# 12<sup>th</sup> INTERNATIONAL CONFERENCE on ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE ECAI 2020, June 25– June 27, 2020

## hosted by

POLITEHNICA UNIVERSITY OF BUCHAREST, Bucharest, Romania:

## **Organizers:**

**UNIVERSITY OF PITESTI, Pitesti, Romania:** 

- Faculty of Electronics, Communications and Computers
- POLITEHNICA UNIVERSITY OF BUCHAREST, Bucharest, Romania:
- Faculty of Electronics, Telecommunications and Information Technology
- Faculty of Automatic Control and Computers
- 'Gheorghe Asachi' TECHNICAL UNIVERSITY, Iasi, Romania:
- Faculty of Electronics, Telecommunications and Information Technology JAN WYZYKOWSKİ UNİVERSİTY, Polkowice, Poland

NEVŞEHIR HACI BEKTAŞ VELI UNIVERSITY, Nevsehir, Turkey:

- Electrical and Electronics Engineering Department
- 'Valahia' UNIVERSITY, Targoviste, Romania:
- Faculty of Electrical Engineering, Electronics and Information Technology PETROLEUM-GAS UNIVERSITY OF PLOIESTI, Ploiesti, Romania
- Department of Automatic Control, Computers and Electronics

MILITARY TECHNICAL ACADEMY "FERDINAND I", Bucharest, Romania:

- Faculty of Information Systems and Cyber Security
- Faculty of Communications and Electronic Systems for Defense and Security UNIVERSITY OF ORADEA, Oradea, Romania:
- Faculty of Electrical Engineering and Information Technology

FUZZY LOGIC SYSTEMS INSTITUTE, Fukuoka, Japan

NATIONAL COMMUNICATIONS STUDIES AND RESEARCH INSTITUTE –

INSCC, Bucharest, Romania

NUCLEAR RESEARCH INSTITUTE, Mioveni, Romania

Under auspices of some sections and institutes of the Romanian Academy: "INFORMATION SCIENCE AND TECHNOLOGY" section of the Romanian academy INSTITUTE OF COMPUTER SCIENCE of the Romanian academy (Iasi Branch) "ROMANIAN COMMITTEE FOR HISTORY AND PHILOSOPHY OF SCIENCE AND TECHNOLOGY" (Pitesti branch) - the Romanian academy

# Technical sponsorship of the

**IEEE ROMANIA SECTION** 

IEEE INDUSTRY APPLICATIONS SOCIETY











## ECAI 2020, June 25- June 27, 2020

Honorary Chairs: Takeshi Yamakawa Conference Chairs: Nicu Bizon and Cristian Negrescu Technical Program Committee (TPC) Chairs: Ioan Lita and Horia-Nicolai (L.) Teodorescu Program Chairs: Mihai Oproescu and Mihai Arva Treasurer Chairs: Mihai Oproescu

# Publication Chairs: Valeriu Ionescu Technical Program Committee (TPC)

	comment rogram committee (11 c	/
Adina Magda Florea (Ro)	Florin Ghe. Filip (Ro)	Mircea Stefanescu (Ro)
Adrian Iordachescu (Ro)	Franco Maloberti (It)	Mironela Pirnau (Ro)
Adriana Florescu (Ro)	Fuad F. Mammadov (Az)	Mohammad Alim (USA)
Alexandru Ene (Ro)	Gabriel Radulescu (Ro)	Musa Yilmaz (USA)
Alexandru M. Morega (Ro)	George Lojewski (Ro)	Naser M. Tabatabaei (Ir)
Alexandru Serbanescu (Ro)	Gheorghe Brezeanu (Ro)	Necmi Altin (Tr)
Alin Mazare (Ro)	Gheorghe Gavriloaia (Ro)	Nesimi Aktas food (Tr)
Alper Görgün (Tr)	Gheorghe Grigoras (Ro)	Nicolae D Alexandru (Ro)
Altan Gencer (Tr)	Gheorghe Serban (Ro)	Nicolae Militaru (Ro)
Angela Ionita (Ro)	Gianfranco Chicco (It)	Nicolae Paraschiv (Ro)
Angela Russo (It)	Hakan Kuntman (Tr)	Nicolae Tapus (Ro)
Anthony C. Davies (UK)	Harold Szu (USA)	Nicolae Voicu (Ro)
Apopei Vasile (Ro)	Hasan Kaplan (Al)	Nicu Bizon (Ro)
Arif M. Hashimov (Az)	Henri-George Coanda (Ro)	Nitul Dutta (In)
Avireni Srinivasulu (In)	Horia Andrei (Ro)	Norocel Codreanu (Ro)
Badre Bossoufi (Mo)	Horia N. Teodorescu (Ro)	Ovidiu Grigore (Ro)
	` ,	
Bica Ion (Ro)	Hossein Shayeghi (Ir)	Ovidiu-Constantin Novac (Ro
Bogdan Constantin Neagu (Ro)	Iana Vasile Gabriel (Ro)	Ozan Erdinc (Tr)
Bogdan Adrian Enache (Ro)	Ioan Dumitrache (Ro)	Paul Burciu (Ro)
Calin Vladeanu (Ro)	Ioan Lita (Ro)	Peter Hill (UK)
Catalin Buiu (Ro)	Ioan Nicolaescu (Ro)	Petre Anghelescu (Ro)
Cengiz Taplamacioglu (Tr)	Ion Bogdan (Ro)	Petrica Ciotirnae (Ro)
Charles Shoniregun (UK)	Ion Bogdan Cioc	Predusca Gabriel (Ro)
Chingiz Hajiyev (Tr)	Ion Tutanescu (Ro)	Radu Dobrescu (Ro)
Constantin Negoita (USA)	Ionel Bostan (Ro)	Radu-Emil Precup (Ro)
Constantin Paleologu (Ro)	Ires Iskender (Tr)	Remus Pusca(Ro)
Constantin Stoica (Ro)	Iulian Ciocoiu (Ro)	Robert Beloiu (Ro)
Constantin Vertan (Ro)	Jaafar M.H.Elmirghani (UK)	Salem M.Abdel-Badeeh (Eg)
Corina Savulescu (Ro)	Javier J. B. Landatxe (Es)	Sebastian Parlac (Ro)
Cornel Ioana (Fr)	Jean-Paul Gaubert (Fr)	Sergiu Caraman (Ro)
Corneliu Burileanu (Ro)	Jiri Pinker (Cz)	Sergiu Nedevschi (Ro)
Cosmin Popa (Ro)	Laurentiu Ionescu (Ro)	Sever Pasca (Ro)
Cosmin Stirbu (Ro)	Lidia Dobrescu (Ro)	Silaghi Helga (Ro)
Cristian Negrescu (Ro)	Liviu Goras (Ro)	Silviu Ioan Bejinariu (Ro)
Cristian Patrascioiu (Ro)	Luca Dan Serbanati (Ro)	Silviu Ionita (Ro)
Cristian Ravariu (Ro)	Lucian Anton (Ro)	Sorin Puscoci (Ro)
Daniel Pasquet (Fr)	Lucien Dascalescu (Fr)	Sorin Soviany (Ro)
Daniel Visan (Ro)	Luminita M Constantinescu (Ro)	Stefan Simion (Ro)
Daniela Tarniceriu (Ro)	Maaruf Ali (KSA)	Stefan V. Nicolaescu (Ro)
Dmitry Pavlyuchenko (Ru)	Marian Gaiceanu (Ro)	Svasta Paul (Ro)
	` '	
Doina Banciu (Ro)	Marian Raducu (Ro)	Takeshi Yamakawa (Jp)
Dorel Aiordachioaie (Ro)	Mariana Iorgulescu (Ro)	Teodor Petrescu (Ro)
Driss Mehdi (Fr)	Marius Minea (Ro)	Terence Goh (Sg)
Dumitru Cazacu (Ro)	Miguel Salmeron (USA)	Toshitaka Yamakawa (Jp)
Dumitru Popescu (Ro)	Mihaela Oprea (Ro)	Valentin Stan (Ro)
El Emary M. Ibrahiem (Jo)	Mihaela Teodorescu (Ro)	Valeriu Manuel Ionescu (Ro)
Emil Pricop (Ro)	Mihaela Ungureanu (Ro)	Vasile Lazarescu (Ro)
Emil Simion (Ro)	Mihai Maricaru (Ro)	Vasile-Gabriel Iana (Ro)
Ersan Kabalci (Tr)	Mihai Oproescu (Ro)	Victor Neagoe (Ro)
Eugene Roventa (Ca)	Mihai Tarâta (Ro)	Victor Valeriu Patriciu (Ro)
Fary Z. Ghassemlooy (UK)	Mihai Togan (Ro)	Vyacheslav Tuzlukov (So.K)
Felix Albu (Ro)	Mihail Aurel Titu (Ro)	Wim Melis (UK)
Filippo Spertino (It)	Milan Stork (Cz)	Yasin Kabalci (Tr)
Florentina Enescu (Ro)	Mircea Ivanescu (Ro)	Zdenek Vostracky (Cz)
Florin Birleanu (Ro)	, modu zvanosta (no)	Zdzislaw Polkowski (Po)

