

PERSONAL INFORMATION

POP Nicolina Rodica



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pop nicolina

Sex Female | Date of birth 12/12/1975 | Nationality Romanian

WORK EXPERIENCE

September 2015 – Present

Associate Professor

Department of Fundamental of Physics for Engineers, Politehnica University of Timisoara

- Teaching and research activities
 - Physics courses, seminar and laboratory activities for bachelor students
 - Publication of scientific papers and participation to international conferences and scientific meetings
 - Coordinator of Erasmus LLP- Erasmus / Erasmus student mobility master , PhD students and teachers between the Politehnica University of Timisoara and Université du Havre, France.

October 2011- September 2015

Lecturer

Department of Fundamental of Physics for Engineers, Politehnica University of Timisoara

- Teaching and research activities
 - Physics courses, seminar and laboratory activities for bachelor students
 - Photovoltaic and Solar energy courses to Master specialization: "Renewable Energy - Solar Energy"

October 2008-September 2011

Publication of scientific papers and participation to international conferences and scientific meetings

Assistant Professor

Department of Fundamental of Physics for Engineers, Politehnica University of Timisoara

- Teaching and research activities
 - Physics seminar and laboratory activities for bachelor and master students
 - Publication of scientific papers and participation to international conferences and scientific meetings

2007- September 2008

Postdoctoral researcher

Chemistry Faculty, West University of Timișoara
 Research activity (quantum chemistry methods using in isothermal and non-isothermal kinetics of heterogeneous processes, publication of scientific papers, participation in international conferences).

November 2000- July 2006

PhD researcher

Physics Faculty, West University of Timisoara
 Research activity (nonrelativistic quantum mechanics with applications to oscillatory pseudoharmonic, publication of scientific papers, participation in conferences and scientific meetings).
 Teaching (Classical Mechanics, Analytical Mechanics -Courses, seminar activities with bachelor students.

September 1998- September 2000

Physics teacher

„Iulia Hașdeu” High School, Lugoj
 Physics teacher to high school

EDUCATION AND TRAINING

2007- September 2008

Postdoctoral studies

Chemistry Faculty, West University of Timișoara

- Thermal analysis methods;
- Evaluation of kinetic parameters for investigated processes;
- The vibrational transfer of energy;
- Compensation effect.

PhD degree

November
2000-July2006

Physics Faculty, West University of Timisoara
Thesis entitled: " Contributions to the study of quantum solvable systems :Ladder operators for relativistic models of oscillators

October 1998 – July 2000

Master studies in Physics, Optics and Spectroscopy Laser Materials, Postgraduate degree

Physics Faculty, West University of Timisoara
Main subjects: *Crystal laser spectroscopy; Laser resonator optics, X-ray methods for determining the state of perfection of the crystals.*
Overall average grade of studies: **10**

October 1994-July 1998

Physics Faculty, West University of Timisoara
Overall average grade of studies: 9.85
Media license exam: 9.78
Main subjects: Mechanics, Thermodynamics and Statistical Physics, Electricity and Magnetism, Optics, Electrodynamics and theory of relativity, quantum mechanics, atomic and nuclear physics; And laser spectroscopy; Quantum field theory; Solid state physics; Plasma physics; Calculus I, II; Algebra and geometry; Differential equations; Psychology, Pedagogy

September 1990- June 1994

High school studies

National College "Coriolan Brediceanu", Lugoj
Overall average grade of studies: 9.82

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

| | UNDERSTANDING | | SPEAKING | | WRITING |
|----------------------|---------------|---------|--------------------|-------------------|---------|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | C1 | C1 | B2 | B2 | C1 |
| Centrul Inter Lingua | | | | | |
| French | B1 | B2 | B1 | B1 | B1 |

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

Communication skills

- Communication skills acquired as a teacher but also as a participant and organizer of conferences / international meetings;
- Ability to adapt to multicultural environments (gained through internships carried out abroad);
- Formation of teams on projects and teamwork (member of national and international research groups).
- Coordination bachelor and dissertation thesis

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](#)

Replace with name of ICT-certificate(s)

- Maple, Mathematica, Fortran, Mathcad, Latex,

Driving licence
 Research topics

B
 Atomic and molecular physics, Molecular energetics, Dissociative recombination, solar energy, Quantum mechanics, Coherent states for pseudo-harmonic oscillators, plasma physics

