

Green
and Smart Energy

6th International Conference on Energy and Environment 2013

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International Conference on Energy and Environment

The International Conference on ENERGY and ENVIRONMENT (CIEM) is organised by the University POLITEHNICA of Bucharest, Institute for Studies and Power Engineering and WEC-Romanian National Committee in collaboration with the main Romanian companies, agencies and associations from the energy and environment sectors. The Conference is held under the auspices of Academy of Romanian Scientists.

The aims of CIEM is to respond to challenges in the rapidly developing fields of Power Engineering and Environmental Engineering, and to inspire both research studies and practical applications by promoting interaction among scientists from universities, research institutions, and industry.

Like the previous events, CIEM will provide an ideal venue for the development of new partnerships.

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6th International Conference on Energy and Environment 2013

**Green and
smart energy**

Final Program



Conference Program

Thursday 7 th November 2013						
09:00 - 10:00	Registration					
10:00 - 11:00	Opening Ceremony AN 010 (Rectorat Hall)					
11:00 - 11:15	Coffee Break					
11:15 - 12:30	Opening Ceremony AN 010 (Rectorat Hall)					
12:30 - 14:00	Lunch Break					
14:00 - 15:30	Session 1 Fluid Mechanics and Applications (1) Room II.1	Workshop Integration of stochastic energy in power systems Room III.2	Session 2 Environmental Impact Room III.1	Session 3 Power Systems & Smart Grids (1) Room II.2	Session 4 Energy Efficiency Room II.3	Session 5 Renewable Energies (1) Room "Sala Consiliu"
15:30 - 16:00	Coffee Break					
16:00 - 18:00	Session 1 Fluid Mechanics and Applications (1) Room II.1	Workshop Integration of stochastic energy in power systems Room III.2	Session 2 Environmental Impact Room III.1	Session 3 Power Systems & Smart Grids (1) Room II.2	Session 4 Energy Efficiency Room II.3	Session 5 Renewable Energies (1) Room "Sala Consiliu"
Friday 8 th November 2013						
09:00 - 10:30	Round Table The role of CFD applications in teaching fluid mechanics Room II.1		Round Table Smart and green technologies for water industry Room III.2	Session 6 Power Systems & Smart Grids (2) Room II.2	Session 7 Nuclear-Power Engineering Room "Sala Consiliu"	Session 8 Fossil Fuels Clean Technologies Room II.3
10:30 - 11:00	Coffee Break					
11:00 - 12:30	Round Table The role of CFD applications in teaching fluid mechanics Room II.1		Round Table Smart and green technologies for water industry Room III.2	Session 6 Power Systems & Smart Grids (2) Room II.2	Session 7 Nuclear-Power Engineering Room "Sala Consiliu"	Session 8 Fossil Fuels Clean Technologies Room II.3
12:30 - 14:00	Lunch Break					
14:00 - 15:30	Session 9 Fluid Mechanics and Applications (2) Room II.1		Water Essays Competition 2013 Room III.2		Session 10 Hydro-Power Engineering Room II.2	Session 11 Renewable Energies (2) Room "Sala Consiliu"
15:30 - 16:00	Coffee Break					
16:00 - 18:00	Session 9 Fluid Mechanics and Applications (2) Room II.1		Water Essays Competition 2013 Room III.2		Session 10 Hydro-Power Engineering Room II.2	Session 11 Renewable Energies (2) Room "Sala Consiliu"

All sections will be hosted by the New Library UPB

Conference Program

Opening Ceremony (AN 010)

Thursday, 7.11.2013, 10:00 - 12:30 (room AN 010)

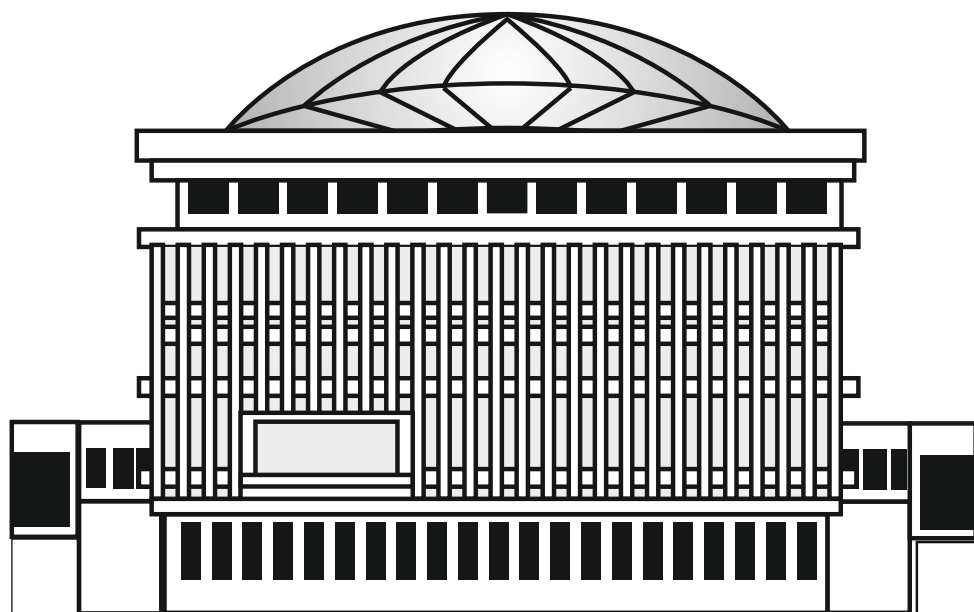
Conference Opening:

Adrian Badea, *President CIEM 2013*

Welcome Messages

Invited speakers:

