



## Szilárd ENYEDI

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**Date of birth:** 26/12/1976 | **Nationality:** Romanian | **Phone number:**

(+40) 264401220 (Work) | **Phone number:** (+40) 744433253 (Mobile) |

**Email address:** [Szilard.Enyedi@aut.utcluj.ro](mailto:Szilard.Enyedi@aut.utcluj.ro) |

**Address:** Barițiu 26-28, Automation Department, 400027, Cluj-Napoca, Romania (Work)

### ● WORK EXPERIENCE

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01/10/2009 – CURRENT Cluj-Napoca, Romania

**ASSOCIATE PROFESSOR** TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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Courses taught:

- Reliability and Diagnosis;
- Advanced Internet Technologies;
- User Interface Programming;
- Applications for the WWW;
- Web Technologies;
- Project Management;
- Digital Graphics;
- Computer-Aided Design;
- Distributed Control Systems;
- Process Equipment and Interfaces;
- Computer Programming;
- Advanced Programming;
- Operating Systems and Computer Networks.

**Address** Memorandumului 28, 400114, Cluj-Napoca, Romania | **Website** <http://www.utcluj.ro>

03/2016 – CURRENT Cluj-Napoca, Romania

**WEBSITE ADMINISTRATOR** TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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- Hardware/software installation, security, CMS system adaptation, back-end/front-end development for the department and research projects;
- Server deployment, optimization and management;
- Site maintenance, staff, announcements, bilingual information.

02/2015 – CURRENT Cluj-Napoca, Romania

**MOODLE LMS AND ONLINE/OFFLINE QUIZZES MANAGER** UNIVERSITATEA TEHNICĂ DIN CLUJ-NAPOCA

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- Hardware/software installation, security and maintenance of Moodle teaching system and modules for online/offline examination;
- Creation and management of teaching material, question banks and quizzes for examination in Moodle;
- Management of topics and printed grids, for scoring and automated analysis of results;
- Trainer for creating and managing teaching material and online/offline quizzes in Moodle.

2012 – CURRENT Cluj-Napoca, Romania

**DEVELOPER FOR CONFERENCE SUBMISSION AND REVIEW SYSTEM, REGISTRATION SYSTEM, ONLINE PAYMENT AND ON-SITE CHECK-IN SOLUTION** TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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- Hardware/software installation, solution development and deployment for the IEEE AQTR conference sites (2004-ongoing), IEEE ETS 2015, IEEE DDECS 2019;
- Improvement, deployment and management of the PCChair paper submission/review system, for AQTR;
- Developing and securing the event participants registration and management system;
- Developing and securing the online payment subsystem, by bank transfer, online payment by card or at the event;
- Developing and securing the check-in subsystem, including a hybrid mobile application, for the multi-desk parallel management of registered guests arriving at the event.

07/2014 – 10/2015 Cluj-Napoca, Romania

**IT TRAINER** CLUJ MINING INFORMATICS CENTER

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- Mobile applications course;
- Multimedia and web applications course.

05/04/2010 – 10/04/2010 Eysins, Switzerland

**IT TRAINER** YPSYS S.A.

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- Development training in Visual Studio and .NET.

**Address** Route de Crassier 7, 1262, Eysins, Switzerland

27/02/2007 – 30/09/2009 Cluj-Napoca, Romania

**UNIVERSITY ENGINEERING LECTURER** TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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01/03/2005 – 26/02/2007 Cluj-Napoca, Romania

**UNIVERSITY ASSISTANT LECTURER** TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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01/10/2001 – 28/02/2005 Cluj-Napoca, Romania

**JUNIOR LECTURER** TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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2002 Cluj-Napoca, Romania

**IT TRAINER** IPA S.A., CLUJ-NAPOCA BRANCH

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- Internet Basics course

**Address** Zorilor 15, 400335, Cluj-Napoca, Romania

2001 Cluj-Napoca, Romania

**IT TRAINER** CLUJ CHAMBER OF COMMERCE AND INDUSTRY

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- Internet Basics course;
- Course o Basics of programming in Delphi.

