8th International Conference on Energy and Environment 2017

ENERGY SAVED TODAY IS ASSET FOR FUTURE

FINAL PROGRAM

VENUE





The University POLITEHNICA of Bucharest (UPB) is the largest and most prolific technical university in Romania. Its traditions are connected to the founding of the first Romanian technical school in 1818 by Gheorghe Lazar. However, the legacy of our institution, developed across two centuries through the effort of the nation's most important schoolmasters and through generations of students, is only a part of the complex community and ethos our university.

At a time when the world urgently needs more people who understand science and engineering, we offer the power of practical problem-solving to companies and institutions around the globe, in the effort to explore a new model of university activity — enhancing communities through science. In order to face these complex challenges, our university uses the power of our academic and student community in order to generate a sound educational environment and to develop cutting-edge research. In fact, our entire educational and even research-development policy is done with the participation of our entire community.

Our mission has always been thought over as a blend of education, research and innovation - which, in our vision, represented a key towards a knowledge-based society and economy. But as we enter in our 200th year of existence, our community is truly brimming with ideas and energy.

Initiatives across the university seem to converge towards an even greater sense

of community and a large common purpose: servicing our nation and the world through solutions to the global challenges. From clean energy to better traffic, from smarter cities and enterprises to the future of the internet, UPB aims at deploying the convergence of the life, physical, and engineering sciences as a catalyst for new solutions.

With this vision in mind, we are entering the 8th edition of the International Conference on Energy and Environment, with the mindset of finding solutions to one of the most ardent challenges of our generation - energy.

As always, the conference aims to respond to some of the important questions in the rapidly developing fields of power engineering and environmental engineering, and to inspire both research studies and practical applications through promoting interaction among scientists from universities, research institutions, and industry. Through this event we hope to build a stronger community of scientists, develop new partnerships and help society with genuine solutions to everyday problems.

Academy of Romanian Scientists



The Academy of Romanian Scientists is a national forum of scientific consecration, which brings together leading representatives of science.

The Academy of Romanian Scientists is the successor and only heir of the Academy of Sciences of Romania (1936-1948) and of the Association of Romanian Scientists, founded in 1956, and which in 1996 changed its

name in Academy of Romanian Scientists.

The main goals of AOSR are to promote, develop, support, and protect science in all its forms, through actions and methods, be they direct, indirect or adjacent. The main objectives of AOSR are:

- To promote at national level interdisciplinary research in natural, engineering, and applied sciences, as well as medical disciplines, etc. The annual organisation of two national interdisciplinary conferences.
- To initiate international contacts by creating links with academic bodies, research and higher education institutions from abroad, and also with Romanian scientists from abroad and foreign scholars.
- To develop an adequate framework where scientists from different fields might meet, thereby contributing, through information, to the creation of interdisciplinary teams with a view to solving complex issues.
- To promote young researchers, by supporting their participation in scientific events in the country and abroad, and by supporting them in obtaining scholarships, etc.
- To pen, on a contractual basis, through specialised structures, scientific research papers, to participate in governmental and nongovernmental scientific research programmes, to prepare reviews, bibliographic references and summaries.
- To provide annual awards to the best books published in various fields of science and culture.

The structure of AOSR comprises 13 specialised scientific sections and eight branches located in university towns or other cities with significant scientific potential: Bucharest – headquarters -, Braşov, Cluj-Napoca, Constanţa, Iaşi, Piatra-Neamt, Târgoviște, Timișoara, and one branch in New York (USA).

AOSR has a Publishing House and a Library and under its aegis units of scientific

research and the Foundation "Scientia" are operating. AOSR is composed of 40 honorary members (2 of whom are members of the Romanian Academy), 133 full members (including 12 members of the Romanian Academy), and 65 corresponding members, selected on the basis of internationally recognised criteria of scientific and cultural visibility. It further includes 35 Romanians from the Diaspora and 62 foreign members, outstanding personalities of the international scientific life.

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CIEM 2017 AT-A-GLANCE FULL PROGRAM

Thursday 19 October 2017

09:00-10:00	Opening Ceremony Room AN 010 (Rectorat Building)				
10:00-11:00	Tra	ansfer to Conference Cent	tre		
10:00-16:00	Registration Conference Centre				
10:00-11:00	Coffee break				
11:00-12:30	Technical Sessions Power Systems (1) Hall - 2.1	Technical session Environmental Impact (1) Hall – 2.2	Technical session Energy Efficiency (1) Hall – 2.3		
	Technical session ②Hydro Power Plants (1) Hall – 3.1	Technical session Nuclear Power Energy Hall – 3.2			
12:30-14:00	Lunch				
14:00-15:30	Technical Sessions Power Systems (2) Hall – 2.1 Technical session ②Hydro Power Plants (2) Hall – 3.1	Technical session Environmental Impact (2) Hall – 2.2	Technical session Energy Efficiency (2) Hall – 2.3		
15:30-16:00	Coffee break				
16:00-18:00	Technical Sessions Power Systems (3) Hall – 2.1 Technical session ②Hydro Power Plants (3) Hall – 3.1	Technical session Environmental Impact (3) Hall – 2.2	Technical session Energy Efficiency (3) Hall – 2.3		

Friday 20 October 2017

9:00 – 10:30	Technical session Renewable Energies (1) Hall – 2.1	Technical session 2 Fluid Mechanics and Applications (1) Hall – 2.2	Technical session Energy & Environment for Buildings Hall – 3.1		
	Technical session Smart Cities Hall – 2.3				
10:30-11:00	Coffee break				
11:00-12:30	Symposium "Wind Engineering: Actuality and Perspectives" Co-organized with Romanian Wind Engineering Association Hall – 3.2				
	Technical session Renewable Energies (2) Hall – 2.1	Technical session ②Fluid Mechanics and Applications (2) Hall – 2.2	Technical session Fossil Fuels Power and Heat Generation Hall – 2.3		
12:30-14:00	Lunch				
	Technical session Renewable Energies (3) Hall – 3.2				

