

**6<sup>th</sup> INTERNATIONAL CONFERENCE**  
**on**  
**ELECTRONICS, COMPUTERS**  
**and ARTIFICIAL INTELLIGENCE**  
**ECAI 2014, October 23– October 25, 2014**



**PROGRAM**

hosted by

**POLITEHNICA UNIVERSITY OF BUCHAREST,**

Faculty of Electronics, Telecommunications and Information Technology

**Organizers:**

**UNIVERSITY OF PITESTI:**

- Faculty of Electronics, Communications and Computers

**POLITEHNICA UNIVERSITY OF BUCHAREST:**

- Faculty of Electronics, Telecommunications and Information Technology

**Co-organizers:**

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- Faculty of Automatic Control and Computers

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**MILITARY TECHNICAL ACADEMY, BUCHAREST:**

- Faculty of Electronics and Informatics Military Systems

**'Valahia' UNIVERSITY, TARGOVISTE:**

- Faculty of Electrical Engineering, Electronics and Information Technology

**UNIVERSITY OF S-E EUROPE 'Lumina', BUCHAREST:**

- Faculty of Engineering: Department of Information Technology and Computers

**NATIONAL COMMUNICATIONS RESEARCH INSTITUTE, Bucharest**

**INSTITUTE OF COMPUTER SCIENCE OF THE ROMANIAN ACADEMY**

(Iasi Branch)

**NUCLEAR RESEARCH INSTITUTE, Mioveni**

**Technical sponsorship of the**

**IEEE ROMANIA SECTION**

**IEEE Industry Applications Society**



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# **PROGRAM**

## **Wednesday, October 22, 2014**

Wednesday, October 23, 20:00-22:00, “Conferences’ center” building  
*ECAI Welcome cocktail*

## **Thursday, October 23, 2014**

October 23, 8:00-8:50, “Conferences’ center” building, conference desk  
*Registration of the participants*

## **October 23, 9:00-9:40, OFFICIAL OPENING**

**“Conferences’ center” building, keynote room**

09:00-09:40 *Welcome and Opening Addresses*

09:00-09:05 Nicu Bizon, Chair of ECAI 2014 and dean of the ECC Faculty, University of Pitesti

09:05-09:10 Welcome message of Takeshi Yamakawa, Honorary Chair of the ECAI 2014

09:10-09:15 Welcome message of Mircea Eremia, chair of the IEEE Romanian section

09:15-09:20 Welcome message of Horia-Nicolai (L.) Teodorescu, c.m. - Romanian Academy

09:20-09:25 Cristian Negrescu, Chair of ECAI 2014 and dean of the ETIT Faculty, Politehnica U.B.

09:25-09:30 George Darie, Rector of the Politehnica University of Bucharest

09:30-09:35 Corneliu Burileanu, vice-Rector of the Politehnica University of Bucharest

09:35-09:40 Marioara Abrudeanu, vice-Rector of the University of Pitesti

**October 23, 09:40-13:30, ECAI KEYNOTE LECTURES –I,  
“Conferences’ center” building, keynote room**

Chairs: Corneliu Burileanu, Horia-Nicolai Teodorescu

09:40-10:20, TAKESHI YAMAKAWA,  
EARLY DIAGNOSTICS OF LEUKEMIA BY EMPLOYING DIELECTROPHORESIS

10:20-11:00, EROL KURT  
EFFECTS OF NONLINEARITIES IN A MAGNETO-PIEZOELECTRIC SYSTEM

11:00-11:30, Coffee break; Discussions and Brokerage events

Chairs: Horia Andrei, Alexandru Serbanescu

11:30-12:10, MILAN STORK,  
STATE SPACE ENERGY FEEDBACK USED FOR NONLINEAR STABILIZATION  
OF DISSIPATIVE SYSTEMS

12:15-14:00, Round Tables, Brokerage events

12:15-12:45, Round Tables 1: “Conferences’ center” building, room 1  
Organizers: DORINEL CONSTANTIN, DUMITRU CAZACU  
ANSYS ELECTROMAGNETICS – A SHORT TUTORIAL OF APPLICATIONS

The presentations will be announced

12:15-12:45, Round Tables 2: “Conferences’ center” building, room 2  
Organizers: ROBERT BELOIU, IONEL BOSTAN  
LIFELONG LEARNING PROGRAMS IN ENGINEERING EDUCATION (LLPEE)  
1st International Workshop on LLPEE - 2014

The presentations will be announced

12:15-12:45, Round Tables 3: “Conferences’ center” building, room 3  
Organizers: ALEXANDRU BORCEA, IOAN LITA  
RESEARCH & TECHNOLOGICAL TRANSFER & BUSINESS

