

Europass Curriculum Vitae

Personal information

First name / Surname

Claudiu COSTIN

Address

"Alexandru Ioan Cuza" University of Iași, Faculty of Physics, Bd. Carol I nr. 11, 700506 Iași, ROMANIA

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+ 40 232 201025 / + 40 232 201150

E-mail

claudiu.costin@uaic.ro

Nationality

Romanian

Year of birth

1974

Gender

Male

Last degree / date / institution

Habilitation in Physics / defence - December 2021 / Ministry Order - May 2022 / "Alexandru Ioan Cuza" University of Iași

Present employment / position

"Alexandru Ioan Cuza" University of Iași, Faculty of Physics / Professor

Work experience

Dates / Position held

| | | |
|-------------------------------|---|--------------------------|
| February 2025 - ... | / | Professor |
| February 2016 - February 2025 | / | Associate professor |
| October 2008 - February 2016 | / | Lecturer |
| October 2006 - September 2008 | / | Post-doctoral researcher |
| October 1999 - September 2006 | / | Assistant Professor |

Name and address of employer

"Alexandru Ioan Cuza" University of Iași, Faculty of Physics, Iași, ROMANIA

Type of business or sector

Education and Scientific research

Dates / Position held

March 1998 - September 1999 / Teaching assistant

Name and address of employer

University of Medicine and Pharmacy "Gr. T. Popa", Faculty of Medical Bioengineering, Iași, ROMANIA

Type of business or sector

Education and Scientific research

Education and training

Dates

1999-2005 (RO) / 2001-2005 (FR)

Title of qualification awarded

PhD in Physics (joint PhD programme RO - FR)

Principal subjects

Thesis title: "Numerical modelling of a dc magnetron discharge in argon and argon-oxygen mixture, by the fluid model"

Name and type of organisation providing education and training

"Alexandru Ioan Cuza" University of Iași, Faculty of Physics, Iași, ROMANIA /
Université Paris-Sud XI, LPGP, Orsay, FRANCE

Dates

1997-1999 (3 semesters)

Title of qualification awarded

Master of Science in Plasma Physics

Principal subjects

Numerical modelling (Monte Carlo Flux method) of electron kinetics in electrical discharges, electron distribution function
Plasma diagnostic by electrical probes

Name and type of organisation providing education and training

"Alexandru Ioan Cuza" University of Iași, Faculty of Physics, Iași, ROMANIA

Dates

1992-1997

Title of qualification awarded

Bachelor of Science in Physics

Principal subjects

Learning Physics
Initiation in scientific research

Name and type of organisation providing education and training

"Alexandru Ioan Cuza" University of Iași, Faculty of Physics, Iași, ROMANIA

Scientific stages and collaborations

| | |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Dates | November 2018 (1 week) |
| Occupation or position held | Scientific Researcher |
| Main activities and responsibilities | Electrical diagnostic of Magnum-PSI plasma beam using a 2D multi-probe system |
| Name and address of host institution | DIFFER - Dutch Institute for Fundamental Energy Research, Eindhoven, the Netherlands |
| Dates | June 2016 (2 weeks) |
| Occupation or position held | Invited Researcher |
| Main activities and responsibilities | Numerical modelling of pulsed magnetron discharges (HiPIMS) |
| Name and address of host institution | Laboratoire de Physique des Gaz et des Plasmas, UMR 8578 CNRS-Université Paris-Sud XI, Orsay, France |
| Dates | December 2013 (1 week) |
| Occupation or position held | Invited professor |
| Main activities and responsibilities | Teaching courses of plasma physics and applications, numerical modelling in plasma physics |
| Name and address of host institution | Masaryk University, Brno, Czech Republic |
| Dates | November 2013 (1 week) |
| Occupation or position held | Invited professor |
| Main activities and responsibilities | Teaching courses of plasma physics and applications, numerical modelling in plasma physics |
| Name and address of host institution | F. Skorina Gomel State University, Gomel, Belarus Republic |
| Dates | August 2013 (2 weeks) |
| Occupation or position held | Scientific researcher |
| Main activities and responsibilities | Electrical diagnosis (multi-probe system) for fusion related plasmas |
| Name and address of host institution | Leopold-Franzens University of Innsbruck, Innsbruck, Austria |
| Dates | July-August 2008, April-May 2009, April-May 2010 // June 2012 |
| Occupation or position held | CNRS Scientific Researcher (CDD) // Post-doc researcher |
| Main activities and responsibilities | Numerical modelling of magnetron discharges (dc and pulsed) by fluid model and PIC-MCC |
| Name and address of host institution | Laboratoire de Physique des Gaz et des Plasmas, UMR 8578 CNRS-Université Paris-Sud XI, Orsay, France |
| Dates | October 2006, May 2007, October 2008, November 2012, September 2013 |
| Occupation or position held | Scientific Researcher |
| Main activities and responsibilities | Electrical diagnostic of Pilot-PSI and Magnum-PSI plasma beam using Langmuir probes, Katsumata probes, multi-probe system |
| Name and address of host institution | FOM Institute for Plasma Physics Rijnhuizen, Association EURATOM-FOM, Trilateral Euregio Cluster, Nieuwegein, The Netherlands |
| Dates | November 2005, May 2006, August-September 2010, November 2017 |
| Occupation or position held | Scientific Researcher |
| Main activities and responsibilities | Probe measurements in the Scrape-Off-Layer of CASTOR Tokamak and in the divertor region of COMPASS Tokamak (ball-pen, Katsumata and Langmuir probe) |
| Name and address of host institution | Institute of Plasma Physics, Association EURATOM-IPP.CR, Prague, Czech Republic |