- Cristian Secoșan (*Petrom*)
- Slav Slavov (*WEC*)
- Iulian Iancu (*CNR - CME*)



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Conference Program

Sections

Renewable Energies

Thursday, 7.11.2013, 14:00 - 18:00 (room "Sala Consiliu")

Friday, 8.11.2013, 14:00 - 18:00 (room "Sala Consiliu")

Energy Efficiency

Thursday, 7.11.2013, 14:00 - 18:00 (room II.3)

Power Systems & Smart Grids

Thursday, 7.11.2013, 14:00 - 18:00 (room II.2)

Friday, 8.11.2013, 09:00 - 12:30 (room II.2)

Fossil Fuels Clean Technologies

Friday, 8.11.2013, 09:00 - 12:30 (room II.3)

Environmental Impact

Thursday, 7.11.2013, 14:00 - 18:00 (room III.1)

Fluid Mechanics and Applications

Thursday, 7.11.2013, 14:00 - 18:00 (room II.1)

Friday, 8.11.2013, 14:00 - 18:00 (room II.1)

Hydro-Power Engineering

Friday, 8.11.2013, 14:00 - 18:00 (room II.2)

Nuclear-Power Engineering

Friday, 8.11.2013, 09:00 - 12:30 (room "Sala Consiliu")

Round Tables

The role of CFD applications in teaching fluid mechanics

Friday, 8.11.2013, 09:00 - 12:30 (room II.1)

Smart and green technologies for water industry

Friday, 8.11.2013, 09:00 - 12:30 (room III.2)

Workshop

Integration of stochastic energy in power systems

Thursday, 7.11.2013, 14:00 - 18:00 (room III.2)

Water Essays Competition 2013

Friday, 8.11.2013, 14:00 - 18:00 (room III.2)

Renewable Energies (1)

Chairmen:

Adrian BADEA (Romania), Marco RAGAZZI (Italy)

Time period: 14:00-15:30

Invited paper:

Renewable energy in Romania: coping with fast capacity growth – Eric STAB (France)

Potential of biogas from municipal waste - Gerardo COLLAGUAZO (Ecuador), Adrian Badea (Romania)

Energetic characteristics of willow cultivated in Romania for energy production - Elena POP (Romania), Lucian MIHĂESCU (Romania), Arpad DOMOKOS (Romania), Gheorghe LAZĂROIU (Romania), Ionel PISA (Romania)

Small power steam turbines for biomass power plants - Viorel BERBECE (Romania), Gheorghe LĂZĂROIU (Romania), Gabriel-Paul NEGREANU (Romania), Lucian MIHAESCU (Romania)

Solid organic waste and power generation - Constantin STAN (Romania), Adrian BADEA (Romania), Tiberiu APOSTOL (Romania), Cosmin MARCULESCU (Romania)

Assessing the burning and thermal characteristics for low quality gaseous bio-fuels - Cosmin MĂRCULESCU (Romania), Victor CENUȘĂ (Romania), Florin ALEXE (Romania)

Time period: 16:00-18:00

Biomass cogeneration systems with steam cycle for convective dryers with energy independence and negative balance of CO₂ - Murad EROL (Romania)

Energy potential, technical conversion and the emissions from the biomass plant - Ștefan Gabriel ADRIAN (Romania), Tudor PRISECARU (Romania), Ionel PISA (Romania)

Overview of carbon dioxide - hydrogen reaction for methane production as renewable energy sources - Elena CARCADEA (Romania), Adriana MARINOIU (Romania), Mihai VARLAM (Romania), Mircea RACEANU (Romania)

Extending the battery lifetime of a fuel cells hybrid electric vehicle - Mihai CULCER (Romania), Mihai VARLAM (Romania), Mariana ILIESCU (Romania), Mircea RACEANU (Romania), Adrian ENACHE (Romania), Ioan STEFANESCU (Romania)

Management strategy for load compliance of a PEM fuel cells power station - Mariana ILIESCU (Romania), Mircea RACEANU (Romania), Mihai CULCER (Romania), Adrian ENACHE (Romania), Mihai VARLAM (Romania), Ioan STEFANESCU (Romania)

Power-to-gas: overview and perspective - Mihai BALAN (Romania), Adrian BADEA (Romania)

Study of heating and cooling of a low-energy house by an earth to air heat exchanger - Maximilien FONTAINE (France), Constantin IONESCU (Romania), Horia NECULA (Romania)

Thursday 7.11.2013

Thursday 7.11.2013

Renewable Energies (2)

Chairmen:

Philippe DUQUENNE (France), Mihai VARLAM (Romania)

Time period: 14:00-15:30

Invited paper:

***Thermal Energy of the Oceans : Technical Study and Economical Issues* - Philippe DUQUENNE (France), Virgil DUMBRAVA (Romania)**

Dynamic models for renewable power generation - Alice FRĂSINAR (Romania)

Efficient conversion of wave energy into electricity and active banks protection - Viorel SERBAN (Romania), Ana Maria ANDRONACHE (Romania), Madalina Angela ZAMFIR (Romania), George Alexandru CIOCAN (Romania), Marian ANDRONE (Romania), Gabriela LUNGESCU (Romania), Laura Elena SERBAN (Romania), Liviu Dan POSTOLACHE (Romania), Viorela Maria POSTOLACHE (Romania)

A new concept of renewable power plant, SWPP-STO - Viorel SERBAN (Romania), Ana Maria ANDRONACHE (Romania), Raluca DINCA (Romania), Marian ANDRONE (Romania), Madalina Angela ZAMFIR (Romania), George Alexandru CIOCAN (Romania), Carmen Anca SAFTA (Romania), Laura Elena SERBAN (Romania), Viorela Maria POSTOLACHE (Romania), Liviu Dan POSTOLACHE (Romania)

