas (Tokamak)
Name and type of organisation providing education and training	“Abdus Salam” International Centre for Theoretical Physics, Miramare, Trieste, Italy
Dates	October-November 2003
Title of qualification awarded	Attendance and completion certificate of Minicourse on Turbulence (lectures - prof. Daniel Gomez, University of Buenos Aires, Argentina + laboratory – Assist. Prof. Pablo Mininni, University of Buenos Aires, Argentina)
Principal subjects/occupational skills covered	<ul style="list-style-type: none"> - Hydrodynamic turbulence - MHD turbulence - Appearance of self-organized structures in fluids and magnetofluids - Evolution equations and variational principles for turbulence study - Numerical models for turbulence study in fluids and magnetofluids
Name and type of organisation providing education and training	“Abdus Salam” International Centre for Theoretical Physics, Miramare, Trieste, Italy
Dates	April 2002
Title of qualification awarded	Research mobility in the frame of CEEPUS (Central European Exchange Programme for University Studies)
Principal subjects/occupational skills covered	Study of some nonlinear and self-organization processes in a Double Plasma machine
Name and type of organisation providing education and training	Plasma Physics Laboratory, Institute for Ion Physics, Leopold Franzens University of Innsbruck, Austria
Dates	July 2001
Title of qualification awarded	Research mobility in the frame of CEEPUS (Central European Exchange Programme for University Studies)
Principal subjects/occupational skills covered	Study of some nonlinear and self-organization processes in a Double Plasma machine
Name and type of organisation providing education and training	Plasma Physics Laboratory, Institute for Ion Physics, Leopold Franzens University of Innsbruck, Austria
Dates	1997-2001
Title of qualification awarded	PhD in Physics, with SUMMA CUM LAUDE
Principal subjects/occupational skills covered	Self-organized structures in plasma systems
Name and type of organisation providing education and training	Laboratory of Self-organization, Faculty of Physics, Alexandru Ioan Cuza University of Iasi, Romania
Dates	1996-1997

Title of qualification awarded MSc., Physics
 Principal subjects/occupational skills covered Nonlinearity and Self-organization in Complex Systems
 Name and type of organisation providing education and training Faculty of Physics, Alexandru Ioan Cuza University of Iasi, Romania

Dates **1991-1996**

Title of qualification awarded BSc.
 Principal subjects/occupational skills covered Theoretical Physics
 Name and type of organisation providing education and training Alexandru Ioan Cuza University of Iasi, Romania

Personal skills and competences

Mother tongue(s) **Romanian**

Other languages

Self-assessment
 European level (*)

English

French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
C1	Proficient user	C1	Proficient user	B1	Independent user	B1	Independent user	B2	Independent user

(*) [Common European Framework of Reference for Languages](#)

The grid consists of three broad levels as follows:

- Basic user (levels A1 and A2);
- Independent user (levels B1 and B2);
- Proficient user (levels C1 and C2).

Please replace the above example with the appropriate level you scale yourself. For example, level 1 (A, B, C) is lower than level 2 (A, B, C)

Professional skills and competences

Organisational skills and competences

- Expert-evaluator (INTAS)
- Referee (European Journal of Physics D)
- Editor at Journal of Advanced Research in Physics (JARP), Analele Universității "Al. I. Cuza" – Fizică, Revista Stiintifica „V. Adamachi”
- Director of 1 national research grant and member in the research teams of 14 research grants (12 national and 2 international grants)

Scientific research activity

a) fields of expertise: complexity science (nonlinear dynamics, self-organization and chaos), plasma physics, waste management. Author and co-author of 21 ISI-indexed papers, 5 books and 3 books chapters, 18 articles in international and national journals (non-ISI-indexed), 59 contributions to international and national conferences (from which 4 invited talks and 10 oral contributions).

b) Director of 1 national scientific grant and member in the teams of 2 international scientific grants and 12 national scientific grants.

c) 75 ISI citations, H-index = 5

Computer skills and competences

Office, LaTeX, Corel, Origin

Additional information

- Member of:

- the European Physical Society
- Romanian Physical Society (secretary of the NE Branch)
- American Physical Society
- National Board of the National Physics Olympiad (vice-president)

PARTICIPATION IN FUNDED PROJECTS

- "Identification of the physical mechanisms being at the origin of the appearance of spatial and spatio-temporal structures in plasma. Applications", PN II ID_409, 2007-2010;
- "Electrostatic instabilities in plasma. Control methods", CEEEX type II – Excellence research projects for young researchers, 5912/2006, ET 71, 2006-2008;
- "Complex space charge structures in plasma. Physical models. Applications", CEEEX type II – Excellence research projects for young researchers, 1499/2006, ET 69, 2006-2008;
- "Development of a physical model for multiple double layers in plasma", grant CNCSIS, 60GR/2006, AT 188, 2006-2007;
- "Studies on the matter self-organization for nano-science and nano-technologies", grant CNCSIS, 33373/2006, A 620, 2004-2006;
- "Development of some experimental methods to control the chaos in plasma devices", grant CNCSIS, 33373/2004, AT 70, 2004-2005;
- "Study of the self-organized structures of Turing type in plasma devices", grant CNCSIS, 33373/2004, AT 74, 2004-2005 – **as grant director**;
- "Role of the collective effects in the genesis of self-organized systems", grant CNCSIS, 35252/2001, A 292, 2001-2003;
- „Study of the dynamics of some self-organized space charge structures formed in plasma, experimental methods of control", Grant no. 33531 AT/2001, topic 11, cod CNCSIS 151, 2001-2002;
- "Study of the fundamental processes being at the origin of some self-organized complex systems", funded by World Bank, 28199/2000, 2000-2002;
- "Study of the elucidation of the processes being at the origin of the nonlinear behaviour of some self-organized structures in physics, chemistry and biology. Application: environment sensors", grant CNCSIS, 15/1998, A 169, 1998-2000;
- "Study of the nonlinear behaviour of some instabilities generated in devices in which plasma is considered as collisionless", funded by Romanian Academy, 4087/1999, 1999;
- „Study of the physical processes involved in the self-organization mechanism of some complex systems", Contract with the Romanian Academy, GAR / 73 / 1996 / AR, 1996-1998;
- "Study of the mechanisms leading to the formation of self-organized systems", Grant CNCSU No. 5011/28/226/1996, 1996-1998.