**Address** Horea 3, 400174, Cluj-Napoca, Romania

● **EDUCATION AND TRAINING**

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02/2024 United States

**ADVANCED DIGITALIZATION OF INDUSTRIES: FROM INDUSTRIAL IOT TO CLOUD/FOG AUTOMATION** IEEE IoT Technical Community

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- Vision of Cloud/Fog Automation
- Software defined wireless for Cloud/Fog Automation
- 5G for Cloud/Fog Automation

- Communication-Computing-Control Co-Design
- Future perspectives

**Field of study** Inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs)

02/2024

**HOW C-V2X IS BOLSTERING AUTOMOTIVE SAFETY** IEEE Continuing Education

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- Improving ADAS systems with C-V2X
- C-V2X interoperability with global and regional standards
- C-V2X security
- The OmniAir system

11/2023

**ADAPTING THE ELECTRICAL GRID FOR GREEN ENERGY** IEEE Continuing Education

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- Renewable energy
- The latest in storage solutions
- Multi-physics simulation of solutions (fluid, thermal, electrical, magnetic, chemical)

09/2021

**BLOCKCHAIN EXPERIENCE** IEEE EMEA

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- Blockchain in Europe
- Blockchain and IoT
- Blockchain in supply chains
- Fintech and blockchain
- Online voting and blockchain
- Cryptocurrencies
- The electronic health record and blockchain

05/2021

**THE IMPORTANCE OF COLLABORATION IN RESEARCH** Clarivate Web of Science

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- Assessment, identification and openness to collaboration
- Improving visibility
- Unlocking barriers

05/2021

**FUNDING OF RESEARCH ACTIVITIES** Clarivate Web of Science

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- Identifying historical trends
- Alignment of research results with the strategic plan

02/2021

**AWS INNOVATE - AI & MACHINE LEARNING** Amazon, Inc. & Intel, Inc.

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- Creating machine vision models
- Machine learning scaling
- Implementing machine learning models
- Open-source platforms for machine learning

2020

**MICROSOFT TEAMS TRAINING** Technical University of Cluj-Napoca

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05/11/2019 Cluj-Napoca, Romania

**TEACHING WITH MATLAB** Technical University of Cluj-Napoca

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- Installing MATLAB
- Using MATLAB to Increase Student Engagement
- Student engagement with "live scripts"
- Access and run MATLAB files from anywhere with MATLAB Online

- Use MATLAB Drive to share files with collaborators and students
- Incorporating MATLAB educational resources into the teaching process
- Assessing knowledge with MATLAB Grader

**National classification** Nivelul 7 CEC

06/2018 Cluj-Napoca, Romania

**IBM WORKSHOP ON WATSON DEVELOPER CLOUD WITH BLUEMIX** Technical University of Cluj-Napoca

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- Cloud computing
- Bluemix Services
- SPSS Statistics
- IBM Watson

**National classification** Nivelul 6 CEC

11/07/2016 – 16/07/2016 Romania

**SMART CITIES SUMMER SCHOOL** Technical University of Cluj-Napoca, OSUT Cluj-Napoca, Innovation Labs

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- Electronics for the Internet of Things
- IoT sensor development and platforms
- Software for the Internet of Things
- Sensors and Peripherals
- Web servers

**Level in EQF** EQF level 6

19/02/2016 Cluj-Napoca, Romania

**CERTIFICATE OF ENGLISH LANGUAGE PROFICIENCY** Technical University of Cluj-Napoca

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**National classification** Nivelul 6 CEC

13/05/2013 – 16/05/2013 București, Romania

**SERVICE ORIENTED ARCHITECTURES** Oracle University

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**Field of study** Informatică | **Level in EQF** EQF level 7

15/10/2011 – 16/10/2011 Bucharest, Romania

**ADVANCED USER OF CONCORD AND MOODLE EDUCATIONAL PLATFORMS** Politehnica University Bucharest

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**Address** Splaiul Independenței 313, 060042, Bucharest, Romania | **Field of study** Informatică |

**National classification** Nivelul 7 CEC

12/05/2011 Cluj-Napoca, Romania

**ENGLISH LANGUAGE CERTIFICATE** Technical University of Cluj-Napoca

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**Level in EQF** EQF level 6

01/2010 – 01/2010 Cluj-Napoca, Romania

**PROJECT MANAGER CERTIFICATE (R38)** National Authority for Qualifications

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**Address** Valter Mărăcineanu 1-3, 010155, Cluj-Napoca, Romania | **Field of study** Comerț și administrație |

**Level in EQF** EQF level 7

09/06/2008 – 11/06/2008 Cluj-Napoca, Romania

**DELTA V IMPLEMENTATION SKILLS CERTIFICATE** Emerson Process Management

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- Implementation and usage of the DeltaV process management system.