Floating hydro-solar-wind power plant with renewable energy storage and reuse - Viorel SERBAN (Romania), Ana Maria ANDRONACHE (Romania), Raluca DINCA (Romania), Madalina Angela ZAMFIR (Romania), George Alexandru CIOCAN (Romania), Bogdan POPA (Romania), Laura Elena SERBAN (Romania), Viorela Maria POSTOLACHE (Romania)

Time period: 16:00-18:00

Identification of potential sites for small hydropower plants - Eliza TICĂ (Romania), Bogdan POPA (Romania)

Experiencing renewable energy: design and implementation of a mobile educational laboratory - Daniel ROSNER (Romania), Mircea CĂTUNEANU (Romania), Răzvan TĂTĂROIU (Romania), Carmen SAFTA (Romania), Mihai BUCICOIU (Romania)

Market heating and cooling from renewable energy sources – Adrian STAN (Romania)

Solar energy exploitation for charging vehicles - Morris BRENNAN (Italy), Alberto DOLARA (Italy), Federica FOIADELLI (Italy), Linda GAFARO (Italy), Sonia LEVA, Michela LONGO (Italy)

An overview regarding drafting and implementation at some of the first photovoltaic power plant erected into Romania - Florin OAE (Romania), Elena ANGHEL (Romania), Iulian BĂRBOIANU (Romania), Răzvan NEAGOE (Romania), Basarab GUZUN (Romania)

Energy Efficiency

Chairmen:

Michel FEIDT (France), Cristian GHIAUȘ (France), Horia NECULA (Romania)

Time period: 14:00-15:30

Invited paper:

Energy – Environment – Economy – From the necessity to develop a multicriteria optimization - Michel FEIDT (France)

Greece: How the building sector is planned to contribute to the achievement of the national targets for "20-20-20" - The role of the skilled workforce Charalambos MALAMATENIOS (Greece), Georgia VEZIRYIANNI (Greece), Haris DOUKAS (Greece), Alexandra PAPADOPOULOU (Greece), Lefteris SISKOS (Greece)

A life-cycle cost analysis involving thermal insulation of a passive house Tudor BARACU (Romania), Madalina ANASTASIU (Romania), Diana TUTICA (Romania), Roxana GRIGORE (Romania), Cristian DINCA (Romania), Adrian BADEA (Romania)

An evolution of the concept of energy efficient house Constantin IONESCU (Romania), Tudor BARACU (Romania), Adrian BADEA (Romania)

Theoretical evaluations of the natural infiltration of the air in buildings Tudor BARACU (Romania), Catalin TEODOSIU (Romania), Marius-Victor BIRSAN (Romania), Adrian BADEA (Romania)

District Heating and Cooling Towards Primary Energy Saving Alojz POREDOS (Slovenia)

Dynamic Simulation of energy consumption for a passive house in Romanian Climate conditions Vladimir TANASIEV (Romania), Mihail-Bogdan CARUTASIU (Romania), Mihaela Norișor (Romania), Diana Tuțică (Romania), Adrian BADEA (Romania)

Time period: 16:00-18:00

Invited paper:

Christian GHIAUȘ (France)

Passive houses in Romania Gabriela Elena VLAD (Romania), Constantin IONESCU (Romania), Horia NECULA (Romania)

The energy performance contract – modern tool for promoting energy Bogdan ANTON (Romania)

Energy Efficiency Evaluation Using the Audit Roxana PĂTRAȘCU (Romania), Eduard MINCIUC (Romania), Mihaela NORIȘOR (Romania), Diana TUȚICĂ (Romania)

Solutions for the energy supply of a shopping center Virginia VASILE (Romania)

New system for recovery the unused energy from gas expansion Alexandru SERBAN (Romania), Nicolae TOMA (Romania), Adrian UNGUREANU (Romania), Cristian SLUJITORU (Romania), Valentin PETRESCU (Romania)

Liquid cooling for improved LED performance Luigi COLOMBO (Italy), Alberto DOLARA (Italy), Roberto FARANDA (Italy), Stefania GUZZETTI (Italy), Sonia LEVA (Italy), Andrea LUCCHINI (Italy)

Energy efficient ship design Costel UNGUREANU (Romania), Oana MARCU (Romania), Ovidiu IONAS (Romania)

High efficiency cogeneration and bio-cogeneration in Romania - Costin IONESCU (Romania)

Power Systems & Smart Grids (1)

Chairmen:

Roberto NAPOLI (Italy), Mircea EREMIA (Romania), Marcel ISTRATE (Romania), Adrian Pană (Romania)

Time period: 14:00-15:30

Invited paper:

Advanced distribution system modelling and analysis: making it SiNGULAR - Gianfranco CHICCO (Italy)

Improved state estimation algorithm in modern power systems - Valeriu Iulian PRESADĂ (Romania), Lucian TOMA (Romania), Mircea EREMIA (Romania)

Power system transient stability improvement using series facts devices - Costel CONSTANTIN (Romania), Mircea EREMIA (Romania), Constantin BULAC (Romania)

Influence of renewable sources on Romanian power system - Claudia Elena BOAMBĂ (Romania), Mircea EREMIA (Romania), Ion TRIȘTIU (Romania)

Fault response for grid connected OWPP with DFIGs analytical approach - Gabriela SAVA (Romania), Sorina COSTINAȘ (Romania), Nicolae GOLOVANOV (Romania)

Impact of the wind power plants to the setting of step 2 distance protection - Ionuț Ciprian BORĂSCU (Romania)