The presentations will be announced

**October 23, 15:30-17:00, ECAI Afternoon sessions**

**October 23, 17:00-17:30 Coffee break**

**October 23, 17:30-19:15, Concert of Traditional Japanese Music**

**October 23, 19:15-20:00, Concert of Traditional Romanian Music**

**October 23, 15:30-17:00, ECAI Afternoon sessions**

**October 23, 15:30-17:00, ECAI sessions**

**October 23, 15:30-17:00, ECAI Poster and E-sessions**

**October 23, 15:30-17:00, invited ECAI workshops**

**October 23, 15:30-17.00, Workshop on Automotive and Intelligent Transport Systems – WAITS 2014**

**“Conferences’ center” building, room 1**

Chairs: Stan Valentin Alexandru, Alecsandru Pătrașcu

15:30-15:45 ADRIAN R. FLOREA, ILONA MADALINA COSTEA,  
ANALYSIS OF IMPROVEMENTS THE URBAN TRANSPORT CONDITIONS BY  
USING ELECTRONIC INTELLIGENT TRANSPORTS SYSTEMS - CASE STUDY:  
URBAN

15:45-16:00 GHEORGHIU RAZVAN ANDREI, STAN VALENTIN ALEXANDRU,  
TIMNEA RADU SERBAN  
A METHOD TO CALCULATE THE BENEFITS OF URBAN TRAFFIC  
MANAGEMENT SYSTEM IMPLEMENTATION

16:00-16:15 TIMNEA RADU SERBAN, GHEORGHIU RAZVAN ANDREI, STAN  
VALENTIN ALEXANDRU  
INTER-URBAN TRAFFIC MANAGEMENT ON HIGHWAYS – SIMULATION OF  
TRAFFIC CONTROL MEASURES EFFECTS

16:15-16:30 STAN VALENTIN ALEXANDRU, GHEORGHIU RAZVAN ANDREI,  
TIMNEA RADU SERBAN  
TRAFFIC MANAGEMENT METHODS FOR INTERURBAN – URBAN  
INTERFACES

16 :30-16:45 DIANA-ȘTEFANIA MAIMUȚ, EMIL SIMION, ALECSANDRU  
PĂTRAȘCU  
THE RELEVANCE OF SECOND ERROR PROBABILITY IN MODERN  
STATISTICAL ANALYSIS

**October 23, 15:30-17.00, Bio-medical applications**

**“Conferences’ center” building, room 2**

Chairs: Milan Stork, Toshitaka Yamakawa

15:30-15:45 HORIA-NICOLAI TEODORESCU  
TAXONOMY AND PROCEDURES FOR ADAPTIVE AUTONOMOUS SYSTEMS IN  
CROWDED HYBRID ENVIRONMENTS

15:45-16:00 CORNELIU FLOREA, LAURA FLOREA  
ROBUSTIFYING COMPRESSED PROJECTIONS FOR EXPRESSIVE IRIS  
LOCALIZATION

16:00-16:15 MILAN STORK, VLASTIMIL VANCURA  
WAVELET AND HILBERT-HUANG TRANSFORM USED IN CARDIOLOGY

16:15-16:30 CAMELIA MOLDOVAN, RADU DOGARU  
FAST SUPPORT VECTOR CLASSIFIER APPLIED TO MICROARRAY DATA

16 :30-16:45 MARIUS-CORNELIU ROSU  
PRELIMINARY EVALUATION FOR AN ECG MONITORING SYSTEM

**October 23, 15:30-17.00, Workshop IWFEED 2014,  
“Conferences’ center” building, room 3**

Chairs: Erol Kurt, Dumitru Cazacu

15 :30-15 :45 EROL KURT, HALIL GÖR  
ELECTROMAGNETIC DESIGN OF A NEW AXIAL FLUX GENERATOR

15 :45-16 :00 İBRAHIM SEFA, SELAMI BALCI, MUSTAFA BAHA BAYRAM  
A COMPARATIVE STUDY OF NANOCRYSTALLINE AND SIFE CORE  
MATERIALS FOR MEDIUM-FREQUENCY TRANSFORMERS

16 :00-16 :15 CONSTANTIN STOICA, CAZACU DUMITRU, LEONARD  
MELCESCU  
NUMERICAL MODELING USING 2D FEM FOR A LOW POWER DC BRUSHLESS  
MOTOR

16 :15-16 :30 PETRE MARIAN NICOLAE, DORINEL CONSTANTIN  
ANALYSIS OF A PARABOLIC ANTENNA WITH FED

16 :30-16:45 DUMITRU CAZACU, STOICA CONSTANTIN  
TEACHING COMPUTATIONAL ASPECTS ON THE EFFICIENCY OF MULTI  
LAYER SPHERICAL MAGNETIC SHIELDS

16:45-17:00 STEFAN SIMION, GIANCARLO BARTOLUCCI  
ON THE DESIGN METHOD OF THE BALANCED COMPOSITE RIGHT-/LEFT-  
HANDED STRUCTURES