### **Steering Committee Chairs:**

Takeshi Yamakawa, Florin Filip, Franco Maloberti, Lucien Dascalescu, Filiz Kilic, Ersan Kabalci, Dan Cascaval, Corneliu Burileanu, Dumitru Chirlesan, Serban Valeca, Nicolae Paraschiv, Horia-N. (L.) Teodorescu, Ioan Nicolaescu, Adina Magda Florea, Cristian Negrescu, Daniela Tarniceriu, Radu Dobrescu, Alexandru Serbanescu, Ion Stanciulescu, Henri-George Coanda, Mihai Oproescu, Horia Andrei, Ioan Lita, Serban Gheorghe, Nicu Bizon, Maaruf Ali, Sorin Puscoci

# **PROGRAM**

# Wednesday, June 24, 2020

Wednesday, June 24, Registration of the participants

# Thursday, June 25, 2020

June 25, 8:00-8:50,

Registration of the participants in the official opening e-meeting

Technical chair: Mihai Oproescu

## **June 25, 9:00-9:40, OFFICIAL OPENING**

09:00-09:40 Welcome and Opening Addresses

09:00-09:05 Welcome message of Nicu Bizon, Chair of ECAI 2020. UNIVERSITY OF PITESTI

09:05-09:10 Welcome message of Cristian Negrescu, POLITEHNICA UNIVERSITY OF BUCHAREST Chair of ECAI 2020; Chair of the IEEE Romanian section

09:10-09:15 Welcome message of Adina Magda Florea, POLITEHNICA UNIVERSITY OF BUCHAREST

09:15-09:20 Welcome message of Radu Mihnea Udrea, POLITEHNICA UNIVERSITY OF BUCHAREST

09:20-09:25 Welcome message of Mihnea Alexandru Moisescu, POLITEHNICA UNIVERSITY OF BUCHAREST

09:25-09:30 Welcome message of Horia-N. (L.) Teodorescu, ROMANIAN ACADEMY

09:30-09:35 Welcome message of Takeshi Yamakawa, Honorary Chair of the ECAI conference

09:35-09:40 Welcome message of Partners and Sponsors

### 8:40-8:45, Registration of the participants in the KEYNOTE I e-session

### June 25, 09:40-12:00, ECAI KEYNOTE LECTURES - I,

Chairs: Nicolae Paraschiv and Mihai Oproescu

Technical chair: Mihai Oproescu

09:45-10:25, Phatiphat Thounthong

MODELING AND CONTROL OF MULTIPHASE INTERLEAVED FUEL CELL BOOST CONVERTER BASED ON HAMILTONIAN CONTROL

10:25-11:05, Horia Andrei

WHAT IS THE STATE IN WHICH CONSERVATIVE SYSTEMS CONSUME LESS POWER OR ENERGY?

11:05-11:45, Adina Magda Florea

SOCIAL AND ASSISTIVE ROBOTS INTERACTING WITH HUMANS

# **June 25, 12:00-14:30, ECAI Morning sessions**

George Cosmin Stanica and Petre Anghelescu

14.00-

14.15

AUTOMATON

11:50-12:00 Registration of the participants in the **ECAI Morning sessions** 

Software, databases, and computer applications - I

Electronic circuits and equipment & 7th International Workshop on Applied Electronics-IWAE'20 - I

Educational multimedia applications & 5th International Workshop on Trends and Opportunities in Teaching Career IWTOTC' 2020- I

Artificial Intelligence, including Expert systems - I

Energy & Environmental issues & 9th Ro-Fr Workshop on Automotive

## June 25, 12:00-14.30, Software, databases, and computer applications - I,

Chairs: Petre Anghelescu, Zdzisław Połkowski

Chans. I etre Anghetescu, Zuzistuw I otkowski		
Technical chair: Valeriu Manuel Ionescu		
12.00- 12.15	Humam K.Majeed Al-Chalabi and Aqeel M.Ali. Hussein PEDAGOGICAL APPROACHES IN ADAPTIVE E-LEARNING SYSTEMS	
12.15- 12.30	Chiriac Ciprian  OPTIMAL USE OF INVERSE DISTANCE WEIGHTING METHOD FOR TEMPARATURE PREDICTION	
12.30- 12.45	Humam Al-Chalabi and Ageel M.Ali. Hussein ONTOLOGY APPLICATIONS IN E-LEARNING SYSTEMS	
12.45- 13.00	Cătălina-Daiana Tomescu and Alina-Mihaela Bădescu A SOFTWARE PLATFORM FOR MONITORING RADIATION DETECTION SYSTEMS	
13.00- 13.15	Marta R. Jablonska and Zdzisław Polkowski INTERNET HATE SPEECH – CASE STUDY OF POLAND, ROMANIA, INDIA AND BULGARIA	
13.15- 13.30	Zdzislaw Polkowski, Suman Sourav Prasad, Jyoti Prakash Mishra and Sambit Kumar Mishra EVALUATION OF AGGREGATED QUERY PLANS USING HEURISTIC APPROACH	
13.30- 13.45	Jyoti Prakash Mishra, Zdzislaw Polkowski and Sambit Kumar Mishra PERFORMANCE OF CLOUDLETS IN TASK IMPLEMENTATION USING ANT COLONY OPTIMIZATION TECHNIQUE	
13.45- 14.00	Petre Anghelescu, Ionela-Mariana Ionescu and Marian Bogdan Bodea  DESIGN AND IMPLEMENTATION OF A VISUAL CRYPTOGRAPHY APPLICATION	

SOFTWARE IMPLEMENTATION OF A TWO-DIMENSIONAL CELLULAR

Pradeep Kumar Singh, Bhat Snober Ali, Yashwant Singh and Maria Simona Raboaca

14.15-14.30 DYNAMIC ACCESS CONTROL IN IOT: MONITORING USER BEHAVIOR USING SMART CONTRACTS

# June 25, 12:00-14.30, Electronic circuits and equipment & 7th International Workshop on Applied Electronics-IWAE'20 - I,