Dynamic simulation of double feed induction wind generators in the Romanian power system - Oana STĂNESCU (Romania), Mircea EREMIA (Romania), Constantin BULAC (Romania)

Time period: 16:00-18:00

Capacitive induced voltages in parallel transmission lines - Marian COSTEA (Romania), Ileana BĂRAN (Romania), Tudor LEONIDA (Romania)

Factors influencing the magnetic coupling between parallel circuits - Marian COSTEA (Romania), Ileana BĂRAN (Romania), Tudor LEONIDA (Romania)

Study regarding modelling photovoltaic arrays using test data in MATLAB/SIMULINK - Ioan Viorel BANU (Romania), Marcel ISTRATE (Romania), Dragoș MACHIDON (Romania), Răzvan PANTELIMON (Romania)

Clustering based approach for customers' classification from electrical distribution systems - Gheorghe GRIGORAȘ (Romania), Elena-Crenguța BOBRIC (Romania)

Evaluation method for harmonic distortion and power losses of photovoltaic systems using LabView - Adrian STOICESCU (Romania), Paul PĂDURE (Romania), Cristinel HĂRĂGUȚĂ (Romania)

Problems of energy management in the insulated power systems - Al. DAȘU (Romania), Nicolae GOLOVANOV (Romania), Nicolae VASILIU (Romania)

Aplicații ale transformatei WAVELET în sistemele electrice de putere - Gabriel GHEORGHE (Romania), Nicolae VASILIU (Romania), Radu PUHALSCHI (Romania), Nicolae GOLOVANOV (Romania)

Thursday 7.11.2013

Thursday 7.11.2013

Power Systems & Smart Grids (2)

Chairmen:

Gianfranco CHICCO (Italy), Constantin BULAC (Romania), Călin MUNTEANU (Romania),
Maricel ADAM (Romania)

Time period: 9:00-10:30

Smart residential energy management methodology validated using high performance co-simulation tools – Ioana Raluca GAFTON (Romania), Davis MONTENEGRO (France), Seddik BACHA (France), Lucian TOMA (Romania)

Energy management system in the smart home - Ciprian PAUNESCU (Romania), Lucian TOMA (Romania), Constantin BULAC (Romania), Mircea EREMIA (Romania)

Trends on integrating of the electric vehicles in distribution networks - Mircea EREMIA (Romania), Andreea STEFANA (Romania)

Functions of a capacitive compensator in a smart distribution network – Adrian PANĂ (Romania), Alexandru BĂLOI (Romania), Florin MOLNAR-MATEI (Romania)

Software tool for voltage dips signal generator - Monica IOVAN (Romania), Florin MOLNAR-MATEI (Romania), Adrian PANĂ (Romania), Alexandru BĂLOI (Romania)

Future of power systems: smart grids and distributed generation - Lucian Ioan DULĂU (Romania), Mihail ABRUDEAN (Romania), Dorin BICĂ (Romania)

Small DSOS experiences of smart meters in Italy - Christoph LARCH (Italy), Rupert ROSANELLI (Italy), Elena Cristina RADA (Italy)

Time period: 11:00-12:30

Monitoring of long term thermal stress of electrical equipment - Alin DRAGOMIR (Romania), Maricel ADAM (Romania), Mihai ANDRUȘCĂ (Romania), Adrian COTRUȘ (Romania)

Monitoring and command system for medium voltage circuit breakers with sulfur hexafluoride - Adrian COTRUȘ (Romania), Maricel ADAM (Romania), Răzvan PANTELIMON (Romania), Mihai MOLODESCHI (Romania), Cătălin PANCU (Romania)

Power reactive criteria for load current symmetrization - Denisa RUȘINARU (Romania), Leonardo Geo MĂNESCU (Romania), Marius MERFU (Romania)

Design of wind farm layout for maximum wind energy capture - Gabriel BAZACLIU (Romania), George Cristian LAZAROIU (Romania), Virgil DUMBRAVA (Romania)

A backstepping control method for a nonlinear process – two coupled-tanks - Vasile CALOFIR (Romania), Valentin TANASA (Romania), Ioana FAGARASAN (Romania), Iulia STAMATESCU (Romania), Nicoleta ARGHIRA (Romania), Grigore STAMATESCU (Romania)

Multi-agent systems in substation protection - Sergiu Stelian ILIESCU (Romania), Daniel COSTIANU (Romania), Nicoleta ARGHIRA (Romania), Ioana FAGARASAN (Romania), Iulia STAMATESCU (Romania)

Fossil Fuels Clean Technologies

Chairman:

Carmencita CONSTANTIN (Romania), Adrian ADAM (Romania), Florin ALEXE (Romania)

Time period: 9:00-10:30

Invited paper:

A Bulgarian case study: Applying a techno-economic model for the UCG-CCS process - T. GORKA (Germany), N. NAKATEN (Germany), R. SCHLÜTER (Germany), Th. KEMPKA (Germany), N. HRISTOV (Bulgaria)

Sectorul energetic pe cărbune. Analiză comparativă între România și Grecia

CCS economic integration issues in a steam power power plant - Mihaela NORISOR (Romania), George DARIE (Romania), Victor CENUSA (Romania), Roxana PATRASCU (Romania)

Phase behaviour & thermophysical properties of systems containing carbon dioxide and their role in carbon capture and storage - Catinca SECUIANU (Romania), Cristian DINCA (Romania), Martin CISMONTI (Argentina)

The desulphurization process influence on MEA absorption capacity - Cristian DINCĂ (Romania), Adrian BADEA (Romania), Catinca SECUIANU (Romania)