**October 23, 15:30-17.00, Workshop IWAE 2014 - A, “Conferences’  
center” building, room 4**

Chairs: Mihai Oproescu, Gabriel Iana

15:30-15 :45 GEORGE SUCIU, SIMONA HALUNGA, ADELINA OCHIAN,  
VICTOR SUCIU  
NETWORK MANAGEMENT AND MONITORING FOR CLOUD SYSTEMS

15:45-16:00 PETRE ANGHELESCU, COSMIN STIRBU  
CELLULAR AUTOMATA BASED ALGORITHM FOR IMAGE DENSITY  
CLASSIFICATION TASK

16:00-16:15 ALEXANDRU ENE, COSMIN STIRBU  
A JAVA APPLICATION FOR THE SELECTION OF A WEIGHTS FILE FOR A  
TWO HIDDEN LAYERS FEED FORWARD NEURAL NETWORK

16:15-16:30 GABRIEL V. IANA, CRISTIAN MONEA  
COIN RECOGNITION SYSTEM BASED ON A NEURAL NETWORK

16:30-16:45 LUCIAN FLORIN SUCU  
SENSOR NETWORK WITH ARDUINO MODUL FOR PATIENT MONITORING

16:45-17:00 TALHA ALI KHAN, ADNAN S. NOUH, HANY M. HASANIEN  
SPEED CONTROL OF HYBRID STEPPER MOTOR BY USING AN ADAPTIVE  
NEURO-FUZZY INTERFERENCE SYSTEM

17:00-17:30, Coffee break; Discussions and Brokerage events

**October 23, 17:30-19:30,  
Concert of Traditional Japanese Music  
“Conferences’ center” building, keynote room**

Chairs: Dragulinescu Marin, Horia N. Teodorescu, and Andrei Sofron

17:30-17:45, Messages of the chairs and ECAI honorary chair (the presentation “**Opera and life of professor emeritus Emil Sofron - ECAI past chair**” will run)

17:45-19:30, Takeshi Yamakawa, accompanied by a Koto player

Traditional Japanese Music:

"Rokudan-no-Shirabe", "Haru-no-Umi", "Chidori-no-Kyoku", etc.

**Friday, October 24, 2014**

**October 24, 09:30-11:00, ECAI KEYNOTE LECTURES II,  
“Conferences’ center” building, keynote room**

Chairs: Adina Magda Florea, Gheorghe Serban

09:30-10:10, TOSHITAKA YAMAKAWA  
IMPLANTABLE ELECTRONICS FOR DIAGNOSIS AND TREATMENT OF  
INTRACTABLE EPILEPSY

10:10-10:50, EMIL SIMION  
PROBABILITY AND STATISTICS IN CYBERSPACE

11:00-11:30 Coffee break, Discussions and Brokerage events

**October 24, 11:00-14:00 ECAI morning sessions**

**October 24, 11:30-14:00, ECAI sessions**

**October 24, 11:30-14:00, invited ECAI workshops**

**October 24, 13:00-14:00, ECAI poster session,**

**October 24, 11:30-14:00, Electronic Circuits & Equipment,  
“Conferences’ center” building, room 1**

Chairs: Cengiz Taplamacioglu, Dorel Aiordachioaiei

11:30-11:45 ANDREI COCOR, ADRIANA FLORESCU, DAN ALEXANDRU  
STOICHESCU

MULTICELL CONVERTER CONTROL USING PETRI NETS

11:45-12:00 SERGIU OPREA, CONSTANTIN RADOI, ADRIANA FLORESCU  
SINGLE-PHASE POWER FACTOR CORRECTION CIRCUIT WITH  
PROPORTIONAL-RESONANT CONTROL

12:00-12:15 TEODORESCU MIHAIL, STANCIU DUMITRU  
ACTIVE POWER FILTER USING SLIDING MODE CONTROL AND P-Q THEORY  
BASED REFERENCE VALUES

12:15-12:30 DOREL AIORDACHIOAIE,  
ON QUICK CHANGE DETECTION IN FINITE STATE SPACES BASED ON  
SEQUENTIAL DECISIONS

12:30-12:45 HALUK GOZDE, M.CENGİZ TAPLAMACIOĞLU, MURAT ARI  
AUTOMATIC VOLTAGE REGULATOR (AVR) DESIGN WITH CHAOTIC  
PARTICLE SWARM OPTIMIZATION

12:45-13:00 BOGDAN CRISTIAN FLOREA  
MIDI-BASED CONTROLLER OF ELECTRICAL DRIVES

13:00-13:15 SERGIU OPREA, MIHNEA ROSU-HAMZESCU, CONSTANTIN RADOI  
IMPLEMENTATION OF SIMPLE MPPT ALGORITHMS USING LOW-COST 8-BIT  
MICROCONTROLLERS