AT-A-GLANCE FULL PROGRAM

Wednesday 18 October 2017

Hotel NOVOTEL Bucharest City Centre - 37B Calea Victoriei

19:00 - 20:30 Welcome Cocktail

Thursday 19 October 2017

University Politehnica of Bucharest - 313 Splaiul Independentei

Room AN 010 (Rectorat Building)

09:00 - 10:00**Opening Ceremony**

Conference Centre

10:00 - 16:00Registration

10:00 - 11:00Coffee Break

11:00 - 12:30 **Technical Sessions**

- Power Systems (part 1)
- Environmental Impact (part 1)
- Energy Efficiency (part 1)
- Hydro Power Plants (part 1)
- Nuclear Power Energy

12:30 - 14:00Lunch

14:00 - 15:30 **Technical Sessions**

- Power Systems (part 2)
- Environmental Impact (part 2)
- Energy Efficiency (part 2)
- Hydro Power Plants (part 2)

15:30 - 16:00Coffee Break

16:00 - 18:00 **Technical Sessions**

- Power Systems (part 3)
- Environmental Impact (part 3)
- Energy Efficiency (part 3)
- Hydro Power Plants (part 3)

Restaurant "Clubul Diplomaţilor" - 2B, Şoseaua Bucureşti-Ploieşti 2B

20:00 - 24:00 Galla Dinner

Friday 20 October 2017

University Politehnica of Bucharest - 313 Splaiul Independentei

Conference Centre

Technical Sessions 09:00 - 10:30

- Renewable Energies (part 1)
- Fluid Mechanics and Applications (part 1)
- Energy & Environment for Buildings
- **Smart Cities**

10:30 - 11:00 Coffee Break

11:00 - 12:30 **Technical Sessions**

- Renewable Energies (part 2)
- Fluid Mechanics and Applications (part 2)
- Fossil Fuels Power and Heat Generation

11:00 - 12:30Symposium "Wind Engineering: Actuality and Perspectives"

Co-organized with Romanian Wind Engineering Association

12:30 - 14:00 Lunch

14:00 - 15:30 **Technical Session**

Renewable Energies (part 3)

POWER SYSTEMS (1)

THURSDAY 19 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 2.1

SESSION CHAIRS: MARCEL ISTRATE, MARIACRISTINA ROSCIA

- **ID058** ADVANCED CONTROL OF A MODULAR MULTILEVEL HIGH VOLTAGE DIRECT CURRENT CONVERTER - Ioan C. Damian, Mircea Eremia, Lucian Toma
- ID061 MODELING QUADRATURE BOOSTER IN POWER SYSTEM STATE ESTIMATION IN RECTANGULAR COORDINATE SYSTEM - Tomasz Okoń, Kazimierz Wilkosz
- ID092 THE BEHAVIOR OF HIGH VOLTAGE INSULATORS DURING THE UP-AND-DOWN PROCEDURE - Marian Costea, Ileana Băran
- ID109 ENERGY STORAGE FOR REACHING 100% CO2 FREE AND 100% RES PRELIMINARY CASE STUDY FOR ROMANIA - Mihai Sanduleac, Lucian Toma, Constantin Bulac, Mircea Eremia, Nicolae Golovanov, Mihaela Albu, Stefan Gheorghe, Catalin Chimirel, Radu Porumb
- **ID018** POWER SYSTEM HARMONICS AND INTERHARMONICS ANALYSIS USING SYNCHRONOUS REFERENCE FRAMES AND FREQUENCY ADAPTIVE MOVING AVERAGE WINDOWS - Ebrahim Balouji, Ozgul Salor
- **ID056** IMPROVING PREDICTIVE MAINTENANCE FOR HVDC TRANSMISSION SYSTEMS THROUGH ANALYTIC HIERARCHY PROCESS - Dana-Alexandra Ciupăgeanu, Sorina Costinaș

POWER SYSTEMS (2)

THURSDAY 19 OCTOBER 2017 (14:00 – 15:30)

Location: Conference Centre - Hall 2.1

SESSION CHAIRS: CALIN MUNTEANU, ION TRISTIU

- ID012 MEASUREMENT CAMPAIGN AND EXPERIMENTAL RESULTS OF AN ISLANDED MICROGRID - Alessandro Labella, Daniele Mestriner, Fabio Pampararo, Renato Procopio
- **ID132** INTEGRATION OF PHOTOVOLTAICS IN A SUSTAINABLE IRRIGATION SYSTEM FOR AGRICULTURAL PURPOSES - Nicolae Badulescu, Ion Tristiu
- ID021 ALGORITHM FOR OPTIMAL CONFIGURATION OF ELECTRIC NETWORKS - Lucian Ioan Dulau, Dorin Bica, Karoly Ronay
- **ID037** EMBEDDED MONITORING AND MANAGEMENT SOFTWARE UNIT FOR DISTRIBUTED GENERATION SYSTEM IN ELECTRIC NETWORKS - Karoly Ronay, Dorin Bica, Lucian Ioan Dulau
- ID013 OPTIMUM LOCATION AND SIZE OF CAPACITOR BANKS TO REDUCE LOSSES IN POWER DISTRIBUTION NETWORKS USING GENETIC ALGORITHM -Andrei Ioaneş, Radu Tîrnovan
- **ID075** THE TRAINING MODEL OF 110 KV STEP-DOWN SUBSTATION IN 1/10 SCALE - Alexander O. Egorov, Anastasia A. Larionova, Stanislav A. Eroshenko, Alexandra I. Khalyasmaa

