

PERSONAL INFORMATION



Sergiu, Iulian ANDREICA

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WORK EXPERIENCE

February 2025 – Present

Lecturer

Faculty of Electrical Engineering, Department of Electrotechnics and Measurements, Technical University of Cluj-Napoca

G. Barițiu Street, no. 26-28, 400114, Cluj-Napoca, Romania www.ethm.utcluj.ro

- Electromagnetic Compatibility – Faculty of Electrical Engineering, Year IV, Course, Laboratory.
- Electromagnetic Compatibility Standardization and Testing – Faculty of Electrical Engineering, 1st Year Master's, Laboratory.
- Fundamentals of Electrical Engineering – Faculty of Electrical Engineering, Year I, Laboratory
- Electromagnetic Field Theory – Faculty of Electrical Engineering, Year III, Laboratory, Seminar, Bachelor's Course.
- Fundamentals of Electrical Engineering II – Faculty of Electronics, Telecommunications and Information Technology, Year I, Seminar.

February 2020 – January 2025

University assistant

Faculty of Electrical Engineering, Department of Electrotechnics and Measurements, Technical University of Cluj-Napoca

G. Barițiu Street, no. 26-28, 400114, Cluj-Napoca, Romania www.ethm.utcluj.ro

- Electromagnetic Compatibility Standardization and Testing – Faculty of Electrical Engineering, 1st Year Master's, Laboratory.
- Basics of electrotechnics - Faculty of Electrical Engineering, 1 st year, Laboratory.
- Electromagnetic Field Theory - Faculty of Electrical Engineering, 1 st year, Laboratory.
- Electrotechnics – Faculty of Automation and Computer Science, 1 st year, Laboratory.

July 2016-November 2019

Research Assistant

Faculty of Electrical Engineering, Department of Electrotechnics and Measurements, Technical University of Cluj-Napoca

G. Barițiu Street, no. 26-28, 400114, Cluj-Napoca, Romania www.ethm.utcluj.ro

- Member of the Electromagnetic Compatibility Laboratory; EMC tests according to the standards.
- Member of the research project PNIII-P5-5.3-5.3.1 ROSA STAR 2016, „ STAR - Center of competence for wireless intra-satellite technologies”.
- Member of the research project “Development of New Methodologies for the Analysis and Optimal Design of Multilayer Spiral Coils Used in Radio Frequency Applications (PN-II-RU-TE-2014-4-0199)”.

February 2014-2015

Internship

S.C. EnergoBit PROD S.R.L .

Tăietura Turcului Street, no. 47/11, Tel:40 264 207 500, Cluj-Napoca, România <http://www.energobit.com>

- Department of Transformers (magnetic core assembly, active part assembly, subassembly and cover connections).
- Execution of a project in Eplan, AutoCad Electrical, SEE Electrical.

EDUCATION AND TRAINING

October 2018-October 2023

Ph.D.

Doctoral School IOSUD, Electrical Engineering, Technical University of Cluj-Napoca
Constantin Daicoviciu Street, no. 15, 40020 Cluj-Napoca, Romania <http://iosud.utcluj.ro/>

Title of the PhD thesis: "Contributions to the Design and Implementation of Resonant Microstrip Bandpass Filters for Wireless Communication Systems".

October 2016-July 2018

Diplomat Engineer

Faculty of Electrical Engineering, Master's degree, Modern Techniques of Computer Aided Design in Electrical Engineering, Technical University of Cluj-Napoca

Memorandumului Street no. 28, 400114, Cluj-Napoca, Romania <http://www.utcluj.ro/>

- The theme of dissertation „ Design, construction and testing of multilayer spiral coils ”.

August 2020 - July 2021

ANTREDOC

Department for Continuing Education, Technical University of Cluj-Napoca

- Entrepreneurial skills and research excellence in doctoral and postdoctoral study programs, POCU / 380/6/13/123927, project co-financed by the European Social Fund through the Human Capital Operational Program 2014-2020.

October 2012-July 2016

Engineer

Faculty of Electrical Engineering, Specialization Electrotechnics

Technical University of Cluj-Napoca

Memorandumului Street, no. 28, 400114, Cluj-Napoca, Romania <http://www.utcluj.ro/>

- The theme of the bachelor's degree, "Techniques for minimizing parasitic effects of multilayer spiral inductors".

September 2008-June 2012

Highschool

Technical College "Alesandru Papiu Ilarian" Zalău Mathematics-Informatics

B-dul Mihai Viteazul Street no. 59, Zalău, Sălaj, Romania <http://www.apizal.ro/>

PERSONAL SKILLS

Mother tongue(s)

Other language

Romanian Language

UNDERSTANDING

SPEAKING

WRITING

Listening

Reading

Conversation

Oral speech

English

B2

B2

B1

B1

B1

French

A2

A2

A2

A1

A1

Spanish

A2

A1

A2

A2

A1

Levels: A1 / 2: Elementary user - B1 / 2: Independent user - C1 / 2: Experienced user
Common European Framework of Reference for Foreign Languages

Social skills and competences

- strong teamwork skills, developed through participation in national and international research teams;
- communication skills, developed through writing and presenting scientific papers at national and international scientific events;
- good adaptability to multicultural environments, developed through educational experience and professional activities abroad (Canada);
- competence in testing according to European electromagnetic compatibility standards, both in the areas of emissions and immunity.