13:15-13:30 DRAGOȘ IOAN SĂCĂLEANU, LUCIAN ANDREI PERIȘOARĂ,  
VASILE LĂZĂRESCU, RODICA STOIAN  
A NEW MULTIPURPOSE WIRELESS SENSOR NODE FOR DATA ACQUISITION  
SYSTEMS

13:30-13:45 GEORGE VALENTIN STOICA, RADU DOGARU, ELENA CRISTINA  
STOICA  
SPEEDING-UP IMAGE PROCESSING IN REACTION-DIFFUSION CELLULAR  
NEURAL NETWORKS USING CUDA-ENABLED GPU PLATFORMS

13:45-14:00 IOAN TACHE, CONSTANTIN BURLACU  
PERCEPTUAL VIDEO QUALITY MEASUREMENT METHOD FOR SATELLITE  
BROADCASTING



**October 24, 11:30-14.00, Software & Computer Applications,  
“Conferences’ center” building, room 2**

Chairs: Petre Anghelescu, Eugen Diaconescu

11 :30-11:45 VLAD-CRISTIAN GEORGESCU  
SCADA SOFTWARE USED IN DISPATCH CENTRE FOR PHOTOVOLTAIC PARK

11 :45-12:00 CATALIN BUIU, MIHAI GANSARI  
A NEW MODEL FOR INTERACTIONS BETWEEN ROBOTS IN A SWARM

12:00-12:15 CRISTIAN SPIRLEANU, EUGEN DIACONESCU  
MULTI-AGENT DISTRIBUTED INFRASTRUCTURE FOR INTELLIGENT  
BUILDING CONTROL

12:15-12:30 BAHADIR AKBAL, MUSA AYDIN  
CSA-KAPUR METHOD TO DETERMINE ICE LOAD AMOUNT ON ELECTRIC  
TRANSMISSION LINE CONDUCTORS

12:30-12:45 BAHADIR AKBAL, MUSA AYDIN  
COMPARISON OF PSO-KAPUR AND DE-KAPUR METHODS TO DETERMINE  
ICE LOAD ON AERIAL LINES

12:45-13:00 HASAN HÜSEYİN ÇEVİK, MEHMET ÇUNKAŞ  
A COMPARATIVE STUDY OF ARTIFICIAL NEURAL NETWORK AND ANFIS  
FOR SHORT TERM LOAD FORECASTING

13:00-13:15 STEFAN ANGELESCU, PETRE ANGHELESCU, SILVIU IONITA  
REAL-TIME AUDIO EFFECTS WITH DSP ALGORITHMS AND DIRECTSOUND

13:15-13:30 CORINA SAVULESCU, MARIANA IORGULESCU  
THE IMPLEMENTATION OF HAMMING DECODER ON SPARTAN 3

**October 24, 11:30-14:00 , special ECAI session - A,  
Young Researchers session - with technical support of IEEE-IAS-RO Chapter  
“Conferences’ center” building, room 3**

Chairs: Adriana Florescu, Silviu Ionita

11:30-11:45 FERARU SILVIA MONICA, ZBANCIOC MARIUS DAN  
EMOTION RECOGNITION USING LYAPUNOV EXPONENT OF THE MEL-  
FREQUENCY ENERGY BANDS

11:45-12:00 ZBANCIOC MARIUS DAN, FERARU SILVIA MONICA  
OPTIMIZED SEGMENTATION METHOD OF THE VOCAL SIGNAL WITH  
PREDICTIVE NEURAL NETWORK

12:00-12:15 DUCU DRAGOS, ANCA MANOLESCU  
A 2-1 CASCADED HYBRID CONTINUOUS-DISCRETE TIME SIGMA-DELTA  
MODULATOR

12:15-12:30 HYUKJIN LIM, SEONGJOO LEE  
A STUDY ON THE LOW-COST DIGITAL SPECTRUM ANALYSER DESIGN

12:30-12:45 HYOBEEN PARK, SEONGJOO LEE  
THE HARDWARE DESIGN OF LDPC DECODER IN IEEE 802.11N/A

12:45-13:00 DIANA BUCUR, NICOLAE MILITARU, GEORGE LOJEWSKI  
EYES ON TRANSIENT AND HARMONIC BALANCE ANALYSES FOR HIGH  
SPEED DESIGN

13:00-13:15 ANDREI DAN BAESCU, ADRIANA FLORESCU, D. A. STOICHESCU  
DESIGN OF A DIGITAL CIRCUIT FOR REED-SOLOMON CODING

13:15-13:30 DOREL NASUI, ALEXANDRA CERNIAN, VALENTIN SGARCIU  
CLOUD BASED STUDENT TRANSPORTATION SAFETY SYSTEM

**October 24, 11:30-14.00, Workshop IWAE 2014 - B,  
“Conferences’ center” building, room 4**

Chairs: Marian Raducu, Zdzisław Pólkowski

11:30-11:45 MEHMET ŞEFİK ÜNEY, NURETTİN ÇETİNKAYA  
COMPARISON OF CO<sub>2</sub> EMISSIONS FOSSIL FUEL BASED ENERGY  
GENERATION PLANTS AND PLANTS WITH RENEWABLE ENERGY SOURCE