POWER SYSTEMS (3)

THURSDAY 19 OCTOBER 2017 (16:00 – 18:00)

Location: Conference Centre - Hall 2.1

SESSION CHAIRS: DARIO ZANINELLI, MIHAI GAVRILAS

- **ID017** PRICE BASED UNIT COMMITMENT FOR BIDDING STRATEGIES IN TURKISH MARKET UNDER UNIT AND SYSTEM CONSTRAINTS - Ali Okuslug, Ali Nezih Guven, Osman Bulent Tor, Adela Bara, Simona Vasilica Oprea
- **ID088** EFFICIENCY ASSESSMENT OF THE METHODS OF POWER LOSS
- DISTRIBUTION BETWEEN ELECTRICITY MARKET PARTICIPANTS Alexandra I. Khalyasmaa, Nikita Y. Korobeinikov, Stanislav A. Eroshenko, Kirill Y. Korobeynikov
- ID131 LOAD CURVES MODELLING USING ALGEBRAIC POLYNOMIALS Ion Tristiu, Constantin Ghinea, Constantin Bulac, Sorina Costinas
- ID099 DISTRIBUTED SYNTHETIC INERTIA CONTROL IN POWER SYSTEMS -Harold R. Chamorro, Andres C. Sanchez, Amund Øverjordet, Fernando Jimenez, Francisco Gonzalez-Longatt, Vijay K. Sood
- ID107 DESIGN AND SIMULATION OF PI-TYPE CONTROL FOR THE BUCK BOOST CONVERTER - Minh Quan Duong, Gabriela Nicoleta Sava, Marco Mussetta, Mircea Scripcariu, Van Tan Nguyen
- **ID027** IMPROVEMENT OF DIFFERENTIAL PROTECTION PERFORMANCE BY EXTERNAL FAULTS ASSOCIATED WITH A CURRENT TRANSFORMER SATURATION - Feras Mahfoud, George Cristian Lazaroiu, Tarek Kherbek, Tammam Hayder
- **ID063** THE INTERPHASE POWER CONTROLLER. STATIC AND DYNAMIC ASPECTS - Lev Kalinin, Dmitrii Zaitsev, Mihai Tirsu, Danila Kaloshin, George Cristian Lazaroiu

• ID045 - CONCEIVING AND DESIGNING A HELMHOLTZ TYPE COIL TO SIMULATE THE MAGNETIC FIELD ORIENTATION IN THE TERRESTRIAL ATMOSPHERE -Lucian Mândrea, Zoltan Marosy, Marian Costea, Cristian Constantinescu

ENVIRONMENTAL IMPACT (1)

THURSDAY 19 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 2.2

SESSION CHAIRS: KONSTANTINOS PAPATHEODOROU, DIANA LACRAMIOARA ROBESCU

- **KS** GROUNDWATER PROTECTION AND MANAGEMENT: CURRENT STATUS AND FUTURE TRENDS - KONSTANTINOS PAPATHEODOROU
- ID008 A PROCEDURE TO DEVELOP ELEVATION-AREA-CAPACITY CURVES OF RESERVOIRS FROM DEPTH SOUNDING SURVEYS - Daniela E. Gogoase Nistoran, Andrei Dragomirescu, Cristina Sorana Ionescu, Mihai Schiaua, Nicolae Vasiliu, Mihail Georgescu
- ID101 DETERMINATION OF OXYGENATION PERFORMANCES OF AERATION EQUIPMENT - Corina Boncescu, Diana Lacramioara Robescu
- **ID115** WATER FLOW STRUCTURE OPTIMIZATION BETWEEN THE SCREENINGS AND GRIT REMOVALS IN A WASTEWATER PLANT - Mihnea Sandu, Florin Bode, Paul Danca, Ionut Voicu

ENVIRONMENTAL IMPACT (2)

THURSDAY 19 OCTOBER 2017 (14:00 – 15:30)

Location: Conference Centre - Hall 2.2

SESSION CHAIRS: ADRIAN ADAM, COSMIN MARCULESCU

- **ID032** THE ENERGY METHOD TO PROTECT THE ENVIRONMENT FROM WASTE IN THE LEATHER INDUSTRY - Bondrea (Nastase) Dana Andreya, Gheorghe Lazaroiu, Mocanu Raluca, Adrian Stan, Mihaescu Lucian, Balanescu Liviu, Berbece Viorel
- ID084 AN INTEGRATED ASSESSMENT OF ENERGY RECOVERY OPTIONS FROM MUNICIPAL SOLID WASTE - Constantin Stan, Tiberiu Apostol, Constantin Streche
- ID123 TOTAL AND SUSPENDED SOLIDS REMOVAL EVALUATION IN EFFLUENT FROM ANAEROBIC BIOREACTOR AND EFFLUENT FROM CYCLIC OZONATION-BIOTREATMEMNT IN DYEING INDUSTRY WASTEWATER TREATMENT - Amir Hajiali
- ID133 LOCAL ENVIRONMENTAL IMPACT OF WOOD COMBUSTION IN AGRO-TOURISM STRUCTURES - Lucian Ionel Cioca, Ramona Giurea, Ioan Achim Moise, Ilaria Precazzini, Marco Ragazzi, Elena Cristina Rada
- ID125 AMBIENT AIR POLLUTION DUE TO COMBUSTION OF OLIVE CAKE AS A SOURCE OF ENERGY - Kamel K. Al-zboon
- ID077 SERIOUS GAMING: ENVIRONMENTAL IMPACT THROUGH MATH -Corina Grosu, Marta Grosu

