

# 2022 23rd International CARPATHIAN CONTROL CONFERENCE (ICCC)

## Technical Program for Monday May 30, 2022

<b>9:30 - 10:00</b>	
<b>Opening Ceremony</b>	Virtual Room 1
<b>Chair:</b> Dan Popescu	University of Craiova
<b>Co-Chairs:</b> József Vásárhelyi	University of Miskolc
Renata Wagnerová	Technical University of Ostrava
Agata Nawrocka	AGH- University of Science and Technology, Krakow
Marek Laciak	Technical University of Kosice
<b>10:00 - 11:00</b>	
<b>Plenary Lecture 1</b>	Virtual Room 1
<b>Chair:</b> Vladimir Răsvan	University of Craiova
<i>Does it exist a general structure for adaptation/learning algorithms?</i>	
Ioan Dore LANDAU	CNRS (National Center for Scientific Research)
<b>11:30 - 13:30 Session 1A</b>	
<b>Intelligent Embedded Systems, Instrumentation, and Internet of Things (IOT)</b>	Virtual Room 1
<b>Chair:</b> Tomas Skovranek	Technical University of Kosice
<b>Co-Chair:</b> Liana Stănescu	University of Craiova
<b>11:30 - 11:50</b>	
<i>Edge computing implementation of safety monitoring system in frame of IIoT</i>	
Martin Muzelak	Technical University of Kosice
Tomas Skovranek	Technical University of Kosice
<b>11:50 - 12:10</b>	
<i>Machine Learning System for Automated Testing</i>	
Cosmin Stoica	University of Craiova
Liana Stănescu	University of Craiova
Roxana Marinescu	University of Craiova
<b>12:10 - 12:30</b>	
<i>Optimizations of Database Management Systems for Real Time IoT Edge Applications</i>	
Valentin Pupezescu	University Politehnica of Bucharest
Marilena-Cătălina Pupezescu	University Politehnica of Bucharest
Lucian-Andrei Perișoară	University Politehnica of Bucharest
<b>12:30 - 12:50</b>	
<i>Embedded Control System for an Aircraft High-bypass Turbofan with Coolant Injection into its Compressor</i>	
Alexandru-Nicolae Tudose	University of Craiova
<b>12:50 - 13:10</b>	
<i>Analysis of Mobile Communications Services for Internet of Things in Romania</i>	
Lucian-Andrei Perișoară	University Politehnica of Bucharest
Cosmin Dănișor	University Politehnica of Bucharest
Dragoș-Ioan Săcăleanu	University Politehnica of Bucharest
<b>13:10 - 13:30</b>	
<i>Optimize Critical Data Pattern Detection in Systems with Real Time Decisions</i>	
Catalin Constantin Cerbulescu	University of Craiova
Marius Marian	University of Craiova
Eugen Ganea	University of Craiova
Claudia Monica Cerbulescu	University of Craiova
<b>11:30 - 13:30 Session 1B</b>	
<b>Identification, Modeling, Simulation of Processes and Systems 1</b>	Virtual Room 2
<b>Chair:</b> Paolo Di Giamberardino	Sapienza University of Rome
<b>Co-Chair:</b> Costin Bădică	University of Craiova

