


PERSONAL INFORMATION

Floriana Daniela STOIAN



 Strada Nicolae Ilieșu nr. 14/A, Timisoara 300730, Romania

 + 40 356 449052  +40744597308

 floriana.stoian@upt.ro ; fdstoian@yahoo.com

 <http://dstoian.mec.upt.ro>

Sex F Date of birth 19/06/1965 Nationality Romanian

JOB APPLIED FOR
POSITION
PREFERRED JOB
STUDIES APPLIED FOR
PERSONAL STATEMENT

Habilitation

WORK EXPERIENCE

1.10.2000 - PRESENT

Associate Professor

Politehnica University Timișoara, Department of Mechanical Machines, Technology and Transportation, 2 Victoriei Square, Timișoara, Romania, www.upt.ro

- **Teaching activities** at the following undergraduate level disciplines: Technical Thermodynamics, Thermal Power Plants, Thermal Power Plants and Equipments, Thermal Plants, Energy Cogeneration Systems, and at the following graduate level disciplines: Advanced Methods of Thermal Energy Management, Energy Management and Quality of Energetic Processes, Thermal Energy Conversion Systems, Complements of Thermodynamics, Unconventional Power Plants.
- **Teaching activities at the ARCE Expert Training Program**, in the fields of: thermal energy balances, electrical energy balances, energy management in industries, held at the Faculty of Electrical and Power Engineering, Politehnica University Timisoara, since 2004 (ARCE is the Romanian Agency for Energy Conservation).
- **Research activities** in the fields: Thermodynamics and Heat Transfer in Energetic Equipments (Liquid – vapour phase transition and its control by an applied electric field; Thermal properties of magnetic nanofluids, Heat transfer control in magnetic nanofluids by an applied magnetic field for cooling and insulation of power transformers and electrical isolators).

Business or sector Higher education and scientific research

1.10.1997 – 30.09.2000

Lecturer

Politehnica University Timișoara, Department of Mechanical Machines, Technology and Transportation, 2 Victoriei Square, Timișoara, Romania, www.upt.ro

- **Teaching activities** at the following undergraduate level disciplines: Technical Thermodynamics and Thermal Machines, Thermal Power Plants and Equipments.
- **Research activities** in the fields: Thermodynamics and Heat Transfer (Study of gas bubble in various dielectric liquids, from the class of refrigerants, under the influence of an electric field; Thermodynamic systems modelling at molecular level and analysis of their behaviour near the critical point, under the influence of electric field).

Business or sector Higher education and scientific research

1.03.1994 – 30.09.1997

Assistant

Politehnica University Timișoara, Chair of Thermodynamics, Thermal Machines and Road Vehicles, 2 Victoriei Square, Timișoara, Romania, www.upt.ro

- **Teaching activities** at the following undergraduate level disciplines: Bases of Technical Thermodynamics, Technical Thermodynamics and Thermal Machines, Thermal Power Plants .
- **Research activities** in the fields: Thermodynamics, Heat Transfer, Thermal Power Plants (Nucleate boiling enhancement by an applied electric field, Thermal measurements, Air pollution by thermal power plants).

Business or sector Higher education and scientific research

1.02.1991 – 28.02.1994

Tutor

 Politehnica University Timișoara, Chair of Thermodynamics and Thermal Machines, 2 Victoriei Square, Timișoara, Romania, www.upt.ro

- **Teaching activities** at the following undergraduate level disciplines: Bases of Technical Thermodynamics, Technical Thermodynamics and Thermal Machines, Thermal Power Plants, Heat and Mass Transfer.
- **Research activities** in the fields: Thermodynamics, Heat Transfer, Thermal Power Plants (Nucleate boiling enhancement by an applied electric field, Thermal measurements, Air pollution by thermal power plants).

Business or sector Higher education and scientific research

4.09.1989 – 31.01.1991

Engineer

The Integrated Iron and Steel Work Reșița, Energetic Department, 36 Traian Lalescu Street, Reșița, Romania

- **Technical activities:** Energy balances.