**Address** P.O. Box 212, AE 2280, Cluj-Napoca, Romania | **Field of study** Inginerie și tehnici înrudite |

**Level in EQF** EQF level 6

2000 – 2008 Cluj-Napoca, Romania

**DOCTORATE IN ELECTRONIC AND TELECOMMUNICATIONS ENGINEERING** Technical University of Cluj-Napoca

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- Research and development in distributed systems, Internet and communications technologies.

**Address** Memorandumului 28, 400114, Cluj-Napoca, Romania | **Field of study** Electronics and automation |

**Final grade** Magna Cum Laude | **Level in EQF** EQF level 8

07/2007 – 07/2007 Cluj-Napoca, Romania

**TESTSTAND USER CERTIFICATE** Konrad GmbH

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- Test development and evaluation
- Teststand platform usage

**Address** Fritz-Reichle-Ring 5, 78315, Cluj-Napoca, Romania | **Field of study** Electronics and automation |

**Level in EQF** EQF level 6

2000 – 2001 Cluj-Napoca, Romania

**MASTER IN MODERN TECHNIQUES IN AUTOMATIC CONTROL** Technical University of Cluj-Napoca

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- Robust control, adaptive control
- Real time systems
- Signal processing
- Modeling and simulation of dynamic processes

**Address** Memorandumului 28, 400114, Cluj-Napoca, Romania | **Field of study** Inginerie și tehnici înrudite |

**Level in EQF** EQF level 7

1995 – 2000 Cluj-Napoca, Romania

**ENGINEER'S DEGREE IN AUTOMATION AND INDUSTRIAL INFORMATICS** Technical University of Cluj-Napoca

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- Data structures and programming techniques
- Database design and use
- Computer architectures and programming
- Data transmission
- Knowledge-based systems
- Electronics and electrotechnics
- Analysis and synthesis of control systems
- Systems theory
- Reliability and diagnosis
- Automation equipment

**Address** Memorandumului 28, 400114, Cluj-Napoca, Romania | **Field of study** Electronics and automation |

**Level in EQF** EQF level 6

- Teaching methodologies
- Pedagogy

**Address** Memorandumului 28, 400114, Cluj-Napoca, Romania |

**Field of study** Formarea profesorilor și științele educației | **Level in EQF** EQF level 6

## ● LANGUAGE SKILLS

Mother tongue(s): **HUNGARIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
<b>ROMANIAN</b>	C2	C2	C2	C2	C2
<b>ENGLISH</b>	C1	C2	C2	C1	C2
<b>ITALIAN</b>	B2	B1	B1	B1	B1
<b>GERMAN</b>	B2	B1	B1	B1	B1
<b>FRENCH</b>	B1	B1	B1	B1	B2

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## ● ADDITIONAL INFORMATION

### DRIVING LICENCE

**Driving Licence:** B

### PROJECTS

**Projects** National grants (selection):

- Sz. Enyedi (member, education expert): "Entrepreneurial Competences and Research Excellence in Doctoral and Post-Doctoral Study Programs - ANTREDOC", POCU/380/6/13, 2019.
- Sz. Enyedi (member, long-term expert): "Robots and Society: Cognitive Systems for Personal Robots and Autonomous Vehicles - ROBIN", 72PCCDI, 3/2018.
- Sz. Enyedi (member, long-term expert): "SCADA systems federation, a collaborative instrument for water resource management - Pilot application on the Someș river basin – F2S", PN2-Parteneriate, 2/2015.
- Sz. Enyedi (member, long-term expert): "Increasing the Competitiveness of Enterprises through Enhancing and Specializing Human Resources in New Technology Fields, in a Knowledge Based Society and for a Durable Development", POSDRU contract 81/3.2/S/53084, 2010 -2013.
- Sz. Enyedi (member): "The Convergence of Information Technologies and Automatic Control Methods, with Applications in Power Plants and Systems", ICPS, CEEEX contract, module III, 2006-2007.
- Sz. Enyedi (coordinator): "Contributions to the Design for Testability of Distributed Systems", CNCSIS contract type Td, code 222, no. 33385/2004, 2004-2006.

International grants (selection):

- Sz. Enyedi (member): "Design of self-maintaining, cloud-based cyber-physical systems based on cloud computing - CyCloSe", Romanian-Italian bilateral collaboration project, no. 642/2013
- Sz. Enyedi (member): "Design, Test and Verification of Embedded Systems with Microprocessors and Applications in the Diagnosis of Complex Systems", Romanian-Greek bilateral collaboration project, theme 5, 2003-2005.
- Sz. Enyedi (member): "Development of On-Line BIST Structures for Distributed Systems, in the Context of the Concurrent Engineering Environment", Romanian-Italian bilateral collaboration project, no. 42/2000, 2001-2003.