Chairs: Mihai Oproescu, Gabriel Iana

Technical chair: Cristian Monea		
12.00- 12.15	Cristian Monea IMPROVED SIGNAL MODELS FOR NUCLEAR QUADRUPOLE RESONANCE SPECTROSCOPY	
12.15- 12.30	Cristian Monea STUDY OF SIGNAL PRE-PROCESSING TECHNIQUES IN NUCLEAR QUADRUPOLE RESONANCE SPECTROSCOPY	
12.30- 12.45	Michal Jasinski, Tomasz Sikorski, Zbigniew Leonowicz, Dominika Kaczorowska, Vishnu Suresh, Jarosław Szymańda and Elżbieta Jasińska  DIFFERENT WORKING CONDITIONS IDENTIFICATION OF A PV POWER PLANT USING HIERARCHICAL CLUSTERING	
12.45- 13.00	Giorgiana Catalina Ilie, Cristian Tudoran, Otilia Neagoe and Gheorghe Brezeanu NONVOLATILE ANALOG SWITCH	
13.00- 13.15	Alexey Nekrasov, Anton Nekrasov, Vadim Bolshev and Michal Jasinski  EVALUATION OF BEARING ASSEMBLY LIFESPAN FOR ELECTRIC MOTORS	
13.15- 13.30	Rodica-Mihaela Teodorescu VIRTUAL TOOL FOR ANALYSIS OF SOME ELEMENTAL SIGNALS	
13.30- 13.45	Mihai Oproescu, Gabriel Iana, Nicu Bizon, Daniel-Constantin Anghel, Alexandru Sirghie and Ovidiu-Constantin Novac  MECHANICAL VENTILATION DEVICE WITH ADAPTED PARAMETERS TO ASSIST PATIENTS INFECTED WITH THE SARS-COV-2 VIRUS	
13.45- 14.00	Constantin-Sorin Orboiu and Horia Leonard Andrei  ANALYZE OF ECO-FINANCIAL IMPACT OF PV SYSTEM INTEGRATION IN EDUCATIONAL INSTITUTIONS. CASE STUDY IN ROMANIA	
14.00- 14.15	Dumitru Tudosoiu, Mihai Oproescu and Ion Mihaila HARDWARE AND SOFTWARE SOLUTION FOR MEASURE THE VERTICAL JUMP IN THE BASKETBALL GAME	
14.15- 14.30	Nguyen Viet and Nicolae Paraschiv AN INVESTIGATION ON TWELVE SECTORS DIRECT TORQUE CONTROL FOR INDUCTION MOTORS FED BY MATRIX CONVERTER	

# June 25, 12:00-14.30, Educational multimedia applications & 5th International Workshop on Trends and Opportunities in Teaching Career IWTOTC' 2020- I,

Chairs: Mironela Pirnau, Sofia-Loredana Tudor

Technical chair: Cioc Bogdan

12.00- 12.15	Vasile Banes, Florin Babarada and Cristian Ravariu
	WINDOWS SERVER BACKUP AND RESTORE FOR MOODLE E-LEARNING
	PLATFORM
12.15- 12.30	Claudiu Pirnau, Mironela Pirnau, Liviu Daniel Ghiculescu and Gabriela Marina Ene
	THE IMPACT OF THE VIRTUAL LEARNING ENVIRONMENT IN MANAGING THE
	KNOWLEDGE TRANSMITTED TO STUDENTS
12.30- 12.45	Horia-Nicolai Teodorescu and Marius Hagan
	EXPERIMENTAL, AD HOC, ONLINE, INTER-UNIVERSITY STUDENT E-CONTEST
12.43	DURING THE PANDEMIC – LESSONS LEARNED
12.45-	Bogdan-Adrian Enache, Sorin-Dan Grigorescu, Ioana-Raluca Adochiei, Cristina-Daniela
13.00	Enache, Daniel Iulian Voiculescu, Violeta Argatu, Alexandra Nistor, Luminita-Mirela

	Constatinescu and Constantin Stoica
	DIDACTIC IMPLEMENTATION OF A REAL-TIME BIOMONITORING PLATFORM
	Camelia Maria Dindelegan, Cornelia Mihaela Novac, Ovidiu Constantin Novac, Gabriela Diana
13.00-	Fit, Vasile Marin Dindelegan and Mihai Oproescu
13.15	THE ACCEPTANCE OF CHILDREN WITH SEN BY THE TEACHERS IN MAINSTREAM
12.15	EDUCATION INC. A LATE OF THE PROPERTY OF THE P
13.15- 13.30	Sofia-Loredana Tudor and Mihaela Alexia Popescu  THE COORDINATES OF A FLEXIBLE LEARNING MODEL IN VIRTUAL CLASSROOM
13.30	Narmeen Al-Hiyari and Shaidah Jusoh
13.30-	THE CURRENT TRENDS OF VIRTUAL REALITY APPLICATIONS IN MEDICAL
13.45	EDUCATION
	5, 12:00-14.30, Artificial Intelligence, including Expert systems - I,
	: Aurel Mihail Titu, Radu-Emil Precup
Techn	ical chair: Grigore-Adrian Iordachescu
	Aurel Mihail Titu and Alexandru Stanciu
12.00-	ACQUIRING BUSINESS INTELLIGENCE THROUGH DATA SCIENCE: A PRACTICAL
12.15	APPROACH.
12.15-	Aurel Mihail Titu, Alexandru Stanciu and Liviu Mihaescu
12.15-	TECHNOLOGICAL AND ETHICAL ASPECTS OF AUTONOMOUS DRIVING IN A
	MULTICULTURAL SOCIETY
12.30-	David Traian Iancu, Alexandru Sorici and Adina Magda Florea
12.45	NEURAL ROAD SEMANTIC SEGMENTATION IN DRIVING SCENARIOS  Weerayut Krungklang and Sukree Sinthupinyo
13.00	AN ANALYSIS OF NATURAL LANGUAGE TEXT RELATING TO THAI CRIMINAL LAW
13.00-	Aurel Mihail Titu and Alexandru Stanciu
13.15	MERGING OPERATIONS TECHNOLOGY WITH INFORMATION TECHNOLOGY
12.15	Sumitra Padmanabhan and Alka Mahajan
13.15- 13.30	MODELING THE TOTAL ELECTRON CONTENT VARIATION IN THE IONOSPHERE
	FOR IMPROVED POSITIONAL ACCURACY
13.30-	Pavel Vasin and Sergey Shadrin
13.45	DEVELOPMENT AND TESTING OF APPROACH FOR SEPARATED TRAINING OF BRANCHES OF MULTI-TASK CONVOLUTIONAL NEURAL NETWORKS
-	M. Sohaib Ul. Hassan, Umar S. Khan and Sajid Gul Khawaja
13.45-	DESIGN SPACE EXPLORATION SCHEME FOR MAPPING CONVOLUTION NEURAL
14.00	NETWORK ON ZYNQ ZEDBOARD
14.00-	Ion Panfilii, Radu-Emil Precup, Raul-Cristian Roman and Emil Petriu
14.15	WILT DATASET-BASED COMPARATIVE ANALYSIS OF THREE NEURAL NETWORKS
14.15-	Horia Alexandru Modran
14.30	AUTOMATICALLY CLUSTERING ALGORITHMS FOR AUDIO FEATURE EXTRACTION
	LAIRACHUN
June 2	25, 12:00-14.30, Energy & Environmental issues & 9th Ro-Fr Workshop on
Auton	
	: Adriana Florescu, Valentin Alexandru Stan
	ical chair: Sorin Sorlei
1 001111	
12.00-	Bogdan Anton and Adriana Florescu
12.15	MEASURING VEHICLE'S POWERTRAIN PARAMETERS USING DIAGNOSTICS
12.15-	INTERFACE  Bogdan Anton and Adriana Florescu
12.15-	DESIGN GUIDELINES FOR SERIES HYBRID POWERTRAINS
12.30-	Razvan Asanache, Mihai Iordache, Mihaela Turcu, Alexandru Grib, Lucian Ene and Diana
12.45	Sanatescu