11:45-12:00 EMILIAN LEFTER, BOGDAN ENACHE, L. M. CONSTANTINESCU  
MODELING ASPECTS OF AN ELECTRIC STARTER SYSTEM FOR AN INTERNAL  
COMBUSTION ENGINE

12:00-12:15 BOGDAN-ADRIAN ENACHE, L.M. CONSTANTINESCU, EMILIAN  
LEFTER  
ASPECTS OF SIMULATING THE BEHAVIOR OF AN INTERNAL COMBUSTION  
ENGINE FOR ELECTRIC STARTER TESTING

12:15-12:30 EMMANUEL TADDY, VASILE LAZARESCU  
MODELING AND SIMULATION OF A SWITCH-MODE SYNCHRONOUS BUCK  
CONVERTER

12:30-12:45 EMMANUEL TADDY, VASILE LAZARESCU  
MODELING AND SIMULATION OF BUCK DC-DC CONVERTER WITH  
CAPACITOR EQUIVALENT SERIES RESISTANCE

12:45-13:00 LIDIA DOBRESCU  
DOMOTIC EMBEDDED SYSTEM

13:00-13:15 MARIN RADUT, MARIAN RADUCU  
ON THE MAXIMUM POWER POINT MATCHING OF THE PHOTOVOLTAIC  
PANELS TO LOAD DEMAND

13:15-13:30 MAŁGORZATA NYCZ, ZDZISŁAW PÓLKOWSKI  
THE ERP SYSTEM AS A BASIC SYSTEM FOR BUSINESS ANALYSES

**October 24, 13:00-14:00, Workshop IWSSS 2014, poster session,  
“Conferences’ center” building, Poster Hall**

Chairs: Mihai Oproescu, Emil Pricop

13 :00-13:10 OANA ROHAT, DAN POPESCU  
REMOTE WEB-BASED EXECUTION OF IEC 61499 FUNCTION BLOCKS

13 :10-13:20 STEFAN-RADU BALA  
ALERTNESS MONITORING BASED ON TIME EVOLUTION OF  
ELECTROENCEPHALOGRAPHIC SIGNAL’S POWER SPECTRAL DENSITY

13:20-13:30 DAN POPESCU, LORETTA ICHIM, RADU FRATILA. DIANA  
GORNEA  
RECONFIGURABLE ROBOTIC SYSTEM BASED ON MONO-CAMERA  
GUIDANCE

13:30-13 :40 ADELA VINTEA, PAUL SCHIOPU, OCTAVIAN MIHAI GHITA  
OPTIMAL MODEL FOR EFFICIENCY OF REENGINEERING THE INDEPENDENT  
POWER GRIDS

13:40-13:50 IONELA HALCU, GRIGORE STAMATESCU, IULIA STAMATESCU,  
VALENTIN SGÂRCIU  
AN ANALYSIS OF SECURITY AND COMMUNICATION CONSTRAINTS OF  
IPV6- BASED SENSOR NETWORKS

October 24, 15:30-17:00, **ECAI Afternoon sessions**

**October 24, 15:30-17:00, ECAI sessions**

**October 24, 15:30-17:00, E- sessions**

**October 24, 17:00-17:30 Coffee break**

**October 24, 17:30-18:00, ECAI Closing Solemnity**

**October 24, 15:30-17:00, Electrical Engineering,  
“Conferences’ center” building, room 1**

Chairs: Chingiz Hajiyev, Beloiu Robert

15:30-15:45 YEVGENY SOMOV, CHINGIZ HAJIYEV  
IN-FLIGHT CALIBRATION OF MAGNETOMETERS AND LOW-COST SINS FOR  
SMALL LAND-SURVEY SATELLITE

15:45-16:00 ROBERT BELOIU, IONEL BOSTAN, MARIANA IORGULESCU,  
DYNAMIC ELECTRONIC MODEL FOR A DC MOTOR - SIMULATION AND  
EXPERIMENTAL VALIDATION

16:00-16:15 ROBERT BELOIU  
DYNAMIC DETERMINATION OF DC MOTOR PARAMETERS – SIMULATION  
AND TESTING

16:15-16:30 TANER MUTLU, CHINGIZ HAJIYEV  
FLIGHT TESTS, DATA COLLECTION, SYSTEM IDENTIFICATION AND  
PERFORMANCE ANALYSIS OF MULTICOPTER VEHICLE