11:30 - 11:50		
<i>Development of a Didactic Graphical Simulation Interface on MATLAB for Systems Control</i>		
Luíza Cerqueira Trindade		CEFET-MG
Paloma Greiciania Souza Dias		CEFET-MG
Vinícius Ferreira Silva Bianchi Grilo		CEFET-MG
Ferreira Murillo Santos		CEFET-MG
Paolo Mercorelli		Leuphana University of Luneburg
11:50 - 12:10		
<i>Some Considerations on Conceptual Modelling for a Laboratory Information Management System</i>		
Dragoş Iliescu		University Politehnica of Bucharest
12:10 - 12:30		
<i>A State Dependent Switching Optimal Cntrol as a Formalization of Political Interventions</i>		
Paolo Di Giamberardino		Sapienza University of Rome
Daniela Iacoviello		Sapienza University of Rome
12:30 - 12:50		
<i>Application of statistical methods in improving the quality of bogie frame</i>		
Marcela Pavlickova		Technical University of Kosice
Marek Laciak		Technical University of Kosice
12:50 - 13:10		
<i>The Model of Regularization Coefficient in Polynomial Regression for Modelling the Spread of COVID-19 in Romania</i>		
Alexandra Vultureanu-Albişi		University of Craiova
Costin Bădică		University of Craiova
13:10 - 13:30		
<i>Effect of intrinsic elasticity and damping coefficients variations on balance maintaining by human</i>		
Andrzej Kot		AGH- University of Science and Technology, Krakow
Agata Nawrocka		AGH- University of Science and Technology, Krakow
<b>11:30 - 13:30 Session 1C</b>		
<b>Industry 4.0</b>		
		Virtual Room 3
<b>Chair:</b> Balázs Scherer		Budapest University of Technology and Economics
<b>Co-Chair:</b> Marius Marian		University of Craiova
11:30 - 11:50		
<i>Real-time processing of signals using parallel development technology</i>		
Bogdan Popa		University of Craiova
Ion-Marian Popescu		University of Craiova
Dorin Şendrescu		University of Craiova
Alexandra-Elisabeta Lorincz		University of Craiova
11:50 - 12:10		
<i>Remote or Virtual Laboratory for HIL (Hardware-In-the-Loop) Testing Education</i>		
Balázs Scherer		Budapest University of Technology and Economics
12:10 - 12:30		
<i>Using NLP to analyze requirements for Agriculture 4.0 applications</i>		
Jakub Jura		Czech Technical University in Prague
Matouš Cejnek		Czech Technical University in Prague
Pavel Trnka		Czech Technical University in Prague
12:30 - 12:50		
<i>Distributed Measurement System for Performance Evaluation of Embeddded Clock Synchronization Solutions</i>		
András Wiesner		Budapest University of Technology and Economics
Tamás Kovácssházy		Budapest University of Technology and Economics
12:50 - 13:10		
<i>Analysis of SaaS Architectures from a Trust Service Provider Perspective</i>		
Marius Marian		University of Craiova
Eugen Ganea		University of Craiova
Dan Popescu		University of Craiova
Florin Stîngă		University of Craiova
Adelin Cusman		Centrul de Calcul S.A., Romania

13:10 - 13:30

*Improvement Trends in the Development of Permanent Magnet Synchronous Machines for Automotive Applications*

Lorand Szabo

Technical University of Cluj-Napoca

Iulia Văscan

Technical University of Cluj-Napoca

**14:30 - 15:30****Plenary Lecture 2**

Virtual Room 1

**Chair:** Dorin Sendrescu

University of Craiova

*Evolving Fuzzy Models and Laboratory Applications*

Radu-Emil PRECUP

Politehnica University Timișoara

**16:00 – 18:20 Session 2A**

Virtual Room 1

**Automation, Mechatronics, Robotics****Chair:** Paolo Mercorelli

Leuphana University of Lueneburg

**Co-Chair:** Janusz Goldasz

Cracow University of Technology

16:00 - 16:20

*Using Control Web System for Precise Positioning by Piezo-Motors*

Michal Tomeš

VSB – Technical University of Ostrava

Marek Babiuch

VSB – Technical University of Ostrava

Jaromír Škuta

VSB – Technical University of Ostrava

16:20 - 16:40

*Differential Steering System for Vehicular Yaw Tracking Motion with Help of Sliding Mode Control*

Oliver Kruse

Leuphana University of Lueneburg

Aidana Mukhamejanova

University of Debrecen

Paolo Mercorelli

Leuphana University of Lueneburg

16:40 - 17:00

*Model Predictive Control for Autonomous Quad- rotor Trajectory Tracking*

Rabab Benotsmane

University of Miskolc

Ahmad Reda

University of Miskolc

József Vászárhelyi

University of Miskolc

17:00 - 17:20

*Robotic Plug-in of CCS Type 2 Connector*

Josef Cernohorsky

Technical University of Liberec

Lukáš Krčmář

Technical University of Liberec

Pavel Jandura

Technical University of Liberec

17:20 - 17:40

*Advances in the control schemes for MR actuators*

Gabriel Mendes

Polytechnic Institute of Bragança

Janusz Goldasz

Cracow University of Technology

17:40 - 18:00

*Application of motion control in rehabilitation devices*

Josef Cernohorsky

Technical University of Liberec

Martin Diblík

Technical University of Liberec

Aleš Richter

Technical University of Liberec

18:00 - 18:20

*Fluxgate Magnetometer System for Underwater Exploration*

Mate Koba

University of Miskolc

Richard Zoltan Papp

University of Miskolc

Norbert Zajzon

University of Miskolc

Laszlo Vincze

Geoelektró Kft Nagykovacs

**16:00 – 18:00 Session 2B**

Virtual Room 2

**Identification, Modeling, Simulation of Processes and Systems 2****Chair:** Marek Laciak

Technical University of Kosice

**Co-Chair:** Marek Kvet

University of Žilina

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16:00 - 16:20

*Sewer Network Model of a City with a Medium-Sized Population*

Iulian Vasiliev	Dunarea de Jos University of Galati
Laurentiu Luca	Dunarea de Jos University of Galati
Marian Barbu	Dunarea de Jos University of Galati
Ramon Vilanova	Autonomous University of Barcelona
Sergiu Caraman	Dunarea de Jos University of Galati

