europass Curriculum vitae

PERSONAL INFORMATION

Gutt Robert

Donat Str. No. 67-103, Cluj-Napoca, Romania

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Sex Male | Date of birth 07/04/1990 | Nationality Romanian

WORK EXPERIENCE

24/04/2018–Present

Scientific Reseacher

National Institute for Research and Development of Isotopic and Molecular Technologies, Cluj-Napoca (Romania)

01/02/2018–24/04/2018

Research Assistant

National Institute for Research and Development of Isotopic and Molecular Technologies, Cluj-Napoca (Romania)

01/01/2015–Present

Research Assistant (part-time)

Company of Applied Informatics, Cluj-Napoca (Romania)

Numerical simulations on metamaterial surfaces.

01/10/2014–30/09/2017

Teaching Assistant

Faculty of Mathematics and Computer Science, Babeș-Bolyai University, Cluj-Napoca (Romania)

Seminar teacher of the courses:

- Theoretical Mechanics
- Complex Analysis
- Numerical Computing

06/2008–Present

Tourist Guide

S.C. Interpares S.R.L, Sibiu (Romania)

Guided tourist groups over the summer months. Activities included leading a group of 6~12 people on:

- Guided hiking and mountain-bike tours;
- Historical city tours in Transylvania;
- Organized river tours.

EDUCATION AND TRAINING

10/2014–31/10/2019

PhD Thesis

Faculty of Mathematics and Computer Science, Babeş-Bolyai University, Cluj-Napoca (Romania)

"Mixed Boundary Value Problems for Nonlinear Systems in Fluid Mechanics and Porous Media" (Defense on 31.10.2019)

Scientific Supervisor: Prof. Univ. Dr. Mirela Kohr

10/2013–07/2015

Master of Physics

Faculty of Physics, Babeş-Bolyai University, Cluj-Napoca (Romania)

Master Thesis:Theoretical and Experimental Approach of Metamaterials based on Three-fold Rotational Symmetry Meta-atoms arranged in a Hexagonal Lattice (Grade: 10 points out of 10)

Scientific Advisors: Lect. Dr. Arthur Tunyagi, CS III Mircea Giloan, CS II Emanoil Surducan

10/2012–07/2014

Master of Mathematics

Faculty of Mathematics and Computer Science, Babeş-Bolyai University, Cluj-Napoca (Romania)

Master Thesis: Methods of Potential Theory for Nonlinear Problem in Fluid Mechanics (Grade: 10 points out of 10)

Scientific Advisor: Prof. Univ. Dr. Kohr Mirela

10/2010–07/2013

Bachelor of Science

Faculty of Physics, Babeş-Bolyai University, Cluj-Napoca (Romania)

Bachelor Thesis: Chiral Metamaterials with Negative Refractive Index

(Grade: 9.30 points out of 10)

Scientific Advisor: Prof. Univ. Dr. Simion Aștilean, CS III Mircea Giloan

10/2009–07/2012

Bachelor of Science

Faculty of Mathematics and Computer Science, Cluj-Napoca (Romania)

Bachelor Thesis: Conformal Mappings. Applications (Grade: 8.66 points out of 10)

Scientific Advisor: Prof. Univ. Dr. Grigore Sălăgean

PERSONAL SKILLS

Mother tongue(s): Romanian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
German	C1	C1	C1	C1	C1
	Deutsches Sprachdiplom, Stufe 2				
English	C1	C1	B2	B2	B2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills: Tolerance, respect, team spirit. Fast learning in new areas.

Organisational / managerial skills: Good organisational abilities both individually and as a team.

Job-related skills: Good leadership for organised groups.
Practice in simulation on metamaterials and fluid mechanics.

Digital skills:
- Ansys Workbench, Sauna Thermal Solutions
- Matlab, Maple, Mathematica
- Lumerical FDTD Solutions
- Meep, Eagle CadSoft

- Microsoft Office, Latex
- Programming languages: C/C++, C#, Java

ADDITIONAL INFORMATION

Publications

R. Gutt, *Mixed boundary value problems for the Navier-Stokes system on compact Riemannian manifolds,* submitted.

V. Surducan, E. Surducan, R. Gutt, *Wide bandwidth rectifying antenna array coupled with new Armstrong step-up micro-converter for harvesting electromagnetic energy,* submitted.

B. Belean, R. Gutt, C. Costea, O. Balacescu, *Microarray image analysis: from image processing methods to gene expression levels estimation,* submitted.