	WIRELESS CHARGING SYSTEMS FOR ELECTRICAL VEHICLE BATTERIES
12.45- 13.00	Mihaela Turcu, Mihai Iordache, Razvan Asanache, Alexandru Grib, Teodor Bibirica and
	Lavinia Bobaru
	SMART INTEGRATIVE SYSTEM FOR THE BATTERY BALANCE MONITORING
13.00-	Wenjie Wang and Minghua Zhu
13.15	AN EFFICIENT FPGAS-ACCELERATED CNN-BASED INTELLIGENT GARBAGE
13.13	CLASSIFICATION SYSTEM ON ZYNQ
13.15-	Alexandru Grib, Mihai Iordache, Razvan Asanache, Mihaela Turcu and Teodor-Catalin Bibirica
13.30	SMART BATTERY MONITORING SYSTEM SOFTWARE DESIGN
12.20	Raboaca Maria Simona, Bizon Nicu and Grosu Oana Vasilica
13.30-	ENERGY MANAGEMENT STRATEGIES FOR HYBRID ELECTRIC VEHICLES -
13.45	VOSVIWER BIBLIOMETRIC ANALYSIS
13.45-	Angel Ciprian Cormoş, Razvan Andrei Gheorghiu, Valentin Alexandru Stan and Ion Spirea
	Dănăilă
14.00	USE OF TENSORFLOW AND OPENCY TO DETECT VEHICLES
14.00	Mihai Radu, Valentin Alexandru Stan and Ilona Madalina Costea
14.00- 14.15	AUTOMATIC TRAFFIC SIGN RECOGNITION ARTIFICIAL INTELIGENCE - DEEP
	LEARNING ALGORITHM
14.15- 14.30	Nicu Bizon, Mihai Oproescu, Elena Carcadea, Mihai Culcer, Mariana Iliescu, Mircea Raceanu
	and Sorin Sorlei
	PERFORMANCE OF THE LOAD-FOLLOWING CONTROL SWITCHED TO THE AIR
	AND HYDROGEN REGULATORS OF THE FUEL CELL SYSTEM

# June 25, 15:30-18:00, ECAI Afternoon sessions

15:20-15:30 Registration of the participants in the ECAI Afternoon sessions

Software, databases, and computer applications II

Signal and image processing

Electronic circuits and equipment & 7th International Workshop on Applied Electronics-IWAE'20 – II

Educational multimedia applications & 5th International Workshop on Trends and Opportunities in Teaching Career IWTOTC' 2020- II

Control, robotics and mechatronics & Electrical engineering applications

# June 25, 15:30-18:00, Software, databases, and computer applications – II,

Chairs: Cosmin Stirbu, Lidia Bajenaru

Technical chair: Cosmin Stirbu

	Vlad-Valentin Fireteanu
15.30-	AGILE METHODOLOGY ADVANTAGES WHEN DELIVERING INTERNET OF THINGS
15.45	PROJECTS
15.45-	Vlad-Valentin Fireteanu
16.00	INTEGRATING TABLEAU WITH INTERNET OF THINGS ACQUIRING PROJECTS
	Lidia Bajenaru, Ion Alexandru Marinescu, Ciprian Dobre, Gabriel Ioan Prada and Costas S
16.00-	Constantinou
16.15	TOWARDS THE DEVELOPMENT OF A PERSONALIZED HEALTHCARE SOLUTION
	FOR ELDERLY: FROM USER NEEDS TO SYSTEM SPECIfiCATIONS
16.15-	Bogdan-Ionut Pahontu, Diana-Andreea Arsene and Mariana Mocanu
16.30	A SURVEY ABOUT INDUSTRIES THAT BLOCKCHAIN CAN TRANSFORM
16.30-	Diana-Andreea Arsene, Bogdan-Ionut Pahontu and Mariana Mocanu
16.45	A SURVEY ON DECISION SUPPORT SYSTEMS IN WATER MANAGEMENT
16.45-	Irina Cristescu, Alexandru Balog and Lidia Bajenaru
17.00	QUALITY IN USE MEASURES FOR AN AAL SYSTEM FOR OLDER ADULTS
17.00-	Andreea Nedelcu, Bogdan Nedelcu, Valentin Sgarciu and Alexandru Ioan Sgarciu
17.15	DATA MINING TECHNIQUES FOR EMPLOYEE EVALUATION

17.15-	Alexandru Predescu and Mariana Mocanu
17.30	A DATA DRIVEN SURVEY OF VIDEO GAMES
17.30- 17.45	Alexandru Ene and Cosmin Stirbu  AUTOMATIC GENERATION OF QUIZZES FOR C PROGRAMMING LANGUAGE
	Rafaela Matei, George Suciu, Adrian Pasat, Cristian Bălănean, Cristina Istrate, Ijaz Hussain
17.45-	and Rafaela Matei
18.00	A NEW CONCEPT OF SMART SHOPPING PLATFORM BASED ON IOT SOLUTIONS
June 2	5, 15:30-18:00, Signal and image processing,
Chairs:	Dorel Aiordachioaie, Valeriu Manuel Ionescu
Techni	cal chair: Grigore-Adrian Iordachescu
15.30-	Dorian Floarea and Valentin Sgarciu
15.45	INDOOR POSITIONING USING CELL OF ORIGIN AND LANDMARC APPROACH
15.45-	Ihsan Ali, Aftab Khan and Muhammad Waleed  A GOOGLE COLAB BASED ONLINE PLATFORM FOR RAPID ESTIMATION OF REAL
16.00	BLUR IN SINGLE-IMAGE BLIND DEBLURRING
	Muhammad Usama Iqbal, Shoab Khan and Sajid Gul Khawaja
16.00-	DYNAMIC PARTIAL CONFIGURATION OF JPEG COMPRESSION ALGORITHM FOR
16.15	ZYNQ-7000 SOC
16.15-	Stefan-Andrei Gheltu
16.30	A CORRELATIONAL AND PREDICTIVE ANALYSIS OF THE RELATIONSHIP
	BETWEEN FO AND THE FORMANTS OF ROMANIAN VOWELS
16.30-	Grigore-Adrian Iordachescu  FAST METHOD FOR DETECTING GEOGRAPHICAL CENTER OF ROMANIA USING
16.45	AUTOCAD
16.45-	Dorel Aiordachioaie, Theodor Dan Popescu and Sorin Marius Pavel
17.00	ON CHANGE DETECTION IN THE COMPLEXITY OF TIME SERIES
17.00-	Valeriu Manuel Ionescu and Florentina Magda Enescu
17.15	LOW COST THERMAL SENSOR ARRAY FOR WIDE AREA MONITORING
17.15-	Toheed Ullah, Aftab Khan and Muhammad Waleed
17.13	REINFORCEMENT LEARNING FOR ENHANCED CONTENT BASED VIDEO FRAME
	RETRIEVAL SYSTEM IN LOW RESOLUTION VIDEOS
17.30-	Iuliana Marin and Myssar Jabbar Hammood Al-Battbootti
17.45	DRONE CONTROL BASED ON MENTAL COMMANDS AND FACIAL EXPRESSIONS  Yash Paul
17.45-	SLEEP STATES DETECTION USING HALFWAVE AND FRANKLIN
18.00	TRANSFORMATION
June 2	5, 15:30-18:00, Electronic circuits and equipment & 7th International
Works	hop on Applied Electronics-IWAE'20 - II,
Chairs:	Henri-George Coanda, Ovidiu-Constantin Novac
	cal chair: Ioan Cristian Hoarcă
15.30-	Ioan Cristian Hoarcă, Nicu Bizon and Florentina Magda Enescu
15.45	THE DESIGN OF THE GRAPHICAL INTERFACE FOR THE SCADA SYSTEM ON AN INDUSTRIAL PLATFORM
	Ioan Cristian Hoarcă
15.45- 16.00	DETERMINING HUMAN PRESENCE THROUGH THE ANALYSIS OF THE ELECTRIC
	FIELD
16.00-	Constanta Zoie Radulescu and Delia Mihaela Radulescu
16.15	A PERFORMANCE AND POWER CONSUMPTION ANALYSIS BASED ON PROCESSOR
	POWER MODELS
16.15-	Alexandru Enescu, Horia Andrei, Emil Diaconu and Nicoleta Angelescu
16.30	FINANCIAL AND TECHNICAL FORECAST ANALYSIS OF A COGENERATION