Personal skills and competences

Mother tongue **Romanian**

Self-assessment
European level

English

French

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

Professional skills and competences

Teaching activity

- a) *Courses*: Electrical discharges in gases, Actual problems in plasma physics, Low temperature plasmas and applications, Materials technology, Plasma physics, Biomechanics, Transfer phenomena, Plasma sources and applications, Numerical algorithms
- b) *Seminaries and practical works*: General physics, Mechanics, Biomechanics, Plasma physics, Plasma diagnostics, Electrical discharges in gases, Actual problems in plasma physics, Low temperature plasmas and applications, Materials technology, Ecosystem and the interaction of matter with living organisms, Elements of matter structure, Transfer phenomena, Numerical algorithms
- c) *Coordination of bachelor and master theses*: - over 20 bachelor theses
- over 25 master theses
- c) *Coordination of PhD theses*: - 1 ongoing, since October 1st, 2025
- d) *Guiding commissions for PhD studies*: - 10
- e) *Practical works guide*: L. Sirghi, C. Costin, A. S. Chipser, "Vacuum physics and technology. Laboratory works" (in Romanian), "Alexandru Ioan Cuza" University of Iași Printing House, 2024, ISBN 978-606-714-905-0

Scientific research activity

- a) *Fields of expertise*:
- numerical modelling in plasma physics: fluid model for DC magnetron discharge and dielectric barrier discharge, PIC-MCC simulations for DC and pulsed (HiPIMS) magnetron discharge, Monte Carlo Flux method for electron distribution function, Monte Carlo simulations for thin film deposition, *a posteriori* Monte Carlo method for electron transport coefficients in a magnetron discharge, Monte Carlo method for the secondary electron emission process in magnetic field, collisional–radiative model
 - plasma diagnostics for both low-temperature and thermonuclear interest plasmas: electrostatic probes (simple, double and triple Langmuir probe, Katsumata probe, ball-pen probe), electrostatic analysers, multi-probe systems, optical emission spectroscopy
- b) *Scientific grants*: **director of 5 grants** and member of more than 15 grants
- c) *book chapter*: T. Minea, T. Kozak, C. Costin, J. T. Gudmundsson, D. Lundin, chapter "Modeling the high power impulse magnetron sputtering discharge", in book High Power Impulse Magnetron Sputtering, 1st Edition, Fundamentals, Technologies, Challenges and Applications, Editors: D. Lundin, J. T. Gudmundsson, T. Minea, Elsevier, 2020
- d) *Co-Editor of several publications*:
1. Editors: D. Luca, L. Sirghi, C. Costin, Recent advances in technology research and education, Proceedings of the 16th International Conference on Global Research and Education Inter-Academia 2017, in the series: Advances in Intelligent Systems and Computing, Vol. 660, Springer (2018), ISBN 978-3-319-67458-2
 2. Guest Editors: C. Costin, G. Popa, Contributions to Plasma Physics, Volume 53, Number 1, 2013, ISSN 0863-1042, Special Issue: 9th International Workshop on Electrical Probes in Magnetized Plasmas, September 21-23, 2011, Romania
 3. Editors: G. Popa, C. Costin, course Ecole d'été "Plasmas non thermiques et applications", "Alexandru Ioan Cuza" University of Iași Printing House, 2003, Vol I + II, ISSN 1221-9363
- e) *ISI papers*: **36**
- f) *ISI citations (excluding self-citations)*: more than **615**
- g) *Conferences*: more than **80** contributions to international conferences
- h) *Hirsch index*: **12**
- i) *Web of Science ResearcherID*: C-3674-2011
ORCID ID: 0000-0003-3879-3555
Scopus Author ID: 9274825700