M. Giloan, R. Gutt, *Sub-wavelength imaging by space dilation*, submitted.

R. Gutt, *BIE and BEM approach for the mixed Dirichlet-Robin boundary value problem for the nonlinear Darcy-Forchheimer-Brinkman system,* submitted.

R. Gutt, *Mixed boundary value problems for the Stokes system on Riemannian manifolds, Mathematica, 60 (83) 152-165, DOI: 10.24293/mathcluj.2018.2.07.*

R. Gutt, M.Kohr, S.E. Mikhailov, W.L. Wendland, *On the mixed problem for the semilinear Darcy-Forchheimer-Brinkman PDE system in Besov spaces on creased Lipschitz domains,* Mathematical Methods in the Applied Sciences, 40 (18), 7780-7829, 2017, DOI: 10.1002/mma.4562.

M. Giloan, R. Gutt, *Optical negative index metamaterial based on hexagonal arrays of metallic meta-atoms with threefold rotational symmetry,* Journal of the Optical Society of America B, 33-27, 2016, DOI: 10.1364/JOSAB.33.000027.

R. Gutt, M. Kohr, C. Pintea, W.L. Wendland, *On the transmission problem for the Oseen and Brinkman systems on Lipschitz domains in compact Riemannian manifolds*, Mathematische Nachrichten, 289 (4), 2015, DOI: 10.1002/mana.201400365.

M. Giloan, R. Gutt, G. Saplacan, *Optical chiral metamaterial based on meta-atoms with three-fold rotational symmetry arranged in hexagonal lattice*, Journal of Optics, 17 (8), 2015, DOI: 10.1088/2040-8978/17/8/085102.

R. Gutt, T. Groșan, *On the lid-driven problem in a porous cavity. A theoretical and numerical approach*, Applied Mathematics and Computation, 266:1070-1082, 2015, DOI: 10.1016/j.amc.2015.06.038.

Patents

V. Surducan, E. Surducan, R. Gutt, *Dispozitiv microconvertor ridicător de tensiune, şi metodă de realizare a acestuia***,** RO 133531 (A0).

A. Bot, V. Rednic, E. Bruj, S. Pogăcian, S. Gergely, R. Pop, R. Gutt, *Concentrator solar cu focare multiple și motor Stirling,* RO 133284 (A0).

Conferences

M. Giloan, R. Gutt, G. Saplacan, *Designing devices for sub-wavelength imaging using a transformation-optics approach,* META 2019, (The 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics), 23-26 July, 2019, Lisbon, Portugal.

M. Giloan, R. Gutt, G. Saplacan, *Transformation optics inspired lenses for sub-wavelength imaging*, NANOMETA 2019 (The 7th International Topical Meeting on Nanophotonics and Metamaterials 3 - 6 January, 2019, Seefeld (Tirol), Austria.

R. Gutt, M. Kohr, *Mixed boundary value problems for the Navier-Stokes system on Riemannian manifolds,* Recent Trends in Pure and Applied Mathematics, 31 July - 4 August 2017, Alba Iulia, Romania.

M. Giloan, R. Gutt, *Designing transformation optics devices for wave vectors manipulation,* META 2017, (The 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics), 25-28 July, 2017, Incheon – Seoul, South Korea.

M. Giloan, R. Gutt, G. Saplacan, *Designing flat lenses using a transformation optics approach,* META 2017, (The 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics), 25-28 July, 2017, Incheon – Seoul, South Korea.

M. Giloan, R. Gutt, G. Saplacan, *Optical metamaterial slabs based on hexagonal arrays of metallic nano-resonators with three-fold rotational symmetry,* META 2016, (The 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics), 25-28 July, 2016, Malaga, Spain.

T. Groșan, R. Gutt, M. Kohr, *The mixed Dirichlet-Robin problem for the lid-driven cavity flow***,** ICMCS

2015 (International Conference on Mathematics and Computer Science), 10-11 November, 2015, Vienna.

M. Giloan, R. Gutt, G. Saplacan, *Plasmonic metamaterials based on metallic nano-elements with three-fold rotational symmetry arranged in hexagonal lattices,* NANOMETA 2015 (The 5th International Topical Meeting on Nanophotonics and Metamaterials 5 - 8 January, 2015, Seefeld (Tirol), Austria.

M. Giloan, R. Gutt, G. Saplacan, *Negative index chiral metamaterial based on C3-symmetric meta-atoms arranged in hexagonal lattice,* META'14 (The 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics) 20-23 May, 2014, Singapore.

Hobbies Hiking, Climbing, Literature, History