ENVIRONMENTAL IMPACT (3)

THURSDAY 19 OCTOBER 2017 (16:00 – 18:00)

Location: Conference Centre - Hall 2.2

SESSION CHAIRS: ADRIAN ADAM, DIANA LACRAMIOARA ROBESCU

- **KS** IMPROVING STUDENTS' KNOWLEDGE AND SKILLS RELATED TO ENVIRONMENTAL ENGINEERING USING INNOVATIVE LEARNING AND TRAINING SOLUTIONS - Diana Robescu
- **ID070** ACOUSTIC MEASUREMENTS FOR TWO CONFIGURATIONS OF ACOUSTIC CASINGS WITH APPLICATIONS ON AMBIENT NOISE POLLUTION -Laurentiu TACUTU, Adrian POCOLA, Mugur BALAN, Vlad IORDACHE
- ID076 LIFE CYCLE ENVIRONMENTAL ASSESSMENT OF THE PRODUCTION OF RARE EARTH ELEMENTS FROM GOLD PROCESSING - Bogusław Bieda, Katarzyna Grzesik, Ryszard Kozakiewicz, Karolina Kossakowska
- ID082 POLLUTION ASSESSMENT OF HISTORICALLY CONTAMINATED SOILS WITH PETROLEUM PRODUCTS - Delia Micaela Dumitru, Silvia Crognale, Diana Mariana Cocârță, Adrian Badea
- **ID087** EVALUATION OF THE EFFICIENCY OF COMBINING THE ELECTROCHEMICAL REMEDIATION SND SOIL FLUSHING METHODS IN THE SOIL CONTAMINATION WITH DIESEL - Constantin Streche, Tudor Baracu, Tiberiu Apostol, Diana Mariana Cocarta, Constantin Stan
- **ID097** RESEARCH ON THERMAL COMFORT AND INDOOR AIR POLLUTION IN A PASSENGER CAR - Andreea Vartires, Iolanda Colda, Sanda Mirela Toropoc
- ID141 THE HYDROPOWER DEVELOPMENTS AND THE PROTECTED AREAS -Dana Criznic, Carmen Nap, Maria Isabela Nedelcu
- ID124 OIL IN WATER DISPERSION: EFFECTS OF DISPERSED PHASE VISCOSITY AND AGITATION SPEED IN THE STR - Mahsa Jafari, Mohammad Reza Khosravi Nikou, Mohsen Motavassel

ENERGY EFFICIENCY (1)

THURSDAY 19 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 2.3

SESSION CHAIRS: JOCELYN BONJOUR, HORIA NECULA

- KS WHY AND HOW SHOULD WE STUDY BOILING HEAT TRANSFER CLOSE TO THE TRIPLE POINT? - Jocelyn Bonjour
- **ID074** NEW TECHNOLOGY IN COMFORT COOLING APPLICATIONS: EXPERIMENTAL STUDY ON PARAFFIN IN WATER EMULSION - Virginia Vasile, Jocelyn Bonjour, Rémi Revellin, Philippe Haberschill, Adrian Badea, Horia Necula
- ID100 STUDY OF THERMAL ENERGY STORAGE USING PHASE CHANGE MATERIALS - Paul Dobrescu, Constantin Ionescu, Horia Necula
- ID035 ASPECTS REGARDING FOULING OF THE HEAT EXCHANGER COILS AND FILTERS ON THE PERFORMANCE OF PACKAGED AIR TO AIR HVAC SYSTEM -Marian Voinea, Horia Necula, Ioan Bitir-Istrate
- ID137 ENERGY EFFICIENT SINGLE DETACHED DWELLINGS BEYOND ONTARIO BUILDING CODE - Dragos Paraschiv, Rory McDowall, Chad Thurlow

ENERGY EFFICIENCY (2)

THURSDAY 19 OCTOBER 2017 (14:00 – 15:30)

Location: Conference Centre - Hall 2.3

SESSION CHAIRS: MICHEL FEIDT, RODICA FRUNZULICA

- KS EFFICACITE ENERGETIQUE ET CHALEURS FATALES Michel Feidt
- ID010 ENERGY SAVING INVESTIGATION OF HEAT AND ENERGY RECOVERY VENTILATION UNITS - Miklos Kassai
- ID102 HEAT LOSSES IN DISTRICT HEATING NETWORK IN DYNAMIC REGIMES -Sanda Mirela Toropoc, Rodica Frunzulica, Radu Mihai Valentin
- ID020 ENERGY EFFICIENCY STUDY OF THE PAPER MAKING DRYING PROCESS -Ioana Diaconescu, Roxana Patrascu, Eduard Minciuc

ENERGY EFFICIENCY (3)

THURSDAY 19 OCTOBER 2017 (16:00 – 18:00)

Location: Conference Centre - Hall 2.3

SESSION CHAIRS: SVILEN RACHEV, EDUARD MINCIUC

- KS THERMO-ECONOMIC AND ENVIRONMENTAL EVALUATION OF HEAT PUMP IN COMPARISON TO CONVENTIONAL HEATING SYSTEMS - Alojz Poredos
- **ID011** STUDY THE EFFECTS OF NO NOMINAL CONDITIONS ON THE PERFORMANCE OF HIGH EFFICIENCY INDUCTION MOTOR - Svilen Rachev, Lyubomir Dimitrov, Ivaylo Ivanov, Konstantinos Karakoulidis
- ID026 IMPROVING ENERGY EFFICIENCY FOR PUBLIC LIGHTING OF PEDESTRIAN CROSSINGS - Ionut Ciobanu, Nicolae Golovanov, Cristian George Lazaroiu
- **ID049** EXPERIMENTAL VALIDATION DATA FOR CFD OF HEAT TRANSFER PROCESSES IN A NEW THERMOSYPHON HEAT EXCHANGER - Iliya Iliev, Angel Terziev, Ivan Beloev, Veselka Kamburova
- **ID050** INCREASING ENERGY EFFICIENCY OF THE GASES PRODUCTION PROCESS IN BAKERY OVENS - Chelmenciuc Corina
- ID078 TOP-DOWN MODEL FOR THE CALCULATION OF ENERGY SAVINGS -Adrian Andrei Adam, Anca Badea