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| Managerial skills and positions | <p>I have experience in establishing and keeping deadlines, team work, team management, project management, coordinating events, problem solving, communication, public speaking, research, reporting, reviewing.</p> <p>I acquired my experience working as team member or director of different research grants, by contributing to the organisation of different scientific events:</p> <ul style="list-style-type: none"> - Director of 5 research grants, total funds 534.000 EUR - Secretary of the Local Organizing Committee of ICPIG 2015 and CPPA 2019 - Director of the Research Department, Faculty of Physics, "Alexandru Ioan Cuza" University of Iași (October 2016 - December 2017) - Syndicate Lider, Faculty of Physics, "Alexandru Ioan Cuza" University of Iași (January 2010 - January 2014) - Member of the Management Committee and leader of WG3 - 'Simulation of HIPP processes' of the COST Action MP0804 <i>Highly Ionised Pulse Plasma Processes</i>, 2009 - 2013 - Co-chair of the 9-th International Workshop on Electrical Probes in Magnetized Plasmas, IWEP 2011 - Co-organizer of the "EURATOM-MEdC Association Days" Meeting, 2005 and 2010 - Member of the Local Organizing Committee of several conferences: CPPA 2003, CPPA 2005, InterAcademia 2006, CPPA 2010, CPPA2013, InterAcademia 2017, CPPA2019, CPPA2021, CPPA2023, CPPA2025 - Member of the Organizing Committee of Ecole d'été "<i>Plasmas non thermiques et applications</i>", August 25-29, 2003, Iasi, Romania |
| Representative positions | <ul style="list-style-type: none"> - Member of the Senate, "Alexandru Ioan Cuza" University of Iași (2012-2016) - Member of the Ethics Commission, "Alexandru Ioan Cuza" University of Iași (2015-2016) - Member of the Faculty Council, Faculty of Physics (2008-present) - Member of the Ethics Commission, Faculty of Physics (2020-present) - Member of the Doctoral School Council, Faculty of Physics (2022-present) |
| Additional information | <ul style="list-style-type: none"> - Scientific awards: <ul style="list-style-type: none"> - "Constantin Miculescu" Prize of the Romanian Academy, 2016 - the best PhD thesis in Physics at "Alexandru Ioan Cuza" University of Iași, 2005 - Associate Member of the Institute of Physics (oct 2025 - present) - Member of the Association EURATOM/MEdC Romania (2005-2014) - Member of the Association „Societatea absolvenților Facultății de Fizică din Iași – SOPHYS” - Member of the Scientific Committee of ESCAMPIG (Europhysics Conference on Atomic and Molecular Physics of Ionized Gases) since 2023 - Member of the Scientific Committee of PLATHINIUM (Plasma Thin film International Union Meeting) since 2019 - Scientific reviewer for: Contributions to Plasma Physics, Plasma Physics and Controlled Fusion, Coatings, Surface and Coatings Technology, Review of Scientific Instruments, Journal of Applied Physics, Scientific Reports, Physica Scripta, Plasma Sources Science and Technology - Competent with most Microsoft Office programmes, Origin, SciDAVis, Fortran, C/C++ programming, Microsoft Teams, Cisco Webex, Zoom, Moodle |

December 3rd, 2025

Prof. dr. habil. Claudiu COSTIN