ADDITIONAL INFORMATION

Publications
 Relevant publications
 Articles on the topic of COST action

51 Papers published in journals or ISI proceedings (according Web of Science)

- Niyonzima, S.; Ilie, S.; **Pop Nicolina.**; et al., *Low-energy collisions between electrons and BeH⁺: Cross sections and rate coefficients for all the vibrational states of the ion*, *ATOMIC DATA AND NUCLEAR DATA TABLES*, 115, pag. 287-308, **2017**.
- Mezei, J. Zs; Colboc, F.; **Pop Nicolina.**; et al., *Dissociative recombination and vibrational excitation of BF⁺ in low energy electron collisions*, *PLASMA SOURCES SCIENCE & TECHNOLOGY*, 25(5), 055022, **2016**.
- M. D. Epee, J. Zs Mezei, O. Motapon, **Pop Nicolina**, I. F. Schneider, *Reactive collisions of very low-energy electrons with H₂⁺: Rotational transitions and dissociative recombination*, *Monthly Notices of the Royal Astronomical Society*, **2016**.
- Mezei, J. Zs; Niyonzima, S.; **Pop Nicolina**, Backodissa, D.; et al., *Electronic and photonic reactive collisions in edge fusion plasma and interstellar space: Application to H-2 and BeH systems*, *Journal of Physics Conference Series*, 576, 012005, **2015**.
- Motapon O, **Pop Nicolina**, Argoubi F, Mezei J, Epee MDE, Faure A, Telmini M, Tennyson J, Schneider IF, *Rotational transitions induced by collisions of HD⁺ ions with low-energy electrons*, *PHYSICAL REVIEW A*, 90(1), 012706-1-9, **2014**.
- Pop Nicolina.**; Motapon, O.; Niyonzima, S.; et al., *Study of Reactive Collisions Between Electrons and Molecular Cations Using Multichannel Quantum Defect Theory: Application to HD⁺ and BeH⁺*, *AIP Conference Proceedings*, 1634, pag.70-75, **2014**.
- Pop Nicolina**, Dušan Popov, M. Davidovic, *Density Operator in Terms of Coherent States Representation with the Applications in the Quantum Information*, *INTERNATIONAL JOURNAL OF THEORETICAL PHYSICS*, 52(2), 2275-2283, **2013**.
- Chakrabarti, K.; Backodissa-Kiminou, D. R.; **Pop Nicolina**, *Dissociative recombination of electrons with diatomic molecular cations above dissociation threshold: Application to H-2(+) and HD⁺*, *PHYSICAL REVIEW A*, 87(2), 022702, **2013**.
- I. F. Schneider, **Pop Nicolina**, Ch. Jungen, *Analytic three-channel model for resonance-averaged direct and indirect dissociative recombination processes of molecular ions*, *PHYSICAL REVIEW A*, 86 (6), 062706, **2012**.
- Pop Nicolina.**; Lique, F.; Schneider, I. F., *The enhancing role of the closed channels in dissociative recombination: an example for the H-2(+)/H-2 system*, *AIP Conference Proceedings*, 1472, pag.162-171, **2012**.
- Chakrabarti, K.; Backodissa, D.; **Pop Nicolina**, *High Energy Reactive Collisions of Electrons with Hydrogen Diatomic Molecular Cation Isotopomers*, *AIP Conference Proceedings*, 1387, **2011**.

Projects

2011-2013: International project: Contrat de Plan Etat-Région, CPER 2007-2013
 "Reactive processes in media of astrophysical and energetic interest: flames, atmospheric and fusion edge plasmas, interstellar molecular clouds".

2011-2014: International projects Vinca Institute of Nuclear Sciences, Belgrad University, Serbia
 "A new approach to foundational problems of quantum mechanics related to applications in quantum technology and interpretations of signals of various origins".

2014- 2015: Project POSDRU156/1.2/G/142253 "Inginerie de Mentenanță pentru ELI-NP".

2013- 2014 : Project POSDRU87/1.3/S/60891
 "Școala universitară de formare inițială și continuă a personalului didactic și a trainerilor din domeniul specializărilor tehnice și inginerești-Dida Tec".

2010- 2012 : Project POSDRU21/1,5/G/1379 "Școala doctorală în sprijinul cercetării în context european",

2006- 2008 GRANT de cercetare CEEX 5916-Proiecte de cercetare în sprijinul programelor postdoctorale
 "Comportamentul termic al compușilor cu impact semnificativ asupra mediului"

2004- 2006 Project CNCSIS nr. 32944. "Simetriile teoriilor de câmp pe spațiu-timp curbat".