HYDRO POWER ENGINEERING (1)

THURSDAY 19 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 3.1

SESSION CHAIRS: MICHEL CERVANTES, SANDA-CARMEN GEORGESCU

- KS FLOW MEASUREMENTS IN LOW HEAD MACHINES Michel J. Cervantes
- KS FLOATING VERTICAL AXIS WIND TURBINE OWLWIND PROJECT Jean-Luc Achard, Guillaume Maurice, Guillaume Balarac, Stéphane Barre
- ID044 POWER PREDICTION METHOD APPLICABLE TO HORIZONTAL AXIS
 HYDROKINETIC TURBINES Rareş-Andrei Chihaia, Florentina Bunea, Gabriela
 Oprina, Lucia-Andreea El-Leathey
- ID039 DISCHARGE MEASUREMENT IN LOW HEAD HYDRO POWER PLANTS Thomas Staubli, André Abgottspon
- ID068 IMPLEMENTATION OF THE STANDARD WALL FUNCTION IN NUMERICAL COMPUTATION SOFTWARE - Ionuţ Stelian Grecu, Diana Maria Bucur, Georgiana Dunca, Valeriu Nicolae Panaitescu, Michel J. Cervantes

HYDRO POWER ENGINEERING (2)

THURSDAY 19 OCTOBER 2017 (14:00 - 15:30)

Location: Conference Centre - Hall 3.1

SESSION CHAIRS: ORAZIO GIUSTOLISI, ANDREI-MUGUR GEORGESCU

- KS LEAKAGE AND ENERGY MANAGEMENT USING WDNETXL SYSTEM Orazio Giustolisi
- ID079 OPTIMAL PUMP SCHEDULING STRATEGIES ACCOUNTING FOR BACKGROUND LEAKAGES AND ENERGY COST - Luigi Berardi, Daniele Biagio Laucelli, Antonietta Simone, Orazio Giustolisi
- ID105 REDUCING BACKGROUND LEAKAGES AND ENERGY CONSUMPTION IN
 A REAL WDN BY OPTIMAL DMA DESIGN Daniele Biagio Laucelli, Luigi Berardi,
 Orazio Giustolisi, Cătălin-Gabriel Andrei
- ID103 HYDRAULIC BALANCING OF THE COOLING WATER SYSTEM OF A
 PUMPED STORAGE POWER PLANT Sanda-Carmen Georgescu, Diana Maria
 Bucur, Georgiana Dunca, Andrei-Mugur Georgescu, Alina Alexandrina Nicolae,
 Petre-Ovidiu Ciuc
- ID122 ENERGY CONSUMPTION DUE TO PIPE BACKGROUND LEAKAGE IN A
 DISTRICT WATER DISTRIBUTION SYSTEM IN BUCHAREST Andrei-Mugur
 Georgescu, Sorin Perju, Remus Alexandru Mădulărea, Sanda-Carmen
 Georgescu

HYDRO POWER ENGINEERING (3)

THURSDAY 19 OCTOBER 2017 (16:00 – 18:00)

Location: Conference Centre - Hall 3.1

SESSION CHAIRS: CARMEN-ANCA SAFTA, FLORENTINA BUNEA

- ID121 HBMOA COMPUTATIONAL EFFICIENCY ASSESSED FOR A HYDROPOWER OPTIMIZATION PROBLEM - Eliza Isabela Tica, Angela Neagoe, Sanda-Carmen Georgescu, Silvia Nastase
- **ID118** ASSESSMENT OF THE POSSIBILITY TO MODEL A TOE DAM HYDROPOWER PLANT USING DEDICATED SOFTWARE - Alexandru Moldoveanu, Eliza-Isabela Tica, Bogdan Popa, Florica Popa
- **ID057** MODIFIED HONEY BEES MATING ALGORITHM FOR OPTIMAL WEEKLY OPERATION OF A PUMPED STORAGE PLANT - Eliza Isabela Tica, Radu Popa
- **ID127** ASSESSING THE OPPORTUNITY TO USE THE INFRARED THERMOGRAPHY METHOD FOR PREDICTIVE MAINTENANCE OF HYDROSTATIC PUMPS - Alexandru-Daniel Marinescu, Corneliu Cristescu, Teodor Costinel Popescu, Carmen-Anca Safta
- ID128 IMAGE PROCESSING APPROACH FOR ESTIMATING THE DEGREE OF SURFACE DEGRADATION BY CORROSION - Elena Crina Cringasu, Andrei Dragomirescu, Carmen-Anca Safta
- ID140 STRUCTURED APPROACH TO INCIDENTS IN HYDROELECTRIC POWER PLANT - Laurentiu Iovan, Gabriela Pricopie
- **ID142** TECHNOLOGICAL OWN CONSUMPTION. CASE STUDY: HIDROELECTRICA - SH BISTRITA - Raluca Paraschiva Balmus