	BIOMAS PLANT – CASE STUDY IN ROMANIA
	Mihai C. Arva, Nicu Bizon and Ovidiu-Constantin Novac
16.30-	ELECTRONIC RECEIPTS USING NEAR-FIELD COMMUNICATION PROTOCOL AS A
16.45	SOLUTION FOR THERMAL PAPER RECEIPTS
16.45- 17.00	Dumitrel Cătălin Costache, Lucian Andrei Perișoară and Adriana Florescu
	FPGA IMPLEMENTATION OF A SD CARD CONTROLLER USING SPI
	COMMUNICATION
17.00-	Valentin Alexandru Stan, Dorin Buretea and Andrei Gheorghiu
17.15	SIMPLE METHOD TO INCREASE PRECISION AND STABILITY FOR FREQUENCY COUNTERS
	Henri-George Coanda and George Ilie
17.15-	DESIGN AND IMPLEMENTATION OF AN EMBEDDED SYSTEM FOR DATA
17.30	TRANSFER IN A CAR USING CAN PROTOCOL
	5, 15:30-18:00, Educational multimedia applications & 5th International
Works	shop on Trends and Opportunities in Teaching Career IWTOTC' 2020- II,
Chairs	Adriana-Gabriela Plaiasu, Delia Duminică
	cal chair: Mihai Oproescu
	1
15.30-	Draghici Georgiana
15.45	COVID-19 AND THE FASCINATION FOR COMMUNICATION AS A SHOW
15.45- 16.00	Mihai Oproescu, Adriana-Gabriela Plaiasu, Ionela Niculescu and Viorel Nicolae
10.00	THE CHALLENGES OF THE ONLINE TEACHING PROCESS - A SHORT REVIEW  Adriana-Gabriela Plaiasu, Mihai Oproescu, Ionut Bulgaru, Delia Duminica, Ionela Niculescu
16.00-	and Viorel Nicolae
16.15	IMPROVING MANAGERIAL SKILLS FOR IMPLEMENTING INNOVATIONS IN
	EDUCATION
16.15-	Adriana-Gabriela Plaiasu, Ionela Niculescu and Emanuel Soare
16.30	CONTINUING EDUCATION - ALTERNATIVE FOR CAPITALIZING OF THE
10.50	PROFESSIONAL DEVELOPMENT NEEDS OF TEACHERS
16.30-	Eugenia Jianu and Robert Berezovski
16.45	OF THE REAM MODEL OF EYERLENCE
	OF THE EFQM MODEL OF EXCELLENCE Tudor Loredana Sofia, Langa Claudiu, Bulgaru Ionut and Lazar Adriana
16.45-	STUDY ON THE DEVELOPMENT OF ENTREPRENEURIAL CULTURE IN THE
17.00	UNIVERSITY ENVIRONMENT
17.00	Delia Duminică
17.00- 17.15	FACTORS THAT INFLUENCE THE CHANGE OF HUMAN BEHAVIOR IN STUDENT'S
17.13	ONLINE ACTIVITY
June 2	5, 15:30-18:00, Control, robotics and mechatronics & Electrical
	ering applications,
	Gheorghe Grigoras, Robert Beloiu
	cal chair: Cioc Bogdan
15.30- 15.45	Marcel Nicola, Claudiu-Ionel Nicola and Marian Duta
	SENSORLESS CONTROL OF PMSM USING FOC STRATEGY BASED ON LADRC
	SPEED CONTROLLER  Marcel Nicola and Claudin Ional Nicola
15.45-	Marcel Nicola and Claudiu-Ionel Nicola SENSORLESS CONTROL OF PMSM USING BACKSTEPPING CONTROL AND ESO-
16.00	TYPE OBSERVER
4.500	Ecaterina Chelaru and Gheorghe Grigoras
16.00-	DECISION SUPPORT SYSTEM TO DETERMINE THE REPLACEMENT RANKING OF
16.15	THE ACED TRANSFORMEDS IN ELECTRIC DISTRIBUTION NETWORKS

THE AGED TRANSFORMERS IN ELECTRIC DISTRIBUTION NETWORKS

16.15- Cosmin-Constantin Mihai, Ciprian Lupu and Andrei-Alexandru Vulpe

16.30	USING GRAPHICS PROCESSING UNITS AND OPENGL IN ADAPTIVE-ROBUST REAL
	TIME CONTROL
16.30-	Anton Nekrasov, Alexey Nekrasov, Vadim Bolshev and Marek Jasiński
16.30- 16.45	EVALUATION OF TECHNICAL DAMAGE CAUSED BY FAILURES OF ELECTRIC
	MOTORS
16.45-	Cristian Patrascioiu and Marian Popescu
17.00	CONTROL SYSTEM FOR NATURAL GAS COMPRESSION OF SINCA PLANT
17.00-	Marian Popescu
17.00-	USE OF OPC PROTOCOL, DELTAV DISTRIBUTED SYSTEM AND SIMULINK FOR
17.13	LEVEL CONTROL WITH PI AND IMC ALGORITHMS
	Ioana Udrea, Silviu Petrache, Georgeta Ionașcu, Cristian Gabriel Alionte, Viorel Ionut
17.15-	Gheorghe, Tudor Cătălin Apostolescu and Laurențiu Adrian Cartal
17.30	OPTIMIZING THE PLACEMENT OF INDOOR THERMAL CLIMATE SENSORS OF AN
	IOT SOLUTION
17.30-	Viorel Gheorghe, Silviu Petrache, Adrian Laurentiu Cartal, Alexandra Rotaru and Ionut Iulian
17.45	Tudorache
17.45	MINIROVER WITH MIXED SUSPENSION SYSTEM
17.45-	Radu Jubleanu and Dumitru Cazacu
18.00	STRESS IN CYLINDRICAL AND TOROIDAL SUPERCONDUCTING COILS