## **ORGANISATIONAL SKILLS**

**Organisational skills** Organisational skills, acquired through co-organization of international conferences, research projects and as coordinator/consultant of diploma, dissertation and doctoral theses.

## **COMMUNICATION AND INTERPERSONAL SKILLS**

### **Communication and interpersonal skills**

- Leadership and teamwork skills, acquired through coordination and participation in national and international projects.
- Communication and public presentation skills, acquired through teaching activities and participation in conferences and public events.

## **SKILLS ACQUIRED IN THE WORKPLACE**

### **Skills acquired in the workplace**

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- Technologies for education
- Advanced Internet technologies
- Internet of Things
- Blockchain and distributed storage
- Big Data
- Machine learning
- Neural Networks in Edge computing
- Mobile and wearable platforms
- e-Health
- Cyber-physical systems
- Communication systems
- Multiagent technologies
- Reliability and diagnosis
- Electrification of transport
- Modeling and simulation
- These were acquired through learning, training, practical experiments and the preparation of teaching material for courses and laboratories.

## **RESEARCH**

### **Research**

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- ORCID 0000-0002-1526-2666
- Over 70 papers published in journals and conference volumes
- 7 books and 2 book chapters
- 32 ISI citations, 22 other international citations
- Member of 31 research projects, 3 international, director of one
- Co-organizer of several international conferences
- Member of IEEE, IEEE Transportation Electrification Community, IEEE IoT Community and IEEE-TTTC (IEEE Test Technology Technical Council)

## **PUBLICATIONS**

### **Publications**

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Books and book chapters (7 books, 2 book chapters), selection:

- I. Stefan, D. Goța, L. Miclea, H. Vălean, Sz. Enyedi, "Software testing techniques", 2023, Risoprint Publishing, ISBN 978-973-53-3002-6
- O. Stan, M. Misaros, Sz. Enyedi, L. Miclea, "Introduction to system dependability - vol. 1", 2022, Ed. U.T.Press, ISBN 978-606-737-597-8
- Sz. Enyedi, A. I. Lengyel, L. Miclea, I. Ștefan, O. Stan, H. Vălean, "Development and testing of software applications vol. 1", 2014, Risoprint, ISBN 978-973-53-1319-7
- I. Stefan, G. Moiş, Sz. Enyedi, L. Miclea, chapter title "A Load Balancing Algorithm for Multi Agent Systems", book title "Service Orientation in Holonic and Multi Agent Manufacturing Control", 2012, Springer, ISBN 978-3-642-27448-0.
- Sz. Enyedi, L. Miclea, I. Hoka, I. Popa, A. Gut, "Web Applications Development with Open-Source Tools" (in Romanian), Eikon, Cluj-Napoca, 2007, ISBN 978-973-757-054- 3, 167 p.

Papers in internationally indexed journals (4 ISI, 10 others), selection:

- Ovidiu Stan, Szilárd Enyedi, Cosmina Corches, Stelian Flonta, Iulia Stefan, Dan Gota, Liviu Miclea, "Method to Increase Dependability in a Cloud-Fog-Edge Environment", *Sensors* 2021, Volume 21, Issue 14, 4714.
- Cosmina Corches, Mihai Daraban, Ovidiu Stan, Szilárd Enyedi, Liviu Miclea, "Interconnection of Systems with Cloud-Fog-Edge architectures: Concept and Challenges", *Control Engineering and Applied Informatics Journal*, 2021, Volume 23, Number 1, ISSN 1454- 8658, pp. 60-71.
- Szilárd Enyedi, Liviu Miclea, Iulia Ștefan, "Increasing Systems' Availability through Agents and Reconfigurable Systems", *Journal of Automation, Computers, Applied Mathematics*, ISSN 1221-437X, vol. 17, no. 4, 2008, pp. 588-592.
- Liviu Miclea, Szilárd Enyedi, Paolo Prinetto, Alfredo Benso, "Agent-Based Test and Repair of Distributed Systems", *Journal of Embedded Computing*, Volume 1, Number 3/2005, pp. 405-414, IOS Press Amsterdam, ISSN 1740- 4460, abstracted io-port.