NUCLEAR POWER ENERGY

THURSDAY 19 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 3.2

SESSION CHAIRS: TEODOR CHIRICA, DANIEL DUPLEAC

- **ID023** ASPECTS REGARDING THE STEAM GENERATOR TUBE PLUGGING AT THE SUPPORT PLATE ENTRANCE USING A HIGH SPEED MECHANICAL DEFORMATION PROCEDURE - Tiberiu Gyongyosi, Dumitru Puiu, Bogdan Corbescu, Gheorghe Deloreanu, Ilie Prisecaru
- **ID034** NEUTRONIC CALCULATION AND COMPARISON OF TWO PROPOSED MOLTEN SALT REACTOR GEOMETRIES - Stafie Catalin Alexandru, Dominic Eugeniu Moraru
- ID052 REVIEW OF THE INTERMITTENT BUOYANCY INDUCED FLOW CORE COOLING FOR A CANDU TYPE REACTOR - Marian lacobet
- **ID062** ON SOME ASPECTS OF THE MULTIUNIT PROBABILISTIC SAFETY ANALYSES MODELS - Dan Serbanescu
- **ID064** KEY PARAMETERS IN THE EARLY STAGES OF A STATION BLACKOUT ANALYSIS IN A CANDU 6 REACTOR USING RELAP/SCDAPSIM - R. M. Nistor-Vlad, D. Dupleac, I. Prisecaru
- ID071 DETERMINATION OF AMERICIUM AND PLUTONIUM ISOTOPES OUT OF SPENT NUCLEAR FUEL SOLUTION USING ELECTRODEPOSITION TECHNIQUE -Petre Marina, Lazar Cosmina, Man Ion, Mincu Marin, Prisecaru Ilie
- ID108 LOOP FOR STUDYING THE FLOW OF LEAD IN A THERMAL-HYDRAULIC CIRCUIT. TECHNICAL DESIGN - Cojocaru Virgil, Hororoi Marian, Ionescu Viorel, Prisecaru Ilie

RENEWABLE ENERGIES (1)

FRIDAY 20 OCTOBER 2017 (9:00 – 10:30)

Location: Conference Centre - Hall 2.1

SESSION CHAIRS: SERGIU NICOLAIE, CARMEN ANCA SAFTA

- ID019 FLEXIBLE HARMONIC DOMAIN MODEL OF A PHOTOVOLTAIC SYSTEM FOR STEADY-STATE ANALYSIS - Uriel Vargas, George Cristian Lazaroiu, Abner Ramirez
- **ID033** IMPLEMENTATION OF PRIMARY FREQUENCY REGULATION ON FULLY RATED WIND TURBINE GENERATORS - Andrea Bonfiglio, Francisco M. Gonzalez-Longatt, Alessandro Labella, and Renato Procopio
- ID055 SINGLE STAGE SINGLE PHASE GRID CONNECTED PHOTOVOLTAIC SYSTEM WITH CURRENT RIPPLE MITIGATION BASED ON NONLINEAR CONTROL - Pablo R. Rivera, Michael L. McIntyre, Mohammad Mohebbi, Joseph Latham
- ID126 A DIRECT SENSITIVITY ANALYSIS OF A PIEZOELECTRIC ENERGY HARVESTER - Marius Stoia-Djeska, Florin Frunzulica, Carmen-Anca Safta
- ID066 NUMERICAL STUDY OF THE FLOW INSIDE A WIND TRAPPING SYSTEM -Matei-Razvan Georgescu, Alexandru Cezar Vladut, Costin Ioan Cosoiu, Andrei-Mugur Georgescu
- **ID060** EXPERIMENTAL VALIDATION OF A PERMANENT-MAGNET MICRO-WIND TURBINE GENERATOR WITH COUNTER ROTATING ROTORS -Marius Drancă, Mihai Chirca, Sorin Cosman, Florin Jurca, Ștefan Breban

RENEWABLE ENERGIES (2)

FRIDAY 20 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 2.1

SESSION CHAIRS: MIHAI VARLAM, VIRGIL DUMBRAVA

- ID091 SEQUENTIAL OPTIMIZATION OF A SOLAR STIRLING SYSTEM Borcila Bogdan, Michel Feidt, Monica Costea, Stoian Petrescu
- **ID081** DESIGN OPTIMIZATION OF A FLYWHEEL USING SOLIDWORKS MODELING AND SIMULATION CAPABILITIES - Ionel Chirita, Nicolae Tanase, Simona Emilia Apostol, Cristinel Ilie, Marius Popa
- **ID085** FUNCTIONAL ASSESSMENT SYSTEM OF SOLAR POWER PLANT ENERGY PRODUCTION - Denis A. Snegirev, Rustam T. Valiev, Stanislav A. Eroshenko, Alexandra I. Khalyasmaa
- **ID040** THE SOLAR RADIATION INFLUENCE ON THE MICROCLIMATE IN THE HEALING TUNNELS/ROOMS FOR GRAFTED VEGETABLES - Ionel Lucian Dumitrescu, Adrian-Gabriel Ghiaus
- ID053 THE EVOLUTION OF GREEN CERTIFICATE SUPPORT SCHEME FOR PROMOTING RENEWABLE ENERGY IN ROMANIA - Roxana Nicoloiu, Irina Voda, Ioana Ionel

RENEWABLE ENERGIES (3)

FRIDAY 20 OCTOBER 2017 (14:00 – 15:30)