# Friday, June 26, 2020

9:20-9:30, Registration of the participants in the KEYNOTE-II e-session

## June 26, 09:30-11:00, ECAI KEYNOTE LECTURES II,

Chairs: Horia Andrei and Ioan Lita

Technical chair: Arva Mihai

09:30-10:10, Gheorghe Brezeanu

SENSORS ON SILICON CARBIDE (SIC) - A CHALLENGE FOR ELEVATED TEMPERATURES IN HOSTILE ECOSYSTEMS

10:10-10:50, Jose Manuel Lopez-Guede REVIEW OF PHOTOVOLTIC ELEMENYS MODELING

# June 26, 11:30-14:00, ECAI Morning sessions

11:20-11:30 Registration of the participants in the **ECAI Morning** sessions

Software, databases, and computer applications - III

Artificial Intelligence, including Expert systems - II

Bio-medical applications & biomaterials

Advanced Modelling Control and Optimination Methods in Power Hubrid

Advanced Modelling, Control, and Optimization Methods in Power Hybrid Systems

## **Communications**

8th International Workshop on Systems Safety & Security-IWSSS 2020

# June 26, 11:30-14.00, Software, databases, and computer applications - III,

Chairs: Valeriu Manuel Ionescu, Ovidiu Constantin Novac

13.30 Oproescu and Gyöngyi Bujdoso

Technical chair: Valeriu Manuel Ionescu	
11.30- 11.45	Marius Preda, Ion Bica and Victor-Valeriu Patriciu  NTERNET OF THINGS TRAFFIC CHARACTERIZATION USING FLOW AND PACKET ANALYSIS
11.45- 12.00	Valentin-Alexandru Vladuta and Constantin Grumazescu A STUDY ON APPLYING MOBILITY PATTERNS FOR MULTI-UAV TRAJECTORY PLANNING
12.00- 12.15	Florentina Magda Enescu and Valeriu Manuel Ionescu USING BLOCKCHAIN IN THE AGRI-FOOD SECTOR FOLLOWING SARS-COV-2 PANDEMIC
12.15- 12.30	Ilie Cristian Dorobat and Vlad Posea EVOLVING THE DSPACE STORAGE INTO LINKED DATA
12.30- 12.45	Eugen Pop and Sorin Puscoci  CONSIDERATIONS REGARDING E-SERVICES DEVELOPMENT PLATFORMS FOR SMART CITIES
12.45- 13.00	Sebastian-Lucian Muraru, Paula Condruz and Irina Calciu  DEVELOPMENT OF SOFTWARE FOR OPTIMIZING THE FERTILIZATION OF AGRICULTURAL CROP
13.00- 13.15	Valeriu Manuel Ionescu and Florentina Magda Enescu  WEB APPLICATION FOR TIMELINE REPRESENTATION OF COVID-19 DATA IN ROMANIA
13.15-	Ovidiu Constantin Novac, Cristian Chilba, Cornelia Mihaela Novac, Cornelia Gordan, Mihai

	COMPARISON OF DOTKERNEL AND SYMFONY AS PHP FRAMEWORKS
13.30-	Sarmad Monadel Sabree Al Gayar, Nicolae Goga and Naseer Abdulkarim Jaber Al-Habeeb
13.45	IMPLEMENTATION OF (MEDICARE) SOCIAL MEDIA SYSTEM
13.45-	Cornel Barbut
14.00	NEW HUMAN NETWORKS FOR DEPLOYMENTS OF FUTURE FIBER OPTIC
	NETWORKS
June 2	6, 11:30-14.00, Artificial Intelligence, including Expert systems - II
Chairs	Victor-Emil Neagoe, Radu Dogaru, Constantin Vertan
Techni	cal chair: Arva Mihai
	II V
11.30-	Hasan Koyuncu  LOSS FUNCTION SELECTION IN NN BASED CLASSIFIERS: TRY-OUTS WITH A
11.45	NOVEL METHOD
11.45-	Thitimanan Damrongsakmethee and Victor-Emil Neagoe
12.00	STOCK MARKET PREDICTION USING A DEEP LEARNING APPROACH
	Ritu N. A. Begum, Ambalika Sharma and G.K. Singh
12.00- 12.15	USING ECG AS BIOMETRIC TRAIT: APPROACHES BASED ON VARIANT CNN
12.13	ARCHITECTURES
12.15-	Syeda Airas Burhan, Dr. Sidra Minhas, Dr.Amara Tariq and Muhammad Nabeel Hassan
12.30	COMPARATIVE STUDY OF DEEP LEARNING ALGORITHMS FOR DISEASE AND
	PEST DETECTION IN RICE CROPS  Dugges Lie and Mike Trage
12.30-	Dragoş Lia and Mihai Togan PRIVACY-PRESERVING MACHINE LEARNING USING FEDERATED LEARNING AND
12.45	SECURE AGGREGATION
12.45-	Andrei Racoviteanu, Mihai Badea, Corneliu Florea, Laura Florea and Constantin Vertan
13.00	DUAL TASK TRAINING FOR FACE EXPRESSION RECOGNITION
13.00-	Marina Barbu, Anamaria Radoi and George Suciu
13.15	LANDSLIDE MONITORING USING CONVOLUTIONAL AUTOENCODERS
13.15-	Elena-Casiana Fusu and Mihai Lica Pura
13.30	ROETRY: FIRST STEPS TOWARDS COMPUTER GENERATED POETRY IN
	ROMANIAN LANGUAGE Paul Diaconescu and Victor-Emil Neagoe
13.30-	CREDIT SCORING USING DEEP LEARNING DRIVEN BY OPTIMIZATION
13.45	ALGORITHMS
12.45	Radu Dogaru and Ioana Dogaru
13.45- 14.00	FAST TRAINING OF LIGHT BINARY CONVOLUTIONAL NEURAL NETWORKS USING
14.00	CHAINER AND CUPY
Tuno 2	6 11.20 14.00 Dia madical applications & hismatorials
	6, 11:30-14.00, Bio-medical applications & biomaterials,
	Mihai Oproescu, Sorin Pușcoci
Techni	cal chair: Mihai Oproescu
11 20	Roxana Elena Marcu, Dan Popescu and Iulian Danila
11.30-	OPTIMIZE RECOMMENDATION ENGINE FOR MARKETING SYSTEM IN
11.45	HEALTHCARE CRM
11.45-	Ionescu Marius
12.00	ANALYSIS OF BLOOD BY SPECTROSCOPY NEAR INFRARED
12.00-	Muhammad Saad Bin Abdul Ghaffar, Umar Shahbaz Khan, Noman Naseer, Nasir Rashid and
12.15	Mohsin Islam Tiwana IMPROVED CLASSIFICATION ACCURACY OF FOUR CLASS FNIRS-BCI
	Iuliana Marin, Ioana-Andreea Dinescu, Teodora-Coralia Deleanu, Lujain Alshikh Sulaiman,
	C IM 11.6 1 A1.6 1 A1.6

BRAIN PERFORMANCE ANALYSIS BASED ON AN ELECTROENCEPHALOGRAM

12.15- Sarmad Monadel Sabree Al-Gayar and Nicolae Goga

12.30

HEADSET

12.30- 12.45	Adriana-Gabriela Plaiasu, Mihai Oproescu, Daniel-Constantin Anghel, Alexandru Sirghie and Vasile Gabriel Iana
	DESIGN OF A MECHATRONIC SOLUTION FOR THE PROTECTION OF PERSONNEL PROFESSIONALLY EXPOSED TO SARS-COV-2 VIRUS CONTAMINATION
12.45- 13.00	Tudor Cătălin Apostolescu, Laurențiu Adrian Cartal, Georgeta Ionascu, Lucian Bogatu, Ioana Udrea, Silviu Petrache and Elena Poenaru
	ORIGINAL SOLUTION OF AN AUTOMATIC DEVICE FOR MEDICAMENT DELIVERY
13.00- 13.15	Sorin Soviany, Sorin Pușcoci and Virginia Săndulescu
	A BIOMETRIC IDENTIFICATION SYSTEM WITH KERNEL SVM AND FEATURE-
	LEVEL FUSION
13.15- 13.30	Duaa Shalan and Shaidah Ibrahim
	VISUALIZATION IN MEDICAL SYSTEM INTERFACES: UX GUIDELINE
13.30- 13.45	Andrei Vulpe, Cosmin Mihai and Ciprian Lupu
	RESEARCH ON INFRARED BODY TEMPERATURE MEASUREMENT – VIRUS
	SPREADING PREVENTION
13.45- 14.00	Manole-Stefan Niculescu, Adriana Florescu and Pasca Sever
	PORTABLE BIOCHEMISTRY ANALYZER BASED ON IMAGE ACQUISITION
	ALGORITHM