IGCC potential and performance as a clean energy production option - Zoe KAPETAKI (Great Britain), Davide BOCCIARDO (Great Britain), Maria-Chiara FERRARI (Great Britain), Hyungwoong AHN (Great Britain), Stefano BRANDANI (Great Britain)

Contributions for the upgrade of a coal energy system in order to reduce pollution and increase quality of life – case study: SE ISALNITA - Adrian ADAM (Romania); George DARIE (Romania); Horia NECULA (Romania); Lucian MIHAESCU (Romania); Ion OPREA (Romania); Ion BARBIERU (Romania); Cristian MANDREAN (Romania); Viorel GHERGHINA (Romania)

Time period: 11:00-12:30

Cercetări privind strategia de dezvoltare a proiectelor de investiții din sectorul energetic cu impact semnificativ asupra schimbărilor climatice – Carmencita CONSTANTIN (Romania)

Cercetări privind elaborarea unui model pentru restructurarea durabilă a sectorului de producere a energiei electrice – Marian DOBRIN (Romania)

Optimization of Gas Turbine CHP Configurations for District Heating Systems - Diana TUȚICĂ (Romania), George DARIE (Romania), Mihaela NORISOR (Romania), Victor CENUȘĂ (Romania)

Modelling the off-design behaviour of a cogeneration non-reheat steam turbine, for selecting the revamp solution - Victor CENUȘĂ (Romania), Florin ALEXE (Romania)

The influence of HRG injection on the pulverized coal combustion - Ionel PÎȘĂ (Romania), Tudor PRISECARU (Romania), Gheorghe LAZĂROIU (Romania), Elena POP (Romania), Gabriel NEGREANU (Romania)

Aspects of the butanol use in the compression ignition engine of the automotive - Alexandru DOBRE (Romania), Constantin PANĂ (Romania), Nikolaos Cristian NUȚU (Romania), Nicolae NEGURESCU (Romania), Alexandru CERNAT (Romania), Iulius Daniel BONDOC (Romania)

Experimental researches of using LPG at a car Diesel engine - Nikolaos Cristian NUTU (Romania), Constantin PANA (Romania), Alexandru DOBRE (Romania), Nicolae NEGURESCU (Romania), Alexandru CERNAT (Romania), Iulius Daniel BONDOC (Romania)

Friday 8.11.2013

Friday 8.11.2013

Environmental Impact (1)

Chairmen:

Sergiu CALOS (Moldavia), Diana ROBESCU (Romania)

Time period: 14:00-15:30

Electrostatic separation. A Method to recycle plastic materials from end of life vehicles - Tamas R. TOTH (Romania), Viorica SAPLONȚAI (Romania), Daniel DOBREAN (Romania), Roman MORAR (Romania)

General overview of RECOLAND project from start to the end - Diana Mariana COCÂRȚĂ (Romania), Irina Aura ISTRATE (Romania), Talida Mirona OPREA (Romania), Cristina DUMITRESCU (Romania)

Behaviour of PCBs in remediation by oxygen free thermal treatments of an artificially contaminated soil - Cora BULMĂU (Romania), Diana COCÂRȚĂ (Romania)

Aeration efficiency for a leachate treatment plant - Ioana Corina MOGA (Romania), Gabriel PETRESCU (Romania), Bogdan NASARIMBA (Romania), Diana ROBESCU (Romania)

Industrial noise case study on environmental impact - Liviu SAIZESCU (Romania), Silviu Emil IONESCU (Romania), Marius DEACONU (Romania)

Solutions for qualitative and quantitative rainwater management - George – Lucian IONESCU (Romania), Octavian DONȚU (Romania), Paolo BERTOLA (Italy)

Theoretical analysis of installations for the mass transfer of hydrophobic organic contaminants from gas streams - Vincenzo TORRETTA (Italy), Ettore TRULLI (Italy)

Time period: 16:00-18:00

Innovative opportunities for the exploitation of the residues of the MSW treatment plants - Daniele BASSO (Italy), Marco RAGAZZI (Italy), Elena Cristina RADA (Italy), Luca FIORI (Italy)

Application of a novel hydrodynamic cavitation system in wastewater treatment plants - Michela LANGONE (Italy), Roberta FERRENTINO (Italy), Gabriella TROMBINO (Italy), Daan WAUBERT DE PUISEAU (Germany), Gianni ANDREOTTOLA (Italy), Elena Cristina RADA (Italy), Marco RAGAZZI (Italy)

Seeking underestimated pathways of human exposure to atmospheric pollutants - Marco SCHIAVON (Italy), Marco RAGAZZI (Italy), Elena Cristina RADA (Italy)

Application of a decision support system for sustainable river basin planning. A case study - Vincenzo TORRETTA (Italy), Sabrina COPELLI (Italy), Massimo RABONI (Italy)

Electro-oxidation treatment used for the remediation of organic polluted soils - Ana-Maria TICAN (Romania), Irina Aura ISTRATE (Romania)

Perspectives of the sensors sector for non conventional monitoring of NO₂ and other species of interest - Marco RAGAZZI (Italy), Dino ZARDI (Italy), Elena Cristina RADA (Italy), Lorenzo GIOVANNINI (Italy), Gabriela IONESCU (Romania), Marco SCHIAVON (Italy)

Critical analysis of anaerobic digester supernatant treatment - Elisa SBRISSA (Italy), Michela LANGONE (Italy), Paolo COSOLI (Italy), Gianni ANDREOTTOLA (Italy), Roberta FERRENTINO (Italy), Elena Cristina RADA (Italy), Marco RAGAZZI (Italy)