LIST OF ISI INDEXED PAPERS

1. Ohtsu, Y., Yamada R., Urasaki, H., Misawa, T., Popescu, S., Fujita, H, Development of a novel hybrid microwave-heater reactor for paper-based waste treatment, JOURNAL OF MATERIAL CYCLES AND WASTE MANAGEMENT, Volume: 12, Issue: 1, Pages: 25-29, Published: APR 2010
2. D. Vicoveanu, S. Popescu, Y. Ohtsu, H. Fujita, Competing inactivation agents for bacterial spores in radio-frequency oxygen plasmas, *Plasma Processes and Polymers* **5** (2008) 350 - 358
3. S. Popescu, T. Misawa, Y. Ohtsu, H. Fujita, S. Sanematsu, New microwave reactor for paper-based waste neutralization, *Resources, Conservation and Recycling* **52** (2008) 671 – 677
4. Popescu Sebastian; Lozneanu Erzilia; Sanduloviciu Mircea, On the "mystery" of differential negative resistance, in UNIFYING THEMES IN COMPLEX SYSTEMS, vol. IV, Book Series: NEW ENGLAND COMPLEX SYSTEMS INSTITUTE SERIES ON COMPLEXITY, Pages: 72-79, 2008, Editor(s): Minai A; BarYam Y.
5. S. Popescu, Y. Ohtsu, H. Fujita, Langmuir probe data analysis for a magnetized inductive radio-frequency discharge, *Journal of Applied Physics* **102** (2007) 093302 (1-7)
6. S. Popescu, Y. Ohtsu, H. Fujita, Spatial behavior of the plasma potential in a magnetized radio-frequency discharge from emissive probe data, *Journal of the Physical Society of Japan* **76** (2007) 094501 (1-4)
7. S. Popescu, Y. Ohtsu, H. Fujita, Current-free double layer formation in inductively coupled plasma in uniform magnetic field, *Physical Review E* **73** (2006) 066405 (1-8)
8. Biborosch LD; Petzenhauser I; Popescu S; Luca D., Frank K., Radiation efficiency of AC-excited micro hollow cathode discharges, Plasma 2005 Book Series: AIP CONFERENCE PROCEEDINGS Volume: 812, Pages: 329-332, 2006
9. S. Popescu, Turing structures in dc gas discharges, *Europhysics Letters* **73** (2006) 190-196
10. L. D. Biborosch, I. Petzenhauser, S. Popescu, B. J. Lee, K. Frank, Excimer emission from thick microhollow cathode discharges in xenon, *Journal of Optoelectronics and Advanced Materials* **7** (2005) 2455-2458

11. M. Sanduloviciu, D. G. Dimitriu, L. M. Ivan, M. Aflori, C. Furtuna, S. Popescu, E. Lozneau, Self-organization scenario relevant for nanoscale science and technology, *Journal of Optoelectronics and Advanced Materials* **7** (2005) 845-852
12. E. Lozneau, S. Popescu, M. Sanduloviciu, Plasma experiments with relevance for the nonlinear behavior of semiconductors, *Chaos, Solitons and Fractals* **17** (2003) 243-248
13. S. Popescu, E. Lozneau, M. Sanduloviciu, Self-organized complex space charge configurations at the origin of flicker noise, *Chaos, Solitons and Fractals* **17** (2003) 203-207
14. M. Sanduloviciu, E. Lozneau, S. Popescu, On the physical basis of pattern formation in nonlinear systems, *Chaos, Solitons and Fractals* **17** (2003) 183-188
15. E. Lozneau, V. Popescu, S. Popescu, M. Sanduloviciu, Spatial and spatiotemporal patterns formed after self-organization in plasma, *IEEE Transactions on Plasma Science* **30** (2002) 30-31
16. E. Lozneau, S. Popescu, M. Sanduloviciu, Physical origin of current filaments in dc plasma discharges, *IEEE Transactions on Plasma Science* **30** (2002) 32-33
17. E. Lozneau, S. Popescu, V. Popescu, M. Sanduloviciu, On the instability mechanism at the origin of self-organization in plasma, *Romanian Reports in Physics* **54** (2002) 223-228
18. D. G. Dimitriu, S. Popescu, P. C. Balan, C. Ionita, E. Lozneau, R. Schrittwieser, M. Sanduloviciu – Self-organized anode structures acting as stimulators of oscillations in double plasma machine, *Romanian Reports in Physics* **54** (2002) 217-222
19. E. Lozneau, S. Popescu, M. Sanduloviciu, Plasma experiments with relevance for the nonlinear behavior of semiconductors, *Romanian Reports in Physics* **54** (2002) 169-175
20. M. Sanduloviciu, S. Popescu, Self-organization phenomena in plasma physics, *Romanian Reports in Physics* **54** (2002) 65-77
21. B. Opreacu, S. Popescu, Experimental investigation of a complex structure formed in a gas after local electron acceleration, *Journal of Physics D: Applied Physics* **33** (2000) 2284-2287

January 21st, 2012