# June 26, 11:30-14.00, Advanced Modelling, Control, and Optimization Methods in Power Hybrid Systems,

Chairs: Bogdan Constantin Neagu, Florentina Magda Enescu Technical chair: Sorin Sorlei

11.30- 11.45	Dănuț Adrian Poștovei, Constantin Bulac, Ion Triștiu and Balduino Camachi
	A PRACTICAL IMPLEMENTATION OF MODERN DISTRIBUTED CONTROL
	SYSTEMS IN ELECTRIC POWER SUBSTATIONS
11.45-	Livia Noroc and Gheorghe Grigoras
	PERFORMANCE ASSESSMENT OF THE HIERARCHICAL CLUSTERING METHODS
12.00	IN CLASSIFICATION OF ELECTRIC DISTRIBUTION NETWORKS CONSIDERING
	UNBALANCE DEGREE
12.00- 12.15	Bogdan Constantin Neagu and Gheorghe Grigoras
	A FAIR LOAD SHARING APPROACH BASED ON MICROGRID CLUSTERS AND
12.15	TRANSACTIVE ENERGY CONCEPT
12.15-	Ioan Cristian Hoarcă, Florentina Magda Enescu and Nicu Bizon
12.15- 12.30	COMPARATIVE STUDY REGARDING THE INTEGRATION OF PHOTOVOLTAIC
12.30	SOURCES IN AGRICULTURE
12.30-	Adrian M. Iuoras, Mircea Bojan and Petre D. Teodosescu
12.45	AC HOME APPLIANCES RETROFITING FOR DC MICROGRIDS
12.45- 13.00	Bizon Nicu, Sorin Sorlei, Elena Carcadea, Mihai Culcer, Mariana Iliescu and Mircea Raceanu
	SENSITIVITY ANALYSIS BASED ON THE DEFINED LOAD THRESHOLD FOR A NEW
	FUEL ECONOMY STRATEGY USED IN FUEL CELL VEHICLES
13.00- 13.15	Badre Bossoufi, Hala Alami Aroussi and Manale Boderbala
	DIRECT POWER CONTROL OF WIND POWER SYSTEMS BASED ON DFIG-
	GENERATOR (WECS)
13.15-	Raboaca Maria Simona, Nasture Ana Maria and Corbu Alin
13.30	SWOT OF RENEWABLE ENERGY SOURCES IN ROMANIA

# June 26, 11:30-14.00, 8th International Workshop on Systems Safety & Security-IWSSS 2020,

Chairs: Grigore Stamatescu, Emil Pricop

Technical chair: Emil Pricop

	Alexandru Costache, Dan Popescu, Stefan Mocanu and Loretta Ichim
11.45	TARGET AUDIENCE RESPONSE ANALYSIS IN OUT-OF-HOME ADVERTISING

	USING COMPUTER VISION					
11.45-	Marius-Alexandru Dobrea, Mihaela Vasluianu, Giorgian Neculoiu and Stefan Bichiu					
12.00	DATA SECURITY IN SMART GRID					
12.00-	Constantin Nila and Victor Patriciu					
12.15	TAKING ADVANTAGE OF UNSUPERVISED LEARNING IN INCIDENT RESPONSE					
12.15-	Zhella Anne Nisperos, Bobby Gerardo and Alexander Hernandez					
12.30	KEY GENERATION FOR ZERO STEGANOGRAPHY USING DNA SEQUENCES					
12.30- 12.45	Razyan Andrei Gheorghiu, Victor Stoica and Valentin Iordache					
	RELIABILITY ANALYSIS FOR LABORATORY DEVELOPMENT OF A TRAFFIC LIGHT					
	CONTROLLER					
	Octavian Ionescu, Viorel Dumitru, Cristina Besleaga and Emil Pricop					
12.45-	UAV IDENTIFICATION SYSTEM BASED ON MEMRISTOR PHYSICAL UNCLONABLE					
13.00	FUNCTIONS					
13.00-	Grigore Stamatescu, Iulia Stamatescu, Nicoleta Arghira and Ioana Fagarasan					
13.15	CYBERSECURITY PERSPECTIVES FOR SMART BUILDING AUTOMATION SYSTEMS					
June 2	6, 11:30-14.00, Communications,					
Chairs:	Silviu Ciochină, Paul Schiopu, Predusca Gabriel					
	cal chair: Cristian Monea					
Technical Chair. Cristian Worlea						
	Kareem Difar, Moataz Jasim, Ali Nema, Mustafa Khaleel Hamadani and Amer Abbood Al-					
11.30-	Behadili					
11.45	A FULL STUDY OF THE CONDUCTIVITY OF THE IONOSPHERE FOR IRAQ AND					
	ROMANIA REGIONS					
11.45- 12.00	Fernando Georgel Birleanu and Nicu Bizon					
	LIGHTWEIGHT CRYPTOGRAPHY FOR INTERNET OF THINGS USING FPGA-BASED					
	DESIGN WITH PARTIAL RECONFIGURATION					
12.00-	Dan Constantin Puchianu, Nicoleta Angelescu, Predusca Gabriel, Liana Denisa Circiumarescu					
	and Emil Diaconu					

## ECAI CLOSING CEREMONY

AN ANALYSIS OF SECURITY THREATS IN VOIP COMMUNICATION SYSTEMS

COMPARATIVE STUDY OF POWER CONSUMPTION ON MIKROTIK AND

A MULTIPLE CHOICE OMP ALGORITHM FOR DOA ESTIMATION

June 26, 13:30-14:00, ECAI Closing Solemnity,

FORTIGATE ROUTERS

Eugen Neacsu and Paul Schiopu

## Closing speeches

12.15

12.15-

12.30

12.30-

12.45

13:30-13:40 Mihai Oproescu and Mihai Arva, Program Chairs of ECAI

13:40-14:00 Time of closing speeches for the ECAI participants

Ionela-Cristina Voicu, Silviu Ciochină and Andrei Anghel

**End of ECAI conference actions** 

# Visiting suggestions & sightseeing in Bucharest city

Known for its wide, tree-lined boulevards, glorious Belle Époque buildings and a reputation for the high life (which in the 1900s earned its nickname of "Little Paris"), Bucharest, Romania's largest city and capital, is today a bustling metropolis. Romanian legend has it that the city of Bucharest was founded on the banks of the Dambovita River by a shepherd named Bucur, whose name literarily means "joy." His flute playing reportedly dazzled the people and his hearty wine from nearby vineyards endeared him to the local traders, who gave his name to the place.





Initially built of wood in 1922 to honor the bravery of Romanian soldiers who fought in World War I, Bucharest's very own Arc de Triomphe was finished in Deva granite in 1936. Designed by the architect, Petre Antonescu, the Arc stands 85 feet high. An interior staircase allows visitors to climb to the top for a panoramic view of the city. The sculptures decorating the structure were created by leading Romanian artists, including Ion Jalea, Constantin Medrea and Constantin Baraschi.