Business or sector Steel sector

 EDUCATION and TRAINING

1.03.1992 – 13.11.1997

PhD Diploma, Doctor Engineer

EQF8

 Politehnica University Timișoara, Faculty of Mechanical Engineering, Timișoara, 1 Mihai Viteazu Bv., Romania, www.upt.ro

- Doctor Engineer diploma issued by the Politehnica University Timișoara on the Minister of Education Order no. 5653/22.12.1997.
- PhD Thesis entitled “Contributions regarding the enhancement of nucleate boiling heat transfer using high voltage electric fields”, defended on November 13, 1997.
- PhD Advisers: 1992 – 1995: Professor Liviu Dan Negru
- 1995 – 1997: Professor Corneliu Ungureanu

15.09.1984 – 21.06.1989

Engineer Diploma, specialisation Industrial Power Engineering

EQF7

 “Traian Vuia” Politehnic Institute (presently, Politehnica University Timișoara), Faculty of Electrical Engineering, Timișoara, 2 Vasile Pârvan Bv, Timișoara, Romania, www.upt.ro

- Studied disciplines: Physics, Calculus, Algebra, Energy Conversion; Electromagnetism, Technical Thermodynamics, Fluid Mechanics and Hydraulic Machines, Measurement of electrical and non-electrical properties, Systems Theory and Automatic Control, Electrical Machines, Heat Transfer, Thermal and Hydro Power Plants, Mechanical Machines for Energetics, Electroenergetic Systems, Electric Networks, Electrical Equipments, Steam Boilers, Thermal Networks, Hydraulic and Hydro-pneumatic Networks, Re-use of waste thermal energy, Liability of Power Systems

15.09.1980 – 21.06.1984

Baccalaureate Diploma

EQF5

 High School “Traian” (at present, National College Traian), 6 Carol Bv., Drobeta Tumu Severin, Mehedinti county, <http://cntraian.ro/proiect79610.php>

- Specialization: Mathematics & Physics

Research stages & specialisations

13.06.2011 – 18.06.2011

“Thermal Measurements and Inverse Techniques” Course Certificate

Eurotherm Seminar No.94 METTI 5 Advanced Spring School, Roscoff (France), in the framework of PN II ID 76/2010 (Complex Projects of Frontier Research).

- Accumulated abilities: thermal measurements and inverse techniques.

25.08.2004 – 24.10.2004

Senior Fellowship CNR – NATO (Consiglio Nazionale delle Ricerche, Italy – Nord-Atlantic Treaty Organisation)

Department of Energetics, Faculty of Engineering, University of Pisa, Pisa, Italy

- Research subject: Micro – nanoscale effects of electric fields on boiling – modelling and simulation by molecular dynamics
- Host scientist: Professor Walter Grassi
- Accumulated abilities: application of molecular modelling and simulation in the analysis of electric fields effects on boiling

17.02.1999 – 16.02.2000 **Post – doctoral Fellowship JSPS (Japan Society for the Promotion of Science)**
 Faculty of Engineering, Kawagoe Campus, Toyo University, Tokyo, Japan.

- Research subject: Electric fields effects on critical fluids – studies of modelling and simulation by molecular dynamics.
- Host scientist: Professor Toru Maekawa
- Accumulated abilities: analysis of phase transitions, molecular modelling and simulation.

06.06.1998 – 17.09.1998 **Invited Researcher**
 Department of Energetics, Faculty of Engineering, University of Pisa, Pisa, Italy

- Research subject: Effects of electric fields on boiling of dielectric liquids, in the framework of a research project of Italian Space Agency (ASI) and European Space Agency (ESA).
- Host scientist: Professor Walter Grassi
- Accumulated abilities: experimental techniques regarding thermal measurements in microgravity.

12.01.1996 – 11.11.1996 **Research Fellowship JSPS**
 Institute of Industrial Science, University of Tokyo, Tokyo, Japan.

- Research subject: Electrohydrodynamic effects on heat transfer
- Host scientists: Professor Ichiro Tanasawa and Professor Shigefumi Nishio
- Accumulated abilities: experimental techniques regarding thermal and electrical measurements, image analyses for high speed video recording.

Teaching Training Stage
 27.05.2015 – 31.05.2015 **Teaching training course**

Politehnica University Timisoara, 2 Victoriei Square, 300006, Timisoara, Romania, www.upt.ro.

- Project title: "National higher – education system quality enhancement according to the changes based of the knowledge-based society and the labor market dynamics", POSDRU Project 155/1.2/S/139950.
- Participant at the Time Management Course (27.05.2015 – 31.05.2015) and at the pilot session for the Manual for Quality Management System in higher education, on July 17, 2015.