Conferences

- The 8th Mediteranean International Conference of Thermal Analysis MEDICTA, Palermo, Italy, September 2007; "The Compensation effect as a consequence of vibrational energy transfer in homogeneous and isotropic heat field".
- The 14th International Congress on Thermal Analysis and Calorimetry –ICTAC
- VI CBRATEC-Brasilian Congress on Thermal analysis and Calorimetry, SaoPedro-SP-Brasil, September 2008; "The mechanism of the selective activation of solids in an homogeneous and isotropic thermal field".
- The 10th European Symposium on Thermal Analysis and Calorimetry- ESTAC, Rotterdam, Olanda, August 2010, "Investigation of Reaction Mechanism by Correlation between DTG and IR Data in Evolved Gas Analysis Technique".
- The 10th International Conference on Environment and Electrical Engineering, Rome, Italy, May 2011; ".A New Parametric Model For Solar Irradiance Components".
- The 1th Central and Eastern European Conference on Thermal Analysis and Calorimetry CEEC-TAC1, Craiova, Romania, titlul prezentării: "About some properties of phonons in the nanorods".
- The 19th Central European Workshop on Quantum Optics CEWQO, Sinaia, July 2012 ; "Coherent states representation of density operator with the applications in the quantum information".
- The 15th International Congress on Thermal Analysis and Calorimetry, -ICTAC, Osaka, Japan, August, 2012; "Influence of the atmospheric composition on the energy collected by the solar thermal converters".
- The 11th Conference on Calorimetry -CCTA11 , Zakopane, Poland, September 2012;: "Stepwise evolution of a system from an equilibrium state to chaos".
- The 20th Central European Workshop on Quantum Optics CEWQO, Stockholm, Sweden, July 2013 "The pseudoharmonic oscillator in terms of the information-theoretical entropy".
- The 2th Central and Eastern European Conference on Thermal Analysis and Calorimetry CEEC-TAC1, 2Vilnius, Lituania, 2013; Slovenja 2015, "Thermal conductivity of thin films" <http://www.ceec-tac.org/conf2/chonorific.html> (member inScientif Committee).
- The 11th European Symposium on Thermal Analysis and Calorimetry-ESTAC, Helsinki, Finland, August 2014; "The influence of the thermal field on the endurance to cavitation erosion in repair welding of the martensitic steels" <http://www.estac11.fi/>.
- The 9th International Conference on Dissociative Recombination: Theory, Experiment & Applications (DR2013) (<http://www.paris-dr2013.com/index.php>); : *Advances in the MQDT approach of electron/molecular cation reactive collisions: High precision extensive calculations for application* (member inScientif Committee)
- The 8th-16th Physics Conferences TIM, Timisoara, Nov. 2008, 2009, 2011, 2012, 2013, 2014, May 2016, 2017.

Researcher ID

<http://www.researcherid.com/rid/B-6784-2012>
Brainmap:
<https://www.brainmap.ro/profile/Nicolina-Pop>
ORCID ID:
<http://orcid.org/0000-0002-7051-6753>

Citations

Sum of Times Cited without self-citations is 271 (google scholar).
Hirsh index = 6 (<http://apps.webofknowledge.com.am.e-nformation.ro/CitationReport.do>)
Hirsh index = 7 (<https://scholar.google.ro/citations?user=PW9s55sAAAAJ&hl=ro>)

Reviewer

Mathematical Reviews –MathSciNet (MR Author ID 097026)
Journal of Thermal Analysis and Calorimetry
International Journal of Electrical Power and Energy Systems
Chinese Physics B
American Institute of Physics-AIP Conference Proceedings
World Journal of Nuclear Science and Technology
Journal of Statistical Physics
Advances in Chemical and Materials Engineering (ACME) Book Series

Memberships

European Physics Society–EPS
International Confederation for Thermal Analysis and Calorimetry – ICTAC
International Society for Optics and Photonics -SPIE
Romanian Society of Physics – SRF: **President of Energetic and Technical Section**
General Association of Engineers from Romania – AGIR
" Reactive Processes Center" of "Laboratoire Ondes et Milieux Complexe" , Université du Havre, France
Research Centre for Advanced Study Methods for Physical Phenomena", Politehnica University of Timisoara.

Timisoara, June 2017

Assoc. Prof. PhD: Nicolina Rodica POP