16:30-16:45 EMRE UNEY, CHINGIZ HAJIYEV  
PARAMETER IDENTIFICATION BASED FAULT TOLERANT CONTROL  
AGAINST ACTUATOR FAILURES APPLIED TO UUV DYNAMICS

16:45-17:00 OKAN UYAR, HALIS ALTUN, N. SERDAR TUNABOYLU  
INDUCTION MOTOR DRIVE SYSTEM FOR CRANE POLYP MODERNIZATION

**October 24, 15:30-17:00 , special ECAI session - B,  
Young Researchers session - with technical support of IEEE-IAS-RO Chapter  
“Conferences’ center” building, room 2**

Chairs: Catalin Buiu, Lidia Dobrescu

15:30-15:45 MIRCEA RACEANU, ADRIANA MARINOIU, MIHAI CULCER,  
MIHAI VARLAM, NICU BIZON  
PREVENTING REACTANT STARVATION OF A 5 KW PEM FUEL CELL STACK  
DURING SUDDEN LOAD CHANGE

15:45-16:00 ANDREI I. BOGDAN, NICU BIZON, MIHAI OPROESCU  
ON THE CHAOTIC AND PERIODIC BEHAVIOR OF THE POWER CONVERTER  
PART I: THE MATHEMATICAL MODELING

16:00-16:15 ANDREI I. BOGDAN, NICU BIZON, MIHAI OPROESCU  
ON THE CHAOTIC AND PERIODIC BEHAVIOR OF THE POWER CONVERTER  
PART II: THE SIMULATION RESULT

16:15-16:30 FEHMI SEVILMIŞ, HULUSI KARACA  
SIMULATION AND ANALYSIS OF SVPWM BASED VSI FOR WIND ENERGY  
SYSTEMS

16:30-16:45 VICTOR ŞTEFAN ROMAN, CĂTĂLIN BUIU  
A SELF-ORGANIZING MAP BASED SOLUTION TO THE AUTOMATIC  
DETECTION OF METEOR ECHOES IN RADIO RECORDINGS

16:45-17:00 MIHAI GANSARI, CĂTĂLIN BUIU  
BUILDING A SLAM CAPABLE HETEROGENEOUS MULTI-ROBOT SYSTEM  
WITH A KINECT SENSOR

**October 24, 15:30-17.00, Workshop IWSSS 2014,  
“Conferences’ center” building, room 3**

Chairs: Dan Popescu, Emil Pricop

15 :30-15 :45 EMIL PRICOP, SANDA FLORENTINA MIHALACHE  
ASSESSING THE SECURITY RISKS OF A WIRELESS SENSOR NETWORK  
FROM A GAS COMPRESSOR STATION

15 :45-16 :00 GRIGORE STAMATESCU, DAN POPESCU, RADU DOBRESCU  
COGNITIVE RADIO AS SOLUTION FOR GROUND-AERIAL SURVEILLANCE  
THROUGH WSN AND UAV INFRASTRUCTURE

16 :00-16 :15 ANDREY V. TIMOFEEV, DMITRY EGOROV  
BIMODAL SYSTEM FOR SURVEILLANCE OF SUPER-EXTENDED OBJECTS

16 :15-16 :30 PAVOL SOKOL  
LEGAL ISSUES OF HONEYNET’S GENERATIONS

16 :30-16:45 DORU NASUI, ALEXANDRA CERNIAN, VALENTIN SGARCIU,  
DORIN CARSTOIU  
CLOUD-BASED MOBILE ASSET MANAGEMENT SOLUTION

16:45-17:00 JAOUHAR FATTAHI, MOHAMED MEJRI, HANANE HOUMANI  
SECRECY BY WITNESS-FUNCTIONS ON INCREASING PROTOCOLS

**October 24, 15:30-17:00, E –session  
“Conferences’ center” building, room 5**

Chairs: Corina Savulescu, Mihai Oproescu

15 :30-17:00 SYED SAFDAR HUSSAIN, SYED SAJJAD HAIDER ZAIDI,  
UNDERWATER MAN-MADE OBJECT PREDICTION USING LINE DETECTION  
TECHNIQUE

15 :30-17:00 I. E. NICOLAE, G. M. UNGUREANU, R. STRUNGARU  
ICA ANALYSIS OF REAL AND MOTOR IMAGERY MOVEMENTS IN A BRAIN-  
COMPUTER INTERFACE STIMULI SYSTEM

15 :30-17:00 ROOHOLLAH ETEMADI, NASROLLAH MOGHADAM CHARKARI  
A NEW HYBRID ALGORITHM BASED ON CLUSTERING TECHNIQUE FOR  
SOLVING EXAMINATION TIMETABLING PROBLEM

15 :30-17:00 ROOHOLLAH ETEMADI, ABOLFAZL VALIZADEH  
A NEW METHOD FOR CLUSTERING THE PERSIAN TEXTUAL DOCUMENTS  
BASED ON THE ONTOLOGY