Location: Conference Centre - Hall 2.1

SESSION CHAIRS: CAMELIA STANCIU, COSMIN MARCULESCU

- ID083 STORAGE TANK MASS CONTROL FOR OPTIMUM SOLAR-POWERED ABSORPTION COOLING SYSTEM OPERATION - Camelia Stanciu, Dorin Stanciu, Beatrice Tanase, Adina Gheorghian, Catalina Dobre
- **ID096** MATHEMATICAL MODELING AND SIMULATION OF A THERMAL SYSTEM USING SOLAR RADIATION AS ENERGY SOURCE - Sanda Mirela Toropoc, Rodica Frunzulica, Petrica Daniel Toma
- ID086 Thermal Energy Production from Closed Geothermal Reservoirs Using Reinjection - Codruta Calina Bendea, Cornel Antal, Florica Popa, Florin Georgescu, Bogdan Popa
- **ID104** BIOMASS O.R.C. COGENERATION A CASE STUDY Stefan-Dominic Voronca, George Darie, Roxana Patrascu
- **ID111** BIOGAS PRODUCTION MODELING AND SIMULATION IN LOW END CONDITIONS - Laura Alexandra Stanescu, Lacramioara Diana Robescu, Harry **Futselaar**
- ID119 SOLUTION FOR EFFICIENT COMBUSTION OF THE BIOGAS OBTAINED DEPENDING ON THE CHARACTERISTICS OF THE ANAEROBIC FERMENTATION OF ANIMAL PROTEIN - Madalina Mavrodin, Gheorghe Lazaroiu, Lucian Mihaescu, Ionel Pisa, Gabriel Negreanu, Elena Pop, Viorel Berbece, Andreya Bondrea
- ID136 TRANSITORY REGIME OF WOOD BIOMASS AIR GASIFICATION Raluca Nicoleta Tirtea, Iustina Stanciulescu, Gabriela Ionescu, Cora Bulmau, Cosmin Marculescu, Dorin Boldor

FLUID MECHANICS AND APPLICATIONS (1)

FRIDAY 20 OCTOBER 2017 (9:00 – 10:30)

Location: Conference Centre - Hall 2.2

SESSION CHAIRS: ROLAND KÁDÁR. CORNELIU BALAN

- **ID072** NUMERICAL STUDY OF THE SECONDARY PHASE DISPERSION IN A PARTICLE-LADEN FLOW - Matei-Razvan Georgescu, George-Madalin Chitaru, Costin Ioan Cosoiu, Ionut Brinza, Catalin Nae
- ID129 EXPERIMENTAL INVESTIGATION ON THE BEHAVIOR OF A TALL AND SLENDER BUILDING PLACED IN A TURBULENT BOUNDARY LAYER -Elena-Alexandra Chiulan, Ion Popa, Alexandru Cezar Vladut, Costin Ioan Cosoiu, Andrei-Mugur Georgescu, Anton Anton, Mircea Degeratu
- ID065 HYDRAULIC PHYSICAL SCALE MODELING OF A COMPLEX SEWAGE SYSTEM - Nicolae-Ioan Alboiu, Madalin Mihailovici, Valentin Zaharia
- **ID067** COUPLING OF A THERMO-MECHANICAL MODEL FOR NTE TO A FLUID SOLVER - Rosanne Fay, Yan Delauré, Georgiana Tirca - Dragomirescu, Kevin O'Toole
- KS FLOW STABILITY OF VISCOUS AND VISCO-ELASTIC FLUIDS Roland Kádár

FLUID MECHANICS AND APPLICATIONS (2)

FRIDAY 20 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 2.2

SESSION CHAIRS: CORNELIU BALAN, ADRIAN CIOCANEA

- **ID046** JETTING FLOW AND DIFFUSION PROCESS IN THE VICINITY OF CONVEX SURFACES - Diana Broboana, Cristina Sorana Ionescu, Stefan Mugur Simionescu, Corneliu Balan
- **ID059** INFLUENCE OF SURFACE STRUCTURE ON IMPINGING JETS AERODYNAMICS - Stefan-Mugur Simionescu, Nilesh Dhondoo, Corneliu Balan
- ID025 FLOW FOCUSING AT THE INTERFACE OF TWO IMMISCIBLE LIQUIDS -Claudiu Patrascu, Alina Chipaila, Ana Loboda, Corneliu Balan
- **ID089** IMPROVING THE HYDRAULIC EFFICIENCY OF CENTRIFUGAL IMPELLERS BY USING REVERSE ENGINEERING - CASE STUDY OF A CENTRIFUGAL PUMP -Adrian Ciocanea, Sanda Budea, IonuT Sisman
- **ID095** INFLUENCE OF THE VOLUTE DESIGN ON PERFORMANCES OF A CENTRIFUGAL COMPRESSOR - Oana Dumitrescu, Gheorghe Fetea, Bogdan Gherman

ENERGY & ENVIRONMENT FOR BUILDINGS

FRIDAY 20 OCTOBER 2017 (9:00 – 10:30)

Location: Conference Centre - Hall 3.1

SESSION CHAIRS: ILINCA NASTASE, MIHNEA SANDU

- **ID112** TRANSPIRED SOLAR COLLECTORS ENERGY EFFICIENCY IMPROVEMENT USING INERTIAL MATERIALS - Andrei-Stelian Bejan, Abdelouhab Labihi, Cristiana Croitoru, Daniel Bordianu, Hassan Chehouani
- **ID116** THE INFLUENCE OF THE INLET ANGLE OF VEHICLE AIR DIFFUSER ON THE THERMAL COMFORT OF PASSENGERS - Ilinca Nastase, Paul Danca, Florin Bode, Amina Meslem
- ID117 NUMERICAL AND EXPERIMENTAL STUDY FOR THE DEVELOPMENT OF AN ADVANCED MODEL OF AN OPERATING ROOM WITH SURGEONS AND PATIENT - Florin Bode, Laurentiu Tacutu, Cristiana Croitoru, Ilinca Nastase
- **ID042** EXTERIOR SHADES ENERGY EFFICIENCY FOR A MIXT, OFFICE -RESIDENTIAL BUILDING IN BUCHAREST - Ioana Udrea, Romeo Traian Popa
- **ID041** THERMAL BRIDGES EVALUATION FOR A PASSIVE HOUSE BUILDING IN ROMANIAN SOUTHERN CLIMATE - Ioana Udrea, Romeo Traian Popa, Emilia-Cerna Mladin, Mihaela-Stela Georgescu, Cristina Victoria Ochinciuc
- ID014 BEHAVIOR OF CONFINED MASONRY WALLS IN DUAL BUILDINGS -Sorina Constantinescu
- ID015 IMPORTANCE OF MASONRY INFILL WALLS FOR FRAMED BUILDINGS -Sorina Constantinescu