### Revolution Square

The square gained worldwide notoriety when TV stations around the globe broadcasted Nicolae Ceausescu's final moments in power on December 21, 1989. It was here, at the balcony of the former Communist Party Headquarters, that Ceausescu stared in disbelief as the people gathered in the square below turned on him. He fled the angry crowd in his white helicopter, only to be captured outside of the city a few hours later. The square's importance stretches back long before the dramatic events of the 1989 Revolution. On the far side of the square stands the former Royal Palace, now home to the National Art Museum, the stunning Romanian Athenaeum and the historic Athenee Palace Hotel. At the south end of the square, you can visit the small, but beautiful, Kretzulescu Church.



#### The Romanian Athenaeum

The work of French architect Albert Galleron, who also designed the National Bank of Romania, the Athenaeum was completed in 1888, financed almost entirely with money donated by the general public. One of the preeminent public fundraising campaigns ever in Romania, the "Give a penny for the Athenaeum" campaign saved the project after the original patrons ran out of funds. With its high dome and Doric columns, the Athenaeum resembles an ancient temple. The lobby has a beautifully painted ceiling decorated in gold leaf, while curved balconies cascade in ringlets off a spiral staircase. A ring of pink marble columns is linked by flowing arches where elaborate brass lanterns hang like gems from a necklace. Inside the concert hall, voluptuous frescoes cover the ceiling and walls. Renowned worldwide for its outstanding acoustics, it is Bucharest's most prestigious concert hall and home of the Romanian George Enescu



#### Manue's Inn

Built between 1804 and 1808 by the wealthy Armenian trader Emanuel Marzaian (called by the Turks, Manuc Bey), the inn was witness in 1812 to the preliminary talks of the Peace Treaty that put an end to the Russian -Turkish War (1806-1812). A favorite meeting and resting place for tradesmen in those times, Manuc's Inn has preserved to this day its old style and flavor. It now serves as a hotel with a restaurant, a wine cellar and a pastry shop.



#### University Square

Buzzing with crowds and traffic from early morning until late at night, this area is one of the most popular meeting places in Bucharest. The square brings together some remarkable architectural masterpieces on each of its four corners, starting with the University of Bucharest's School of Architecture, the Bucharest National Theatre, the neoclassical Coltea Hospital and its lovely church (1702-1794) and the Sutu Palace, now home to the Bucharest History Museum. In the middle of the square, on a little island, 10 stone crosses pay respect to those killed during the 1989 revolution. Below the square is an underground passage with shops and eateries, allowing pedestrians to cross from one side of the square to another and to access the subway station.



#### Parliament Palace

Built by Communist Party leader, Nicolae Ceausescu, the colossal Parliament Palace (formerly known as the People's Palace) is the second largest administrative building in the world after the Pentagon. It took 20,000 workers and 700 architects to build. The palace boasts 12 stories, 1,100 rooms, a 328-ft-long lobby and four underground levels, including an enormous nuclear bunker.



The Palace of Parliament it is the world's second-largest office building in surface (after the Pentagon) and the third largest in volume (after Cape Canaveral in the U.S. and the Great Pyramid in Egypt). The crystal chandelier in the Human Rights Hall (Sala Drepturilor Omului) weighs 2.5 tons. Some of the chandeliers have as many as 7,000 light bulbs. When construction started in 1984, the dictator intended it to be the headquarters of his government. Today, it houses Romania's Parliament and serves as an international conference centre. Built and furnished exclusively with Romanian materials, the building reflects the work of the country's best artisans. A guided tour takes visitors through a small section of dazzling rooms, huge halls and quarters used by the Senate (when not in session). The interior is a luxurious display of crystal chandeliers, mosaics, oak paneling, marble, gold leaf, stained-glass windows and floors covered in rich carpets.



#### Village Museum

Founded by royal decree in 1936, this fascinating outdoor museum, the largest in Europe, covers some 30 acres on the shores of Lake Herastrau in Herestrau Park. It features a collection of 50 buildings representing the history and design of Romania's rural architecture. Steep-roofed peasant homes, thatched barns, log cabins, churches and watermills from all regions of the country were carefully taken apart, shipped to the museum and rebuilt in order to recreate the village setting. Throughout the year, the Village Museum hosts special events where you will have a chance to witness folk artisans demonstrating traditional skills in weaving, pottery and other crafts. Folk arts and crafts are available at the museum gift shop.



### Snagov Monastery

Where: 25 miles north of Bucharest; Access: car, bus, taxi

In 1458 - more than one hundred years after the church was built (1364) - Romanian prince Vlad Tepes (Vlad the Impaler) added thick defending walls and a dungeon. A plaque on the floor inside the church marks the grave with the presumed remains of the world-known count.



The monastery is located on an island on lake Snagoy, and can be accessed on a pedestrian bridge or by boat.

ECAI 2020, June 25 - June 26, 2020, Timetable and Program

Date	Time	20, June 25 – June 26, 2020, Timetable and Progra Session or activity	Location		
June 24	Time	E-Registration	Location		
	8:30-8:50	E-Registration			
	9:00-9:40	ECAI Opening Ceremony			
		1 0			
	9:40-11:45 11:45-12:00	ECAI KEYNOTE LECTURES I E - Brokerage events			
	11110 12100	ECAI morning sessions			
		Software, databases, and computer applications - I			
		Electronic circuits and equipment & 7th International			
		Workshop on Applied Electronics-IWAE'20 - I			
10	12:00-14.30	Educational multimedia applications & 5th International Workshop on Trends and Opportunities in Teaching			
		Career IWTOTC' 2020- I			
		Artificial Intelligence, including Expert systems - I			
(1)		Energy & Environmental issues & 9th Ro-Fr Workshop			
](		on Automotive			
	14:30-15.30	Break (for Lunch)			
June 25		ECAI afternoon sessions			
		Software, databases, and computer applications II			
		Signal and image processing  Electronic circuits and equipment & 7th International			
	15:30-18:00	Workshop on Applied Electronics-IWAE'20 – II			
		Educational multimedia applications & 5th International			
		Workshop on Trends and Opportunities in Teaching			
		Career IWTOTC' 2020- II Control, robotics and mechatronics & Electrical			
		engineering applications			
	18:00-18:30	E - Brokerage events			
	8:30-9:30	E-Registration			
	9:30-11:00	ECAI KEYNOTE LECTURES II			
9	11:00-11:30	E - Brokerage events			
$\sim$		ECAI morning sessions Software, databases, and computer applications - III			
	11:30-14:00	Artificial Intelligence, including Expert systems			
0		Bio-medical applications & biomaterials			
u		Advanced Modelling, Control, and Optimization Methods			
une 2		in Power Hybrid Systems			
		Communications 8th International Workshop on Systems Safety &			
		Security-IWSS 2020			
	13:30-14:00	ECAI Closing Solemnity			

# 12<sup>th</sup> INTERNATIONAL CONFERENCE on ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE

ECAI 2020, June 25 - June 27, 2020

# **Partners & Sponsors**







### PAPERS PUBLISHING

The papers will be published in the ECAI proceedings, indexed in IEEE Xplore® and submitted to ISI Web of Knowledge databases.

The selected papers (up to 10%) will be sent to the appropriate IEEE IAS journals for publishing, after those papers will be further reviewed as normal.

# Proceedings' Editor: Nicu Bizon, Mihai Oproescu Text processing: Mihai ARVA

Local Organizing Committee					

Conference web site: <a href="http://ecai.ro/">http://ecai.ro/</a>; E-mail: <a href="mailto:contact@ecai.ro">contact@ecai.ro</a>; Tel +40 348 453 201, Fax +40 348 453 200