Organizational / managerial skills

- skills acquired through supervising Bachelor's and Master's thesis projects;
- secretary of the graduation examination committee and of the Student Scientific Circles Session.

Computer skills

- An average knowledge of the equipment and programs used in electromagnetic compatibility:
- EMI receiver, VNA, and related software R&S Elektra.
 - Immunity generators and their associated software, including ICD Control and IEC Control;
 - Antennas, amplifiers, and LISNs.
- A good knowledge of the Microsoft Office TM software package:
- Word TM, Excel TM and PowerPoint TM.
- An average knowledge of the programs specialized in:
- numerical modeling of the electromagnetic field: ANSYS-Maxwell 3D, Maxwell 2D, CST;
 - high frequency numerical modeling: ANSYS-HFSS;
 - parameter extraction: Ansoft-Q3D Extractor, Q2D Extractor;
 - mathematical calculation: MathCad;
 - design / modeling / simulation: AutoCAD, Solid Works, Orcad, Dialux, EDSA Paladin;
 - electrical circuits design: LPKF CircuitPro PM;
 - programming: Pascal, C, FoxPro.

Driving license

B category

ADDITIONAL INFORMATION

Publications

Book: 1 Co-author

- Claudia Păcurar, Nicoleta-Adina Giurgiuman, Mihaela Crețu, Marian-Răzvan Gliga, **Sergiu-Iulian Andreica**, BASICS OF ELECTRICAL ENGINEERING - Laboratory guide, U.T. Press, Cluj-Napoca, Romania, ISBN 978-606-737-492-6, 156 pages, 2020.
- Constantinescu C., Pacurar C., Giurgiuman A., Munteanu C., **Andreica S.**, Gliga R. *The Influence of Electromagnetic Waves Emitted by PIFA Antennas on the Human Head*. 7th International Conference on Advancements of Medicine and Health Care through Technology. MEDITECH 2020. IFMBE Proceedings, vol 88. Springer, Book Chapter, pp. 77-91, ISSN 1680-0737, 1 January 2022.

Scientific papers: 31 ISI indexed papers, 36 BDI indexed papers.

Selection representative papers:

- Giurgiuman A., Gliga M., Bojita A., **Andreica S.**, Munteanu C., Topa V., Constantinescu Claudia, Pacurar Claudia, Software Program for the Evaluation of Human Exposure to Electric and Magnetic Fields. Technologies Journal, vol. 11, no. 6, 159, IF: 3.6, 2023.
- Constantinescu, C.; Pacurar, C.; Giurgiuman, A.; Munteanu, C.; **Andreica, S.**; Gliga, M. „High Gain Improved Planar Yagi Uda Antenna for 2.4 GHz Applications and Its Influence on Human Tissues”. Appl. Sci. 2023, 13, 6678.
- **Sergiu Andreica**, Claudia Pacurar, Vasile Topa, Adina Racasan, Claudia Constantinescu, Marian Gliga, “The Analysis of the Multilayer Spiral Inductors Parameters at High Frequency”, “The 7th International on Modern Power Systems 2017, Cluj-Napoca, Romania, ISBN: 978-1-5090-6565-3, WOS: 000428462600057 6-9 June, 2017.
- **Sergiu Andreica**, Marian Gliga, Adina Racasan, Calin Munteanu, Claudia Pacurar, Claudia Constantinescu, “Study of Conducted Electromagnetic Emissions of a Wireless Power System”, “11th International Conference on Electromechanical and Power Systems 2017”, 11 - 13 Oct 2017, Chisinau, Moldova, SIELMEN 2017, pp. 191-195, ISBN: 978-1-5386-1846-2, WOS: 000426906000037.
- **Sergiu Andreica**, C. Munteanu, M. Gliga, C. Pacurar, A. Giurgiuman, C. Constantinescu, Development and Optimization of a Broadside-Coupled Dual-Band Microstrip Bandpass Filter for Wireless Communication Systems, MPS 2023, DOI: 10.1109/MPS58874.2023.10187504, ISBN: 979-8-3503-2682-6, 21-23 June 2023.
- **Sergiu Andreica**, Calin Munteanu, Marian Gliga, Claudia Pacurar, Adina Giurgiuman, Claudia Constantinescu, Study of the Electromagnetic Field Generated by Wireless Communication Systems, 2022 International Conference and Exposition on Electrical and Power Engineering (EPE), DOI: 10.1109/EPE56121.2022.9959779, 20-22 October 2022.