SMART CITIES

FRIDAY 20 OCTOBER 2017 (9:00 – 10:30)

Location: Conference Centre - Hall 2.3

SESSION CHAIRS: PHILIPPE DUQUENNE, CRISTIAN LAZAROIU

- ID036 THE IMPORTANCE OF BUILDING CLUSTERS TRADING IN SMART CITIES -M. Teliceanu, N. Golovanov, G.C. Lazaroiu, V. Dumbrava
- ID047 SEWER SYSTEM CALIBRATION FOR SMART CITIES Alexandra Georgiana Ioan, Anton Anton
- ID054 LOAD PROFILES IN SMART CITIES Petronela-Raluca Mincu, Tudor Boboc
- **ID093** STOCHASTIC PROGRAMMING APPROACH FOR TEP OPTIMIZATION CONSIDERING RES INTEGRATION IN ELECTRICITY MARKET - Catalina Alexandra Sima, George Cristian Lazaroiu, Virgil Dumbrava, Mariacristina Roscia, Dario Zaninelli, Philippe Duquenne
- ID110 ELECTRIC VEHICLE USE IN PUBLIC FLEETS: THE CASE OF THE GENOA UNIVERSITY - Federica Foiadelli, Michela Longo, Federico Delfino, Stefano Bracco, Domenico Spina, Tom Dhaene
- ID134 SMART METERING PLATFORM AS A SOLUTION FOR DATA ANALYSIS -Negrea Liviu Andrei, Vladimir Tanasiev, Mihai Sanduleac, Adrian Badea
- ID007 TAGGS OF PRICE IN MANAGING DEFICITS Arthur Dambischi

FOSSIL FUELS POWER AND HEAT **GENERATION**

FRIDAY 20 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 2.3

SESSION CHAIRS: DIANE THOMAS, CRISTIAN DINCA

- ID043 POST-COMBUSTION CO2 CAPTURE PROCESS APPLIED TO FLUE GASES WITH HIGH CO2 CONTENTS: MICRO-PILOT EXPERIMENTS AND SIMULATIONS -Sinda Laribi, Lionel Dubois, Guy De Weireld, Diane Thomas
- ID022 CO2 ADSORPTION PROCESS SIMULATION IN ASPEN HYSYS Slavu Nela. Cristian Dinca, Adrian Badea
- ID029 COMPACT SOLUTIONS FOR HEAT RECOVERY FROM COGENERATION MODULES ENGINES - CASE STUDY FOR A 500 KW(E) UNIT - Antonescu Nicolae, Stanescu Dan-Paul
- ID051 INCREASING ENERGY EFFICIENCY OF A COMBINED HEAD AND POWER PLANT USING THE HEAT STORAGE - Petrică Rădan, Victor-Eduard Cenușă, Florin Alexe, Elena Arion, Andrei-Adrian Adam
- ID098 INCREASING THE OPERATIONAL EFFICIENCY OF A HEAT ENGINE PLANT THROUGH IMPLEMENTATION OF TRIGENERATION - Mihaela Norisor, Andreea Badicu, Eduard Minciuc, Horia Necula
- ID114 PERFORMANCE IMPROVEMENT OF A ROMANIAN COGENERATION PLANT THROUGH OPTIMAL COVERAGE OF HEAT LOAD - Diana Tutica, Stefan-Dominic Voronca, Eduard Minciuc, Roxana Patrascu, George Darie
- ID113 SPECIAL SITUATIONS REGARDING THE TRANSITION OF DISTRICT HEATING SYSTEMS. TECHNICAL AND ECONOMIC ANALYSIS REGARDING THE USE OF DIFFERENT TECHNOLOGIES IN TRANSITION SOURCES - Serban Iftime, Marcel Istrate

SYMPOSIUM "WIND ENGINEERING: ACTUALITY AND PERSPECTIVES"

Co-organized with Romanian Wind Engineering **Association**

FRIDAY 20 OCTOBER 2017 (11:00 – 12:30)

Location: Conference Centre - Hall 3.2

MODERATORS: MIHAI IANCOVICI (ARIV PRESIDENT), ANDREI-MUGUR GEORGESCU (ARIV VICE-PRESIDENT)

- THE ROMANIAN ASSOCIATION FOR WIND ENGINEERING ARIV (www.ariv.ro) -Mihai Iancovici
- RECENT WIND-RELATED DAMAGE IN ROMANIA Ileana Calotescu
- DATABASE-ASSISTED APPROACHES IN THE ANALYSIS AND DESIGN OF BUILDINGS FOR WIND LOADS - Mihai Iancovici
- COMPUTATIONAL WIND ENGINEERING Razvan Mahu, Cristina Oprea
- BOUNDARY LAYER WIND TUNNEL AT THE TECHNICAL UNIVERSITY OF CIVIL ENGINEERING BUCHAREST - Alexandru Cezar Vladut
- WIND ENERGY CONVERSION STUDIES AT THE AERODYNAMICS AND WIND ENGINEERING LABORATORY - Costin Ioan Cosoiu
- INVITATION TO JOIN ARIV ARIV Board