

CURRICULUM VITAE

1. PERSONAL DATA

Surname: SUSALA (maiden name: NENU)
First name: Catalina Alice
Date/Place of Birth: 21 May 1986 / Bucharest, Romania
Nationality: Romanian
Gender: Female
Languages: English (good), French (good)
German (beginner)
Romanian (native language)
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2. EDUCATION AND TRAINING

PhD in Physics

Dates/Institution: October 2012 - December 2019 / Faculty of Physics, University of Bucharest, Romania
Title of the Thesis: "Generation of ultrashort optical pulses by using new laser active media of Nd³⁺-doped borate type"
Granted by Order No. 4021/ 07.04.2020 of the Ministry of Education and Research

• Doctoral scholarship

Subject: "New laser active media for the generation of ultrashort optical pulses"
Period: June 2014 - September 2015
Institution: Faculty of Physics, University of Bucharest, Romania
Supervisor: Dr. Traian DASCALU
Program: European Social Fund, Sectoral Operational Programme Human Resources Development 2007-2013; POSDRU/159/1.5/S/137750

MSc Degree in Biophysics and Medical Physics

Dates/Institution: October 2008 - February 2010 / Faculty of Physics, University of Bucharest, Romania
Title of the Thesis: "In silico investigation and structure optimization of antimicrobial peptide Cecropin P with maximization of its cytotoxic potential. MD Simulation", prepared at Bioinformatics & Structural Biochemistry Department of the Institute of Biochemistry of the Romanian Academy (IBAR).

Diploma in Biophysics:

September 2008, Faculty of Physics, University of Bucharest, Romania
Dates / Institution: October 2004 - June 2007 / Faculty of Physics, University of Bucharest, Romania
October 2007 - July 2008 / Faculty of Physics, Faculty of Biology, Faculty of Foreign Languages, University of Duisburg-Essen, Germany
Title of the Thesis: "2D-NMR Spectroscopy Applied for Structure Determination of a Peptide" prepared at Center of Medical Biotechnology (ZMB), University of Duisburg-Essen, Essen, Germany.

TRAINING

1. 21 - 26 September **2009**, *Short course on 2D NMR spectroscopy for proteins*, Sofia, Bulgaria; Federation of European Biochemical Societies (FEBS), Sofia School of Protein Science "From basic research to drug design", 21-26 September 2009, Sofia, Bulgaria.
2. 24 - 26 October **2012**, "MT01413-SG-190 SolidEdge Fundamentals", Bucharest, Romania.
3. 14 - 17 July **2013**, 540. Wilhelm und Else Heraeus-Seminar "Modern Concepts of Continuous Wave and Pulsed High Power Lasers", Physikzentrum Bad Honnef, Germany.
4. 13-15 November **2014**, STSM Workshop & Management Committee Meeting, MP1204 COST Action, "Tera-MIR Radiation: Materials, Generation, Detection and Applications", Warsaw, Poland.
5. 21 - 25 June **2015**, *Short course on ultrashort laser pulse measurement techniques*, CLEO Europe - EQEC 2015 Conference, München, Germany.
6. August -September **2015**, Laboratory work on "Nonlinear mirror mode-locking technique" at Non Linear Optics and Solid State Lasers Laboratory, Department of Physics, Sofia University "St. Kliment Ohridski", during 9 days, Sofia, Bulgaria.
7. 24 - 29 July **2016**, Siegman International School on Lasers: 2016, ICFO, Barcelona, Spain.
8. 19-22 July **2017**, Laser Ignition Summer School 2017, Brasov, Romania.
9. 02-06 July **2018**, Laser Ignition Summer School 2018, Sibiu, Romania.
10. 07 - 12 October **2018**, Laboratory training on "Particle Image Velocimetry (PIV)", Project 691688 LASIG-TWIN; Laboratory of Energetic Molecular Macroscopic Combustion, Spray Combustion Plasma Laser, CNRS, Paris, France.
11. 21-26 October **2018**, Laboratory training on "Fiber processing by means of CO₂ laser radiation (and other techniques)", Project 691688 LASIG-TWIN; Fraunhofer Institute for Applied Optics and Precision Engineering, Fraunhofer IOF, Jena, Germany.
12. 03 - 07 December **2018**, Laboratory training on "Assembly and packaging of optical and laser-optical systems for harsh environments (Sputtering Metallization, Solderjet Bumping and Alignment Turning)", Project 691688 LASIG-TWIN; Fraunhofer Institute for Applied Optics and Precision Engineering, Fraunhofer IOF, Jena, Germany.
13. 14 - 18 Oct. **2019**, LabView Core 1 & Core 2 National Instruments Course, Magurele, Ilfov, Romania.

3. WORK EXPERIENCE

National Institute for Laser, Plasma and Radiation Physics

Laboratory of Solid-State Quantum Electronics
409 Atomistilor Str., Magurele 077125, Ilfov, Romania

Period / Position:	01/2013 - present	Scientific Researcher
	01/2010 - 12/2012	Research Assistant

Institute of Atomic Physics

407 Atomistilor Str., Magurele 077125, Ilfov, Romania

Period / Position:	03/2010 - 06/2010	Reviewer (COR 343309)
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4. RESEARCH INTERESTS

- Diode-pumped solid-state lasers.
- Mode-locking of lasers.
- Generation of ultrashort pulses.
- Ceramic and single-crystal laser materials.
- Nonlinear optics: second harmonic generation, self-frequency doubling, Kerr nonlinearity.
- Applications of solid-state lasers.
- High-power lasers.
- Solid-state Raman lasers.

5. COMPUTER SKILLS AND COMPETENCES

Operating systems:	Windows
Text editing:	OpenOffice.org, MS Word
Presentations:	OpenOffice.org, MS PowerPoint
Data handling:	OpenOffice.org, MS Excel
Data analysis and representation:	Microcal Origin, Igor Pro
Simulation of Optical Systems:	Rayica (in Wolfram Mathematica)
Numerical calculus:	Wolfram Mathematica
Simulation of Laser Resonators:	Paraxia Plus
3D construction and technical drawing	Solid Edge ST6
Finite Element Analysis	Ansys

6. MISCELLANEOUS

1. **2013** SPIE Student Chapter Member.
2. **2017**, Member of the Local Committee of Laser Ignition Summer School 2017, Brasov, Romania.
3. **2018**, Member of the Local Committee of Laser Ignition Summer School 2018, Sibiu, Romania.
4. 02-06 July **2018**, Laser Ignition Summer School 2018, Sibiu, Romania, **Special Award** for poster presentation:
"Efficient Nd:YVO₄ SESAM Mode-Locked Laser: Design and Performance Characterization".
5. Reviewer for several ISI peer-review journals:
Optics Express, Optics Letters, Applied Optics, Optical Materials Express (OPTICA);
Infrared Physics and Technology, Optics & Laser Technology (ELSEVIER);
Materials, Crystals, Photonics, Fibers, Applied Sciences, Sensors (MDPI);
Frontiers in Physics (Frontiers Media).

7. PUBLICATIONS

Peer-review journals:	11 (5 first author)
Proceedings of International Conferences:	5
Contributed talks at international conferences:	29.