Projects

Grants / Projects / Research contracts: 21 (member of the research team):

• 6 National Grants / Projects / Research contracts :

- **Activity Responsible** of the research team for the project “SENTHICOM – UTCN (SENse, THInk and COMMunicate)”, Contract No. 10.PI/4/C9, 2026–2028;; Project Manager: Prof. PhD Eng. Marius Purcar.
- **Member** of the research team for the project “RO-GREEN – Sustainable Electric Mobility Solutions”, Contract No. 390085/1.11.2025, 2025–2028; Project Director: Prof. PhD Eng. Vlad Burnete
- **Member** of the research team for the project “Digitalization of the Design Process of Multifrequency RFID Antennas and Evaluation of Human Exposure to the Radiation Emitted by Them,” 2024–2025, Romanian Academy of Scientists (AOSR), Project Coordinator: Assist. Prof. PhD Eng. Claudia Constantinescu;
- **Member** of the research team for the project “Development and Optimization of MIMO Antennas and Evaluation of Human Exposure to the Radiation Emitted by Them,” No. 18/01.07.2024, ARUT, Project Director: Assist. Prof. PhD Eng. Claudia Constantinescu.
- **Member** of the research team of the PN-II-RU-TE-2014-4-0199 project, Nr. 183 / 1.10.2015, Optimal design of multilayer spiral coils for the development of high frequency wireless transfer systems used in electrical and biomedical applications, 2015-2017, Conf.dr.eng.ec. Pacurar Claudia.
- **Member** of the research team of the project PNIII-P5-5.3-5.3.1 ROSA STAR 2016, Center of competence for wireless intracellular technologies, 2016-2019, Project director: Prof. dr. eng. Palade Tudor .

• 15 Research Contract with Industry:

- **Member** in the research team within the contract with third parties, “EMC Testing – Radiated Emissions”, Contract no. N-CS-AC-CDI-2025 – Contract with MILWAUKEE ROMANIA SRL, 2025–2030. Project manager: Prof. Dr. Eng. Călin Munteanu.
- **Member** in the research team within the contract with third parties, “SMT Belt Sorting Equipment for Recycling, for the Analysis of the Electrostatic Field under Special Conditions of Sorted Waste”, Contract no. N-C-CDI 7985/05.08.2025 – Contract with Robert Bosch S.R.L., 2025–2026.
- **Member** in the research team within the contract with third parties, Research / testing services in the field of electromagnetic compatibility (EMC), Contract no. 86/2017 - Contract with SC CEPROM S.A. Satu Mare, 2017. Project manager: Prof. Dr. Eng. Călin Munteanu;
- **Member** in the research team of the Contract with SC Energobit SA Cluj, Electric and Magnetic Field Measurements in the 220 / 110 kV Power Station from Drobeta Turnu Severin, Mehedinti, 2019, Director: Prof. Dr.Eng. Călin Munteanu; and other.

Conferences and Workshops

- Member of the organizing committee of the following conferences: International Conference on Modern Power Systems (2023) and International Conference on Electromagnetic Fields, Signals and BioMedical Engineering (2024);
- Participant in the following international conferences and workshops: EPE 2016; ICPR-AEM-QIEM 2016; MPS 2017; OPTIM-ACEMP 2017; SIELMEN 2017; EPE 2018; ATEE 2019; MPS 2019; SIELMEN 2019; EPE 2020; CEM 2020; MPS 2021; EPE 2022; ICEMS-BIOMED 2022; MPS 2023; EMV 2023; ICEMS-BIOMED 2024, SIITME 2024, EMV 2025, ATEE 2025, EMCH 2025, ECAI 2026.

Specializations and qualifications

- I followed the online training program in the field of Standardization for small and medium-sized uthorized Electrician, Grade II A+B, National Energy Regulatory Authority (ANRE);
- Completed the course “Specialist for Testing and Calibration Laboratories according to SR EN ISO/IEC 17025:2018,” delivered by TÜV Austria Romania;
- Completed the course “Product Conformity Certification – A Comprehensive Approach to Requirements for the Operation of Bodies, Certification Processes, and Normative Documents SR EN ISO/IEC 17065:2013, SR EN ISO/IEC 17067:2014, and SR ISO/IEC 17007:2010,” delivered by the National Standardization Body (ASRO);
- Completed the online training program in Standardization for Small and Medium-Sized Enterprises (SMEs), co-financed by the European Commission, and obtained a certificate of completion;
- Completed the course “CST Studio Suite EMC/EMI Training” – November 20–21, 2018, Craiova;
- Completed the course “Efficiency and Innovation through Numerical Simulation in Electronics,” organized by TENSOR, March 2020, Timișoara
- Completed the course “Automotive Testing Training” – November 16–17, 2023, Timișoara.

Member of the Professional Associations

- ACER (Association for Electromagnetic Compatibility in Romania);
- IEEE (The Institute of Electrical and Electronics Engineers);
- Secretary of the IEEE EMC Society Romania Chapter.