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s) (self-evaluation)

| | UNDERSTANDING | | SPEAKING | | WRITING |
|----------|---------------|---------|--------------------|-------------------|---------|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | C1 | C1 | C1 | C1 | C1 |
| French | B2 | B2 | B2 | B2 | B2 |
| Italian | A2 | A2 | A2 | A2 | A2 |
| Japanese | A1 | A1 | A1 | A1 | - |

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

Communication skills ▪ good communication skills gained through my experience as teacher and researcher, as well as through my activity in international, multicultural research teams.

Organisational / managerial skills

managerial skills:

- research management (I coordinated research projects since 2001);
- educational management: member of the Board of Thermal Systems and Equipments Undergraduate Program since 2007, member of the Board of Renewable Energy Sources Engineering since 2009;
- student tutoring for educational and scientific activities; coordinator of diploma projects for undergraduate students and master of science dissertations for graduate students.

organisational skills:

- member of the Council of the Faculty of Mechanical Engineering, Commission of Education Quality and Commission for Curriculum and Syllabus, between 2012 – 2016,
- member of the Board of Chair of Thermodynamics, Thermal Machines and Road Vehicles (2004 – 2011);
- scientific secretary of the Commission for pollution control, Romanian Academy – Timisoara Branch (2001 – 2008);
- scientific secretary of the Department of Mechanical Machines, Technology and Transportation and member of the Board of the Chair of Technical Thermodynamics, Thermal Machines and Road Vehicles (2000 – 2008);
- coordinator of the organising committee for the Symposium “Man and Environment” (2001, 2003, 2004, 2005, 2007 editions), organised mainly in the framework of the Timisoara Academic Days;
- member of the Topical Team on Boiling, organised at the European Space Agency, between 2001 and 2003;
- member of the Working Group for the preliminary form of the National Research Plan 1998 – 2005, organised at the Ministry of Research and Technology, Topic: Clean Energy Production Technologies, between August – September 1998.

Job-related skills

- Technical skills regarding experimental techniques and thermal phenomena analyses, heat transfer control using external force fields, molecular modelling and simulation (molecular dynamics), thermodynamic analysis of thermal systems and power systems.
- Good experience in writing research proposals.
- Experience in evaluating research proposals for Romanian national agencies: CNCSIS, CNMP, UEFISCDI.
- Experience in refereeing for ISI international scientific journals: Heat and Mass Transfer, Micro Nano Letters, International Journal of Heat and Mass Transfer, International Journal of Thermal Sciences, Journal of Molecular Liquids, Experimental Thermal and Fluid Science.

Digital competence

| SELF-ASSESSMENT | | | | |
|------------------------|-----------------|------------------|------------------|------------------|
| Information processing | Communication | Content creation | Safety | Problem solving |
| Proficient user | Proficient user | Proficient 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 CyclePad, Interactive Heat Transfer, LabView and Fortran.
- good command of image analysis software ImageJ, gained during my PhD research.

Other skills

- volunteering activities: initiator, founding member and Vice-President of the Association JSPS Alumni (<http://www.jspsalumniro.ro>), which reunites former Romanian Fellows of the Japan Society for the Promotion of Science Foundation (Japan).

Driving licence

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ADDITIONAL INFORMATION

Publications

9 ISI Articles (3 as first/corresponding author), 7 ISI Conference Proceedings Papers (5 as first/corresponding author), 16 Articles in other international databases (Scopus, Google Scholar), 29 Communications at national and local conferences, 1 National Patent (**Patent no. 126613 B1/2014.**) and 1 National Patent Request (2016), 1 monography (single author), 2 university textbooks books (single author), 1 technical book (co-author), 3 university textbooks (co-author), 1 exercise book (co-author), 1 laboratory textbook (co-author).

Publications list is detailed in Annexes.

Presentations

Presentations made at seminars and workshops abroad:

- *Effective thermal conductivity of nanofluids and particulate composites: influence of the particle size distribution*, Workshop NANOFUID IX, 29.09 – 2.10.2014, Stara Lesna, Slovakia.
- *Experimental Study of Natural Convection Enhancement Using a Fe₃O₄-Water Based Magnetic Nanofluid*, presented at the 6th International Conference Diffusion in Solids and Liquids, 05.07 – 07.07.2010, Paris, France.
- *Magnetizable nanofluids: progresses and prospects on their use in thermal applications* (invited lecture), presented at the 29th Japan Symposium on Thermophysical Properties, Japan Women University, 08.10-10.10.2008, Tokyo, Japan.
- *Effects of an applied magnetic field on the bubble growth and departure in a magnetic liquid*, presented at the 3rd International Symposium on Two-Phase Flow Modelling and Experimentation, 22.09 – 24.09.2004, Pisa, Italy.
- *Analysis of a thermodynamic system at nanoscale by molecular dynamics simulation*, presented at the University of Pisa, 18.10.2004, Pisa, Italy.
- European Space Research & Technology Centre (ESTEC), ESA Topical Team on Boiling Meeting, 24 – 25.03.2003, Noordwijk (Netherlands).
- *Effects of external fields on bubble behaviour*, presented at the ESA Topical Team on Boiling Meeting, 15.02.2001, University of Pisa, Pisa, Italy.
- *Electrohydrodynamic effects on nucleate boiling heat transfer*, presented at the University of Pisa, on 22.06.1998, Pisa, Italy.
- *Experimental results regarding the electrohydrodynamic enhancement of nucleate boiling heat transfer*, presented at the Department of Mechanical Engineering, Fluid Mechanics Division, AISTI, on 1.11.1996, Tsukuba Science City, Japan.

Projects

- Project coordinator for 1 National Research Grant for Young Scientists, awarded by the National Council of Scientific Research in Higher Education (CNCSIS, RO: Project code CNCSIS AT 147/2001 and code CNCSIS AT 75/2002), entitled “Study of the fluid phase transition near critical state under the influence of external force fields”.
- Project coordinator for 1 National Research Grant, awarded by the National Council of University Scientific Research (CNCSIS, RO: Project code CNCSIS 665/2005-2007), entitled “Researches regarding the use of magnetisable nanofluids as thermal fluids”.
- Project responsible for 1 bilateral cooperation project Romania – Italy, COPBIL Theme 45, (2001-2002).
- Project responsible for the team from Politehnica University Timisoara in 4 National Research Projects realised in cooperation with other Romanian research teams, in the framework of the 1st National Research, Development and Innovation Plan (PNCDI I), between 2001 – 2007.
- Project responsible for the team from Politehnica University Timisoara in 2 National Research Projects realised in cooperation with other Romanian research teams, in the framework of the 2nd National Research, Development and Innovation Plan (PN II), between 2012 – 2017.
- Project coordinator for the Romanian team in an international project FP7 Program MNT.ERA-NET, founded for Romanian partners by the Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), Project 7-018/2009-2011.
- Foreign Expert in the EU Project PhysNet – International Virtual Laboratory of Progressive Materials Physics, Project No. 26110230097, 9/2013 – 8/2015, Activity 3.2. International Virtual Laboratory of Physics of Nano and Biomaterials, 28.09.2014 – 10.10.2014, at the Institute of Experimental Physics, Slovak Academy of Sciences, Kosice, Slovakia.

- Seminars**
- Co-chair of two editions of the international workshop "New Opportunities for Interdisciplinary Research in BIO-NANO-SCIENCE", the 1st edition held on June 21-22 2012, at Politehnica University Timisoara, and the 2nd edition held on June 3rd, 2013, at the institute of Biology, Romanian Academy, Bucharest.
- Teaching (Invited)**
- 5. – 11.10.2009, Tamagawa University, Machida, Tokyo, Japan, to give a class (15 hours of teaching) to graduate students attending the Environmental Soft Energy Master Course at the Graduate School of Engineering, with the subject: *Novel thermal fluids for enhanced heat transfer in energy-efficient equipments*.
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- Honours and awards**
- Award Grant for the published research results, Grant PN-II-RU-PRECISI-2013-7 from 2013, for the article "Experimental Study of Natural Convection Enhancement Using a Fe₃O₄-Water Based Magnetic Nanofluid", published in Journal of Nanoscience and Nanotechnology, 2012, Vol.12, Nr.10, pp. 8211-8214, (USA).
- Memberships**
- Researcher ID:** B-7397-2011 ISI Web of Knowledge
American Nano Society
Member of the Society of the Automotive Engineers from Romania (SIAR, SAE affiliate), enrolled in 2011
Member of the General Association of Engineers from Romania (AGIR), 1998 – 2000
Recognition of the professional qualification by FEANI (European Federation of National Engineering Associations) with EUR-ING title in 1998.
Research Gate
- References**
- Professor Toru Maekawa, Toyo University, Japan**
Professor Walter Grassi, University of Pisa, Italy
Dr. Antonio Campo, retired, last position: Senior lecturer at University of Texas at San Antonio, USA

Date:

15.03.2017

Signature:

Dr.Eng. Floriana Daniela STOIAN

Associate Professor