15 :30-17:00 SAMAN RAJEBI, CHANGIZ GHOBADI  
RESCUE OF RADIATION PATTERN OF CONFORMAL ARRAY ANTENNA  
USING PHASE COMPENSATION

**October 24, 15:30-17:00, ECAI Poster session**

**“Conferences’ center” building, Poster Hall**

Chairs: Marian Raducu, Mircea Raceanu

15 :30-15:40 CRISTIAN MADALIN PANAIT, MARIANA JURIAN  
SYSTEM FOR ANALYSIS OF DRINKING-WATER QUALITY IN PITESTI TOWN

15 :40-15:50 HOARCĂ IOAN CRISTIAN, MARIAN RĂDUCU  
ENERGY EFFICIENCY ANALYSIS OF VARIOUS TOPOLOGIES, CONTROL  
TECHNIQUES AND TECHNOLOGIES USED FOR PHOTOVOLTAIC PART I: ON  
THE PV MODELING

15 :50-16:00 HOARCĂ IOAN CRISTIAN, MARIAN RĂDUCU  
ENERGY EFFICIENCY ANALYSIS OF VARIOUS TOPOLOGIES, CONTROL  
TECHNIQUES AND TECHNOLOGIES USED FOR PHOTOVOLTAIC PART II:  
MAXIMUM POWER POINT TRACKING ALGORITHMS

16 :00-16:10 HUSSEIN ALI SALAH  
ONTOLOGY DEVELOPMENT (OWL&UML) METHODOLOGY OF WEB- BASED  
DECISION SUPPORT SYSTEM FOR WATER MANAGEMENT

16 :10-16:20 NURETTIN ÇETINKAYA, HAMZA YAPICI  
WIND POWER ESTIMATION ALGORITHM USING ARTIFICIAL NEURAL  
NETWORKS CASE STUDY: EREĞLI

17:00-17:30 Coffee break, Discussions and Brokerage events

## **ECAI CLOSING CEREMONY**

October 24, 17:30-18:00, ECAI Closing Solemnity,  
“Conferences’ center” building, keynote room

### ***Closing speeches***

17:30-17:35 Nicu Bizon, Chair of ECAI 2014 and dean of the ECC Faculty,

17:35-17:40 Cristian Negrescu, Chair of ECAI 2014 and dean of the ETIT Faculty,

17:40-17:45 Mihai Oproescu, program chair of ECAI 2014

17:45-17:55 Time of closing speeches for the ECAI participants

**October 24, 18:00-20:00:**  
**Free time for shopping & sightseeing in Bucharest city**

**Saturday, October 25, 2014**

**9:00-17:00, ECAI trip - Tour of the Bucharest city**

Departure at 9.00, October 25, from the parking of "Conferences' center" building.  
Arrival will be at about 17.00, October 25.

**Participants' departure**

**Sunday, October 26, 2014**

**Participants' departure**

**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 literally 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.

**The Arch of Triumph**

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 Philharmonic.

**Manuc'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 Herastrau 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 Snagov, and can be accessed on a pedestrian bridge or by boat.

### **Mogosoia Palace & Brancovenesc Museum**

Located in the village of the same name on the shore of Mogosoia Lake, this palace reflects the Brancovenesc architectural style, featuring traditional Romanian staircase balconies, arcades and columns. Built by the Walachian prince Constantin Brancoveanu between 1698 and 1702 as a summer residence, the palace features a beautiful Venetian-style loggia on the facade facing the lake and a balcony with intricate Brancovenesc-style carvings overlooking the main courtyard. Today, the palace houses the **Brancovenesc Museum** with exhibits of valuable paintings, wood and stone sculptures, gold and silver embroideries, rare books and precious manuscripts. Inside the complex, there is also a church built in 1688 and decorated by a team of Greek artists. The original interior murals have been well-preserved, including a painting showing Constantin Brancoveanu with his wife, Maria, and their four sons and seven daughters, all wearing royal dress.