Economic viability of SRF co-combustion in cement factory - Elena Cristina RADA (Italy), Luca SQUAZARDO (Italy), Gabriela IONESCU (Romania), Adrian BADEA (Romania)

Environmental comparison of district heating from wood and waste - Ștefan-Ion CIORANU (Romania), Marco RAGAZZI (Italy), Elena Cristina RADA (Italy), Ana-Maria CIORANU (Romania), Mircea GRIGORIU (Romania), Tiberiu APOSTOL (Romania)

Environmental Impact (2)**Round Table: Smart and green technologies for water industry****Chairman:****Vladimir ROJANSCHI (Romania), Dan ROBESCU (Romania)****Time period: 9:00-10:30***Modelarea și simularea metanogenezei - Iuliana ROGOVEANU RADOSAVLEVICI (Romania)**Proper maintenance policies applied on wastewater treatment plants in order to reduce energy consumption - Andrei STOICESCU (Romania), Dan ROBESCU (Romania)**Experimental research on operating systems aeration used in biological treatment of the leachate - Mihai Cristian NECȘOIU (Romania), Dan Niculae ROBESCU (Romania)**Method to calibrate the analytic model of the rotating half bridge belonging to a circular settling tank - Emil OANTA (Romania), Gheorghe LAZAROIU (Romania), Cornel PANAIT (Romania), Tiberiu AXINTE (Romania), Anca-Elena DASCALESCU (Romania)**Analysis on energy efficiency in a wastewater treatment plant - Ileana-Irina PANAITESCU (Romania), Dan ROBESCU (Romania), Diana ROBESCU (Romania)**Efficient use of the pumps in the wastewater treatment plant - Ileana-Irina PANAITESCU (Romania), Alexandru-Andrei SCUPI (Romania), Viorel PANAITESCU (Romania), Mariana PANAITESCU (Romania)***Time period: 11:00-12:30***Influența temperaturilor negative asupra adâncimii de pozare și exploatarea rețelelor de apă - Sergiu CALOS (Moldavia)**Rules for correct use and operation of submersible mixers - Iustina STANCIULESCU (Romania), Denisa STANCU (Romania), Calin MINOIU (Romania)**Wastewater treatment plant Târgoviște in the context of sustainable development - Denisa STANCU (Romania), Iustina STANCIULESCU (Romania), Calin MINOIU (Romania)**Using simulation for optimizing biological nutrients removal design in wastewater plants - Elena MANEA (Romania), Diana ROBESCU (Romania)**Solutions for power consumption covering in a wastewater treatment plant - Aurel PRESURĂ (Romania), Dan ROBESCU (Romania)*

Friday 8.11.2013

Friday 8.11.2013

Fluid Mechanics and Applications (1)

Chairmen:

Sebastian MUNTEAN (Romania), Adrian CIOCĂNEA (Romania)

Time period: 14:00-15:30

Velocity profile measurements with uvp duo using two different environments for transducer - Adrian DAVID (Romania), Weerachon TREENUSON (Japan)

LDA velocity measurements for decelerated swirling flows with vortex rope in a cone - Alin I. BOSIOC (Romania), Sebastian MUNTEAN (Romania), Romeo F. SUSAN-RESIGA (Romania)

Automotive wing with active control of flow - Angel HUMINIC (Romania), Gabriela HUMINIC (Romania)

The calculus of the depression in swirling flow - Lucian MÂNDREA (Romania), Florentina BUNEA (Romania), Rareş CHIHAIA (Romania)

Using numerical simulation to determine the optimum placement for the split type air-conditioners - Liviu-Valentin BĂLĂNESCU (Romania), Cătălina Raluca MOCANU (Romania), Irina ZGAVAROGEA (Romania)

Time period: 16:00-18:00

Aerodynamics of small hawt with multiple blades - Sanda BUDEA (Romania)

Designing microfluidic devices using numerical modeling - Cătălin MĂRCULESCU (Romania), Cătălin Mihai BĂLAN (Romania), Andrei AVRAM (Romania), Marioara AVRAM (Romania)

Aspect ratio influence on topological vortex structure formed in microchannels - Cătălin Mihai BĂLAN (Romania), Cătălin MĂRCULESCU (Romania), Diana BROBOANĂ (Romania), Corneliu BĂLAN (Romania)

Energy efficiency – lightweight composite centrifugal rotor - Raluca VOICU (Romania), Sebastian VINTILA (Romania), Valeriu VILAG (Romania), Radu MIHALACHE (Romania)

New family of high delivery pressure screw compressors - Valentin PETRESCU (Romania), Nicolae TOMA (Romania), Adrian UNGUREANU (Romania), Cristian SLUJITORU (Romania), Alexandru ȘERBAN (Romania)

Aerodynamic resistance on fine bubble generators - Gabriela OPRINA (Romania), Gheorghe BĂRAN (Romania), Florentina BUNEA (Romania), Corina Alice BĂBUȚANU (Romania), Lucian MÂNDREA (Romania), Andrei VOINEA (Romania)

Theoretical and experimental research on increasing the efficiency of double stage centrifugal blowers - Andrei DRAGOMIRESCU (Romania), Adrian CIOCĂNEA (Romania)

Fluid Mechanics and Applications (2)

Chairman:

Daniela VASILIU (Romania), Ilinca NĂSTASE (Romania), Corneliu BĂLAN (Romania)

Time period: 14:00-15:30

Moving textures: simulation of a ring sliding on a textured liner - Hugo M. CHECO (Brazil), Roberto F. AUSAS (Brazil), Gustavo C. BUSCAGLIA (Brazil), Mohammed JAI (France), Jean-Paul CADALEN (France), Franck CHOUKROUN (France)