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16:20 - 16:40

*Photovoltaic Fed Grid-tie Inverter Design and Simulation*

Rafael Ruben Boros	University of Miskolc
István Bodnár	University of Miskolc

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16:40 - 17:00

*Mathematical Model of a High-bypass Turbofan with Coolant Fluid Injection into its Compressor*

Alexandru-Nicolae Tudose	University of Craiova
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17:00 - 17:20

*Adapted Path-relinking Based Search for Non-dominated Set of Medical Emergency System Designs*

Marek Kvet	University of Žilina
Jaroslav Janacek	University of Žilina

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17:20 - 17:40

*The Analysis of the Influence of Input Parameters on the Accuracy of Temperature Model in the Steelmaking Process*

Marek Laciak	Technical University of Kosice
Patrik Flegner	Technical University of Kosice
Ján Kačur	Technical University of Kosice
Milan Durdán	Technical University of Kosice
Marcela Pavlíčková	Technical University of Kosice
Ján Terpák	Technical University of Kosice

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17:40 - 18:00

*Zonotope Order Reduction in Robust Estimation*

Carlos Eduardo Valero	Slovak University of Technology in Bratislava
Paulen Radoslav	Slovak University of Technology in Bratislava

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**16:00 – 18:20 Session 2C**

Virtual Room 3

**Engineering Application of Informatics**

<b>Chair:</b> Jaroslav Janacek	University of Žilina
<b>Co-Chair:</b> Honoriu Vălean	Technical University of Cluj-Napoca

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16:00 - 16:20

*Extending Sniper with Support to Access Operand Values: A Case Study on Reusability Measurement*

Claudiu-Raul Buduleci	"Lucian Blaga" University of Sibiu
Arpad Gellert	"Lucian Blaga" University of Sibiu
Adrian Florea	"Lucian Blaga" University of Sibiu
Alexandru Matei	"Lucian Blaga" University of Sibiu

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16:20 - 16:40

*Possibilities for fast generation of fractal images and various fields of applicability*

Bogdan Popa	University of Craiova
Alexandra Elisabeta Lorincz	University of Craiova
Cosmin Ionete	University of Craiova
Lavinia Aurelian Bădulescu	University of Craiova

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16:40 - 17:00

*Hand Gesture Recognition and Infrared Information System*

Dan Gota	Technical University of Cluj-Napoca
Christian Siman	Technical University of Cluj-Napoca
Alexandra Fanca	Technical University of Cluj-Napoca
Adela Pop Pușcașiu	Technical University of Cluj-Napoca
Ovidiu Stan	Technical University of Cluj-Napoca
Honoriu Vălean	Technical University of Cluj-Napoca
Liviu Miclea	Technical University of Cluj-Napoca

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17:00 - 17:20

*Daily activities monitoring system using mobile terminal*

Alexandra Fanca	Technical University of Cluj-Napoca
Adela Pop Pușcașiu	Technical University of Cluj-Napoca
Dan Gota	Technical University of Cluj-Napoca
Honoriu Vălean	Technical University of Cluj-Napoca

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17:20 - 17:40

*Proposed methodology for designing a microservice architecture*

Mihajasoă Léa Fanomezana	Laboratory for Mathematical and Computer Applied to the Development Systems (LIMAD)
Andrianjaka Miary Rapatsalahy	Laboratory for Mathematical and Computer Applied to the Development Systems (LIMAD)
Nicolas Raft Razafindrakoto	Laboratory of Multidisciplinary Applied Research (LRAM)
Costin Bădică	University of Craiova

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17:40 - 18:00

*A simple files backup component for a Flight Dynamics System*

Lucian-Florentin Bărbulescu	University of Craiova
Didi-Liliana Popa	University of Craiova
Radu-Teodoru Popa	University of Craiova
Constantin Pătrașcu	University of Craiova

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18:00 - 18:20

*Adaptive Swap Algorithm for Pareto Front Approximation*

Jaroslav Janacek	University of Žilina
Marek Kvet	University of Žilina

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**18:20 – 19:00 Session WIE**

Virtual Room 1

**Round Table - Women in Engineering**

<b>Chair:</b> Elvira Popescu	University of Craiova
<b>Co-Chair:</b> Elena Helerea	Transilvania University of Brasov

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18:20 - 18:30

*The Impact of the COVID-19 Pandemic on Women in Engineering*

Elvira Popescu	University of Craiova
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18:30 - 18:40

*Women in STEM – An Inside Perspective*

Oana Gui	Art and Design University Cluj-Napoca
Elena Helerea	Transilvania University of Brasov

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18:40 - 18:50

*Promoting Scientific Publications among Teenage Girls*

Monica Cotfas	Ioan Mesota National College, Brasov
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18:50 - 19:00

*Discussions and Conclusions*