## ECAI 2014, October 23 – October 26, 2014, Timetable and Program

Date	Time	Session or activity	Location	
October 22	20:30-22:00	<b>ECAI Welcome cocktail</b>	“Conferences’ center” building	
October 23	8:00-8:50	<b>Authors Registration</b>	“CD” - “Conferences’ center” building,	
	9:00-9:40	<b>ECAI Opening Ceremony</b>	“Conferences’ center” building, Room KN	
	9:40-12:10	<b>ECAI KEYNOTE LECTURES I</b>	“Conferences’ center” building, Room KN	
	11:00-11:30	<b>Coffee break &amp; Brokerage events</b>	“Conferences’ center” building,	
	12:15-12.45	RT1: ANSYS Electromagnetics – A short tutorial of applications	“Conferences’ center” building, Room 1	
		RT2: Lifelong Learning Programs in Engineering Education: IWLLPEE’14	“Conferences’ center” building, Room 2	
		RT3: Research & Technological Transfer & Business	“Conferences’ center” building, Room 3	
	12:15-14.00	<b>Brokerage events</b>	“Conferences’ center”, Poster Hall	
	14:00-15.30	<b>Lunch</b>	“R” – ECAI restaurant	
	15:30-17:00	<b>ECAI Afternoon sessions</b>		
		Workshop WAITS 2014	“Conferences’ center” building, room 1	
		Bio-medical applications	“Conferences’ center” building, room 2	
		Workshop IWFEED 2014	“Conferences’ center” building, room 3	
		Workshop IWAE 2014 - A	“Conferences’ center” building, room 4	
	17:00-17:30	<b>Coffee break &amp; Brokerage events</b>	“Conferences’ center” building,	
	17:30-19:30	<b>Concert of Traditional Japanese Music</b>	“Conferences’ center” building, Room KN	
	19:30-20:30	<b>Concert of Traditional Romanian Music</b>	“Conferences’ center” building, Room KN	
	20.30-23.00	<b>ECAI Welcome dinner</b>	“R” – ECAI restaurant	
	October 24	9:00-9:30	<b>Authors Registration</b>	“CD” - “Conferences’ center” building,
		9:30-11:00	<b>ECAI KEYNOTE LECTURES II</b>	“Conferences’ center” building, Room 1
11:00-11:30		<b>Coffee Break &amp; Brokerage events</b>	“Conferences’ center” building,	
11:30-14:00		<b>ECAI morning sessions</b>		
		Electronic Circuits & Equipment	“Conferences’ center” building, room 1	
		Software & Computer Applications	“Conferences’ center” building, room 2	
		Young Researchers session - A	“Conferences’ center” building, room 3	
13:00-14:00		Workshop IWAE 2014 - B	“Conferences’ center” building, room 4	
		Workshop IWSSS: poster session	“Conferences’ center”, Poster Hall	
14:00-15:30		<b>Lunch</b>	“R” – ECAI restaurant	
15:30-17:00	<b>ECAI Afternoon sessions</b>			
	Electrical Engineering	“Conferences’ center” building, room 1		
	Young Researchers session - B	“Conferences’ center” building, room 2		
	Workshop IWSSS 2014	“Conferences’ center” building, room 3		
	ECAI E-session	“Conferences’ center” building, room 4		
	ECAI Poster session	“Conferences’ center”, Poster Hall		
17:00-17:30	<b>Coffee Break&amp; Brokerage events</b>	“Conferences’ center” building		
17:30-18:00	<b>ECAI Closing Solemnity</b>	“Conferences’ center” building, Room KN		
18:00-20:00	<b>Free time (shopping &amp; sightseeing)</b>			
20:00-23:00	<b>ECAI Gala Dinner</b>	“R” – ECAI restaurant		
October 25	9:00 – 17:00	<b>ECAI Trip</b>	Departure at 9.00, October 25, from the parking of “Conferences’ center” building. Arrival will be at about 17.00, October 25.	
October 26		<b>Participants departure</b>		

4th Workshop on Automotive and Intelligent Transport Systems – WAITS 2014

2nd International Workshop on Systems Safety & Security - IWSSS 2014

1st International Workshop on Applied Electronics – IWAE 2014

1st International Workshop on Finite Elements in Electrical Engineering – IWFEED 2014

1st International Workshop Lifelong Learning Programs in Engineering Education – IWLLPEE 2014

“Conferences’ center” building is located at close to the Politehnica University of Bucharest - Rectorship building.

GPS Coordinates: Latitude : 44.433413 | Longitude : 26.057666; Latitude : N 44° 26' 0.285" | Longitude : E 26° 3' 27.596"

“R” – ECAI restaurant “Pui de Urs” is located on Street Economu Cezărescu 42, Bucharest 060754;

6<sup>th</sup> INTERNATIONAL CONFERENCE  
on  
ELECTRONICS, COMPUTERS and ARTIFICIAL INTELLIGENCE  
ECAI 2014, October 23 – October 25, 2014

## Financial & technical sponsorship



### PAPERS PUBLISHING

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

The selected papers will be free published in the FETC Scientific Bulletin – Series: *Electronics and Computer Science* Journal (ISSN 1453-1119) and other sponsorship journals, after those papers will be further reviewed as normal.

**Proceedings' Editors: Nicu Bizon and Cristian Negrescu**

**Text processing: Mihai Oproescu**

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Beloiu Robert

Cioc Bogdan

Bostan Ionel

### Local Organizing Committee – ETIT Faculty:

Adriana Florescu

Lidia Dobrescu

Conference web site: <http://ecai.ro/>; E-mail: [ecai@upit.ro](mailto:ecai@upit.ro) ;  
Tel +40 348 453 201, Fax +40 348 453 200