Thermo-Hydrodynamic Study of Refrigerant-Lubricated Bearings - Benyebka BOU-SAÏD (France), Mathieu GARCIA (France), Jérôme ROCCHI (France), Grégory GRAU (France)

The viscose liquid flow through cavity labyrinth seal - Moutasem Ibrahim ALKHATIB (Siria)

Flow around an immersed cylinder in the presence of free surface - Nicoleta TĂNASE (Romania), Diana BROBOANĂ (Romania), Corneliu BĂLAN (Romania)

Wall shear rate numerical prediction of an impinging cross-shaped jet at moderate Reynolds number - Florin BODE (Romania), Kodjovi SODJAVI (Romania), Amina MESLEM (France), Ilinca NĂSTASE (Romania)

Time period: 16:00-18:00

Challenges of using plain bearings in high pressure common rail pumps for diesel engines - Cristian ROȘU (Romania)

Waterhammer co-simulation with Matlab and LabVIEW in electrohydraulic control systems - Radu PUHALSCHI (Romania), Nicolae VASILIU (Romania), Constantin CĂLINOIU (Romania), Szilard FEHER (Romania)

Numerical simulation of the mechanical feedback servopumps by AMESim - Georgiana Claudia VASILIU (Romania), Daniela VASILIU (Romania), Nicolae VASILIU (Romania), Dragoș ION GUȚĂ (Romania)

Virtual Laboratory for Electrohydraulic Proportional Servovalves - Daniela VASILIU (Romania), Nicolae VASILIU (Romania), Constantin CĂLINOIU (Romania), Marius BONTOȘ (Romania), Bogdan MIHALESCU (Romania), Radu PUHALSCHI (Romania)

Numerical simulation of a nonlinear electrohydraulic amplifier - Constantin CĂLINOIU (Romania), Nicolae VASILIU (Romania), Cristi IRIMIA (Romania), Bogdan MIHALESCU (Romania)

Using Digital Electrohydraulic Servovalves in Fluid Control Systems - Alexandru GANZIUC (Romania), Nicolae VASILIU (Romania), Radu PUHALSCHI (Romania), Szilard FEHER (Romania)

Friday 8.11.2013

Friday 8.11.2013

Hydro-Power Engineering

Chairmen:

Anton ANTON (Romania), Sanda-Carmen GEORGESCU (Romania)

Time period: 14:00-15:30

Invited paper:

***Rotor-Stator interaction in Kaplan turbines during steady and transient operations* - Michel CERVANTES (Sweden)**

Experimental investigation of the non-uniform inflow generated by the symmetrical suction elbow of a large pump - Ionel DRĂGHICI (Romania), Alin BOSIOC (Romania), Sebastian MUNTEAN (Romania), Liviu E. ANTON (Romania)

In situ unsteady pressure measurements on the draft tube cone of the Francis turbine with air injection over an extended operating range - Sebastian MUNTEAN (Romania), Romeo SUSAN-RESIGA (Romania), Viorel CÂMPIAN (Romania), Cosmin DUMBRAVĂ (Romania), Adrian CUZMOȘ (Romania)

Discharge measurements using the Pressure-Time Method: Different evaluation procedures - Georgiana DUNCA (Romania), Diana Maria BUCUR (Romania), Pontus JONSSON (Sweden), Michel CERVANTES (Sweden)

Continuous updating of the characteristic curves of the pumps, the bases of new improvements in the pumping process - Adrian CIOCĂNEA (Romania), Teodor Eugen MAN (Romania), Mihai DIMITRIU (Romania), Gheorghită PANDELEA (Romania), Gheorghe VERTAN (Romania)

Benefits from using Lower Olt Hydropower Cascade as a reversible Hydropower Station and Irrigation Water Supply - Ștefan BALĂȘOIU (Romania), Nicolae VASILIU (Romania), Nicolae GOLOVANOV (Romania)

Chairmen:

Romeo SUSAN-RESIGA (Romania), Andrei-Mugur GEORGESCU (Romania)

Time period: 16:00-18:00

Invited paper:

***AXIALT a success story in Hydraulic Turbines Research* - Gabriel Dan CIOCAN (Canada), Claire DESCHÊNES (Canada)**

Upgrading the Hydro-Electric Power Engineering field within a specified application on site - Basarab GUZUN (Romania), Iulian BĂRBOIANU (Romania), Florin OAE (Romania), Iuliana ANGHEL (Romania), Constantina GROFU (Romania), Răzvan NEAGOE (Romania)

Smart solutions for the auxiliary power supplies schemes in Hydro-Power Plants - Sorina COSTINAȘ (Romania), Sanda-Carmen GEORGESCU (Romania), Ioana OPRIȘ (Romania)

Influence of climate change on Hydro-Power Plants electricity production - Răzvan ROMAN (Romania), Matteo DE FELICE (Italy), Bogdan POPA (Romania)

Experimental investigation over in site operational characteristics of a hydro generator - Diana Maria BUCUR (Romania), Georgiana DUNCA (Romania), Constantin CĂLINOIU (Romania), Eugen Constantin ISBĂȘOIU (Romania)

Improvement of Homorod - Ciucaș river with hydrotechnic works in the area of localities susceptible to floods - Daniela SÂRBU (Romania), Elena Daniela GHIȚĂ (Romania)

Evaluation of cavitation erosion in Francis turbine blades - Marius GRECU (Romania), Dragoș RADUICA (Romania), Cătălin TILEA (Romania)

Kaplan turbine maintenance - Liliana TOPLICEANU (Romania)

Nuclear-Power Engineering

Chairman:

Theodor CHIRICĂ (Romania), Ilie PRISECARU (Romania)

