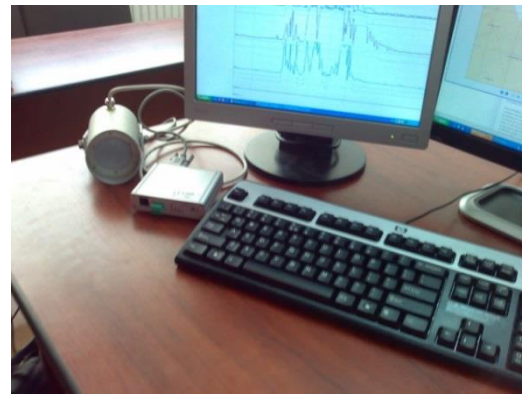


DISTRIBUTED CONTROL SYSTEMS

Contact details

Name	Distributed Control Systems
Acronym	DCS
Logo	
Site	http://research.utcluj.ro/tl_files/research/Research%20Domain/Systems%20Engineering/4_Letia.pdf
Address	2, Observatorului St, room 310; 24, 26, Baritiu St., room G1, Cluj-Napoca, Romania
Faculty Department	Faculty of Automation and Computer Science Automation Department
Telephone	+40 264 401432
Fax	
Director	Prof. Dr. Eng. Tiberiu Leția
e-mail	Tiberiu.Letia@aut.utcluj.ro



Areas of expertise

Distributed control systems, embedded systems, real-time application, intelligent control etc.

Team

Prof. Dr. Eng. Tiberiu S. Letia, Prof. Dr. Eng. Adina Aștilean, Assist. Prof. Dr. Eng. Camelia Avram, Assist. Prof. Dr. Eng. Mihai Hulea, Assist. Prof. Dr. Eng. Radu Miron, Assist. Dr. Eng. Dan Radu, Assist. Dr. Eng. Maria-Magdalena Santa

Representative projects

“**Intelligent control system of road traffic**”, research topic in the Postdoctoral project: Development and support of multidisciplinary postdoctoral programs in major technical areas of national strategy of Research - Development - Innovation” 4D-POSTDOC, contract no. POSDRU/89/1.5/S/52603, project co-funded by the European Social Fund through Sectorial Operational Program Human Resources Development 2007-2013, (2010-2013).

I3E, “**Promoting Innovation in the Industrial Informatics and Embedded Systems Sectors through Networking**”, Contract EU: SEE/A/219/1.1/X, <http://www.i3e.eu/> (2009-2012)

“**Identification system based on digital fingerprint with mobile terminals**”, PNII-PDP (Joint Applied Research Project) 11038/2007, (2007-2010)

“**Real-Time intelligent system for management, control and information of railway traffic**”, Grant Cod CNCSIS: 1537/2007, (2007-2009)

Significant results

The most representative publications of the past 5 years:

1. Kilyen, Attila O.; Letia, Tiberiu S., Interactive development of cyber physical systems using UETPN model, Federated Conference on Computer Science and Information Systems (FedCSIS) Location: Poznan, POLAND Date: SEP 09-12, 2018, Book Series: Federated Conference on Computer Science and Information Systems Pages: 1035-1042 Published: 2018
2. Enache, Mihai F.; Al-Janabi, Dahlia; Letia, Tiberiu S., Railway Modeling with Object Enhanced Time Petri Nets Conference: 21st IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR THETA) Location: Cluj Napoca, ROMANIA Date: MAY 24-26, 2018
3. Letia, T. S.; Kilyen, A. O., Using Unified Enhanced Time Petri Net Models for Cyber-Physical System Development Conference: 9th Vienna International Conference on Mathematical Modelling (MATHMOD) Location: Vienna, AUSTRIA IFAC PAPERSONLINE Volume: 51 Issue: 2 Pages: 248-253 Published: 2018
4. Radu, Dan; Cretu, Adrian; Parrein, Benoit; Avram Camelia, Astilean Adina et al., Flying Ad Hoc Network for

Emergency Applications Connected to a Fog System ADVANCES IN INTERNET, DATA & WEB TECHNOLOGIES Book Series: Lecture Notes on Data Engineering and Communications Technologies Volume: 17 Pages: 675-686 Published: 2018