Conference papers (26 papers: 5 as first author, 22 indexed in Clarivate Web of Science), selection:

- Szilárd Enyedi, "Electric Cars - Challenges and Trends", *Proceedings of AQTR 2018*, Cluj-Napoca, Romania, May 24-26, 2018, ISBN 978-1-5386-2205-6, pp. 399-406.
- Szilárd Enyedi et al., "Connected Visualization Service in a Water Management System", *Proceedings of AQTR 2016*, Cluj-Napoca, Romania, May 19-21, 2016, ISBN 978-1-4673-8690-6, pp 125-129.
- Silviu Folea, Szilárd Enyedi, Liviu Miclea, "Reconfigurable Test Platform for Modular Embedded Systems in Manufacturing Processes", *Proceedings of IDT 2015*, Dead Sea, Jordan, December 14-16, 2015.
- L. Miclea, Enyedi Sz., G. Todorean, A. Benso, P. Prinetto, "Agent Based DBIST / DBISR and its Web / Wireless Management", *International Test Conference 2003*, Charlotte, NC, USA, September 30 - October 2 , 2003, ISBN 0-7803-8106-9, ISSN 1089-3539, pp. 952-960, "Award of Excellence".

## **PATENT**

### **Patent**

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- L. Miclea, D. Sauciuc, O. Stan, I. Paun, C. Dehelean, Sz. Enyedi, I. Stefan, "Patient's Electronic Health Record at national level and the method of its realization", reg. A/10033/2010, Bucharest, Romania.

## **CO-ORGANIZER OF INTERNATIONAL CONFERENCES**

### **Co-organizer of international conferences**

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- IEEE Automation, Quality and Testing, Robotics AQTR, Cluj-Napoca, Romania, every year since 2002, <https://www.aqtr.ro>
- Design and Diagnostics of Electronic Circuits and Systems 2019, Cluj-Napoca, Romania, <https://www.lirmm.fr/ddecs2019/>
- ETS 2015, Cluj-Napoca, Romania, 2015, <http://www.ets15.ro>
- ACSC 2009, Cluj-Napoca, Romania, 2009
- IFAC ICPS, Cluj-Napoca, Romania, 2007, <http://conference.utcluj.ro/icps07/>

## **AWARDS**

### **Awards**

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- L. Miclea, D. Sauciuc, O. Stan, C. Dehelean, Sz. Enyedi, I. Stefan, Diploma of Honor for the patent application "Patient's Electronic Health Record and its Creation Method", Inventica 2011, Iasi, Romania, 8-10 June 2011.
- L. Miclea, D. Sauciuc, O. Stan, C. Dehelean, Sz. Enyedi, I. Stefan, Gold Medal for the patent application "Patient's Electronic Health Record and its Creation Method", Euro Invent exhibition, Iasi, Romania, May 2011.
- Enyedi Sz., IEEE Computer Society "Certificate of Appreciation", Santa Cruz, CA, USA, May 2009.
- Enyedi Sz., IEEE-TTTC "Gerald W. Gordon Award", Santa Clara, CA, USA, November 2006.

## **REVIEWER**

### **Reviewer**

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For 17 publications - one ISI indexed journal, 13 ISI indexed conference volumes, 3 other internationally indexed conference volumes, selection:

- IEEE Automation, Quality and Testing, Robotics AQTR, Cluj-Napoca, Romania, 2006-2024, <https://www.aqtr.ro>;
- International Conference on System Theory, Control and Computing CSTCC 2017, 2018 and 2019, Sinaia, <http://icstcc2019.cs.upt.ro>;



- European Test Symposium ETS 2009, 2012-2017 and 2019, <http://www.ieee-ets.org>;
- Asian Test Symposium ATS 2016, <http://www.ieee-ats.org>;
- Design & Technology of Integrated Systems in Nanoscale Era DTIS 2014, <http://www.dtis2014.teiath.gr>;
- International Conference on Social Eco-Informatics SOTICS 2013-2014, <https://www.iaria.org/conferences2014/SOTICS14.html>;
- IADIS Web Based Communities WBC 2011-2014, <http://www.webcommunities-conf.org>;
- Journal of Control Engineering and Applied Informatics CEAI, Bucharest, Romania, <http://www.ceai.srait.ro>, ISSN 1454-8658, 2010;
- IEEE VLSI Test Symposium 2009, Santa Cruz, California, USA, <http://www.vlssymposium.org/Past/09web/>.