Time period: 9:00-10:30

Aspects of probabilistic safety assessment for TRIGA research reactor - Daniela MLADIN (Romania), Ilie PRISECARU (Romania)

Sensitivity analysis for the CPA-front model, application to a generic CANDU 6 - Gabriela RADU (Romania), Ilie PRISECARU (Romania)

Analyze of the circulating cooling water system behaviour during various plant operation procedures - Iulian Pavel NITA (Romania)

Characteristics of liquid metal penetration and freezing in water leaking hole - Radu Secareanu (Romania)

Methodology for radon presence investigation in mine galleries. Case-study: Băița Bihor repository - Alin-Ionut PETRESCU (Romania), Ilie PRISECARU (Romania), Felicia DRAGOLICI (Romania), Gabriel Lazaro PAVEL (Romania)

Modification of CANDU 6 moderator flow configuration inside CALANDRIA vessel for increasing available subcooling in case of severe accident - Radu ARSENE (Romania), Ilie PRISECARU (Romania), Stefan NICOLICI (Romania)

Time period: 11:00-12:30

The use of pestel analysis in development of the Romanian geological repository - Veronica ANDREI (Romania), Ilie PRISECARU (Romania)

Numerical investigation of two phase flow for a CANDU 6 fuel bundle - Alis MUSA (Romania), Ilie PRISECARU (Romania)

Probabilistic assessment of integrated concentrations during radiological accidental emissions - C. GHEORGHE (NICOLICI) (Romania), Ilie PRISECARU (Romania), Stefan NICOLICI (Romania)

Magic simulation for a lubricating oil fire in a CANDU-6 EPS room - Adriana MAXIM (Romania), Ilie PRISECARU (Romania), Nicolae BRANZEU (Romania)

A point of view regarding the stiffness of the garter spring spacer - Tiberiu GYONGYOȘI (Romania), Ilie PRISECARU (Romania), Valeriu Nicolae PANAITESCU (Romania)

Transient discharge thermal-hydraulic analysis for CANDU 600 turbine by-pass system - Stefan NICOLICI (Romania), R.M. BILEGAN (Romania), Ilie PRISECARU (Romania), Daniel DUPLAC (Romania)

Friday 8.11.2013

Friday 8.11.2013

Round-table: The role of CFD applications in teaching fluid mechanics**Chairmen:****Corneliu BĂLAN (Romania), Benyebka BOU-SAÏD (France)****Time period: 9:00-10:30****Friday 8.11.2013***Are CFD applications useful in fluid engineering education ? - Anton ANTON (Romania)**Learning and teaching fluid mechanics using CFD applications - Corneliu BĂLAN (Romania) & REOROM Group (Romania)**CFD modeling and experimental validation - Ilinca NĂSTASE (Romania)**Confidence and incertitude in CFD results - Sterian DĂNĂILĂ (Romania)**CFD in fluid control systems - Nicolae VASILIU (Romania)***Chairmen:****Ilinca NĂSTASE (Romania), Sterian DĂNĂILĂ (Romania)****Time period: 11:00-12:30****Friday 8.11.2013***Rapid particle accumulation in periodic flows by particle – free surface interaction - Hendrik Kuhlmann (Austria)**Abdominal aortic aneurysm analysis: Is CFD an efficient and sufficient tool ? - Benyebka BOU-SAÏD (France), Kenneth JANSEN (USA), John TICHY (USA)**Interaction vortex – solid wall, a complex case of CFD analysis - Romeo SUSAN-RESIGA (Romania)*

Water Essays Competition 2013

The Water Essays Competition is a two-week competition that addresses Romanian and foreign students. It is related to the International Conference on Energy and Environment and will be organized every two years, on a new topic. This year's topic is ***Smart solutions for water industry***.

The competition is organised by the University Politehnica of Bucharest – Faculty of Power Engineering in partnership with International Water Association - Young Water Professionals Romanian Chapter and Romanian Water Association.

The event is sponsored by: Orange Romania, Wilo Romania, Envirotronic, KSB Multigama Tech and Hobas Pipe Systems.

Time period: 14:00-18:00

Hydraulic fracturing impact on water resources quality - Claudiu Chelcea (Romania), Irina Nae (Romania), Marina Sibinovic (Serbia), Andra Maria Zamfir (Romania)

"In situ" methods against eutrophication - Alina Alexandra Carstea (Romania), Madalina Mavrodin (Romania), Ciprian Popescu (Romania), Anida Zeqirllari (Albania)

Cyanide hazards from gold mining to water issues - Elena Isac (Moldavia), Razvan Roman (Romania), Denisa Stancu (Romania), Laura Stanescu (Romania)

Using nanotechnologies in wastewater treatment – Andre Anastasiu (Romania), Amira Gogoanta (Romania), Kunakey Komlan (Burkina Faso), Anca Rotaru (Romania)

Solutions for positive energy wastewater treatment plants for temperate areas - Mihai Asandulesei (Romania), Elena Godeanu (Romania), Raluca Iovanel (Romania), Mihail Neagu (Moldavia)

Water supply and wastewater treatment in cities of the future - Delia Dumitru (Romania), Andreea Istratiu (Romania), Ivan Kolev (Bulgaria), Ion Oprea (Romania)

Influences from antiquity to the modern water and wastewater treatment plants - Daniela Bunea (Romania), Catalin Damian (Romania), Malek Abu al Failat (Palestine), Iustina Stanciulescu (Romania)

Future in obtaining alternative fuels from wastewater treatment processes - George Dragomir (Romania), Albert Nkwasa (Uganda), Bianca Pricope (Romania), Georgiana Radu (Romania)