5. Avram, Camelia; Miron, Radu; Radu, Dan; et al., Two-phase authentication and encryption algorithm for mobile users 2018 IEEE INTERNATIONAL CONFERENCE ON AUTOMATION, QUALITY AND TESTING, ROBOTICS (AQTR) Book Series: IEEE International Conference on Automation Quality and Testing Robotics Published: 2018
6. Radu, Dan; Cretu, Adrian; Avram, Camelia; et al., Video Content Transmission in a Public Safety System Model based on Flying Ad-Hoc Networks 2018 IEEE INTERNATIONAL CONFERENCE ON AUTOMATION, QUALITY AND TESTING, ROBOTICS Book Series: IEEE International Conference on Automation Quality and Testing Robotics Published: 2018
7. Avram, Camelia; Astilean, Adina; Valente, Eduardo, Timed Cellular Automata-Based Tool for the Analysis of Urban Road Traffic Models MECHATRONICS FOR CULTURAL HERITAGE AND CIVIL ENGINEERING Book Series: Intelligent Systems Control and Automation Science and Engineering Volume: 92 Pages: 35-61 Published: 2018
8. Silva, Jose Reinaldo; Silva, Javier Martinez; Pereira, Celina; Avram Camelia et al., New Trends in Residential Automation MECHATRONICS FOR CULTURAL HERITAGE AND CIVIL ENGINEERING Book Series: Intelligent Systems Control and Automation Science and Engineering Volume: 92 Pages: 137-157 Published: 2018
9. Florian, Horatiu; Mocanu, Adrian; Vlasin, Cristian; Camelia Avram, Adina Astilean et al., Deaf people feeling music rhythm by using a sensing and actuating device SENSORS AND ACTUATORS A-PHYSICAL Volume: 267 Pages: 431-442 Published: NOV 1 2017
10. Letia, Tiberiu S.; Kilyen, Attila O., Unified Enhanced Time Petri Net Models for Development of the Reactive Applications Conference: 3rd International Conference on Event-Based Control, Communication and Signal Processing (EBCCSP) Location: Funchal, PORTUGAL Date: MAY 24-26, 2017
11. Kilyen, Attila Ors; Letia, Tiberiu S., Platform for Unified Enhanced Time Petri Net Models
12. Conference: 13th IEEE International Conference on Intelligent Computer Communication and Processing (ICCP) Pages: 223-230 Published: 2017
13. C. Avram, E. Valente, A. Astilean, J. Machado, D. Radu, "Formal Analysis of an Urban Road Traffic Model", Controlo 16, Guimaraes, Portugal, Guimaraes, Portugal, Volume 402 of the series *Lecture Notes in Electrical Engineering* pp 533-544, 978-3-319-43670-8 (Print) 978-3-319-43671-5 (Online) Get Access, Vol.402, pag.533-544, Ed. Springer Link, 2016
14. Kilyen Attila Ors, Hulea Mihai, Letia Tiberiu S., "Synthesis of Train Traffic Control System with Evolutionary Computing", *IEEE 19th International Conference on Automation, Quality and Testing, Robotics (THETA)*, Cluj Napoca, Romania, May 22-24, 2014
15. A. Astilean, C. Avram, J. Machado, R. Cucu, I. Farcas, "E-Health Decision Support System for Differential Diagnosis", *2014 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR 2014)*, Vol., pag. 63-67, 2014.
16. C. Avram, A. Astilean, D. Mircescu, G. Ovidiu, "Fluid Stochastic Petri Nets based Modeling and Simulation of Micro Hydro Power Stations Behaviour", *2014 IEEE International Conference on Automation, Quality and Testing, Robotics*, Vol.1, pag. 1-6, 2014.

Significant solutions:

- Control and monitoring system for urban vehicle traffic
- Control and monitoring system for railway traffic
- Control systems for Flexible Manufacturing Systems
- Distributed control for hybrid processes.
- Design, verification and implementation real-time (embedded) applications.
- Person identification based on digital fingerprint.

The offer addressed to the economic environment

Research & development	Automatic synthesis of control and monitoring systems for discrete event or hybrid, concentrated or distributed processes. Verification of real-time applications.
Consulting	Embedded systems, real-time application design, implementation and verification. Distributed control systems for urban vehicle traffic or railway traffic.
Training	Design and implementation of real-time application, Design and implementation of distribute control application Distributed control of Transportation systems.