Wednesday, July 3rd, 14:30-15:50

**MODELING AND SIMULATION OF THE ENVIRONMENT AND ENERGY CONSUMPTION OF BUILDINGS**

*Chairmen: Bustamante W., Su Y.*

**14:30-14:50**

“Solar and Lighting Transmission through Façade Systems of Office Buildings in a Mediterranean Climate of Chile”  
*Bustamante W., Vera S., Prieto A., Encinas F., Vasquez C.*

**14:50-15:10**

*Reilly D., Duffy A., Conlon M., Willis D.*

**15:10-15:30**

“Design Analysis of Solid Compound Parabolic Concentrator (CPC) Panel for the Combined PV and Daylighting Application”  
*Su Y., Yu X., Zheng H., Riffat S.*

**15:30-15:50**

“Virtual Environmental Simulation and Energy Management in Public Buildings”  

Wednesday, July 3rd 14:30-15:50

**MODELING AND NUMERICAL ANALYSIS OF UNSTEADY FLOWS**

*Chairmen Labropulu F., Koubogiannis D.*

**14:30-14:50**

“VAWT with Controlled Blades: Influence of Wake of One Turbine on Power Coefficient on the Next Turbine”  
*Bayeu-Laine A.C., Simonet S., Bois G.*

**14:50-15:10**

“Three-Dimensional Pulsatile Non-Newtonian Flows in a Dilated Vessel”  
*Husain I., Langdon Ch., Scwark J.*

**15:10-15:30**

“Unsteady Oscillatory Non-Newtonian Fluid Flow”  
*Labropulu F., Li D.*

**15:30-15:50**

“Proper Orthogonal Decomposition-Based Reduced Order Modeling of Vortex Shedding”  
*Bonis I., Sarimveis H., Koubogiannis D.*

Wednesday, July 3rd 14:30-15:30

**LOGICAL PROGRAMMING AND MACHINE LEARNING**

*Chairmen: Kemeny Z., Ayed H.*

**14:30-14:50**

“Mapping Custom Blocks in High-Level Synthesis”  
*Dossis M.*

**14:50-15:10**

“Information Modeling and Decision Support in Logistics Networks”  
*Ilie-Zudor E., Elkatt A., Kemeny Z., Karmok D., Buckingham C., Jardim-Goncalves R.*

**15:10-15:30**

“Using Machine Learning to Recommend Tourism Activities for Elderly People”  
*Batouche B., Damien N., Ayed H., Khadraoui D.*
Wednesday, July 3rd 16:20-17:40  
**Room : NAOUSSA**

**ENVIRONMENTAL HYDRO/AERO DYNAMICS**

*Chairmen: Stergiopoulos V., Nistazakis H.E.*

**16:20-16:40**  
“Towards a First C.F.D. Study of Innovative Archimedian Kinetic Energy Conversion Systems in Greece”  
*Stergiopoulou A., Stergiopoulos V., Tsivolas D.*

**16:40-17:00**  
“Two Innovative Experimental Archimedian Screw Energy Models in the Shadow of Archimedes III”  
*Stegiopoulou A., Stergiopoulos V., Tsivolas D., Stylianou A.*

**17:00-17:20**  
“Bit Rate Dependence Estimation for FSO Links with Chirped Dispersive Gaussian and Hyperbolic Secant Pulses”  
*Stassinakis A.N., Varotsos G.K., Nistazakis H.E., Tsigopoulos A.D., Chronopoulos G.G., Tombras G.S.*

**17:20-17:40**  
*Stassinakis A.N., Nistazakis H.E., Peppas K.P., Tsigopoulos A.D., Fafalios M.E., Tombras G.S.*

Wednesday, July 3rd 16:20-18:00  
**Room : EDESSA**

**ROBUST ENGINEERING DESIGN AND OPTIMIZATION**

*Chairmen: Kumar A., Dynyach J.*

**16:20-16:40**  
“Modeling, Simulation and Optimization of Complex Design Engineering Process”  
*Kumar A., Chandler P., Morgan S.*

**16:40-17:00**  
“Understanding the Effect of Covariance on Uncertainty Propagation for Robust Design Optimisation”  
*May G., Kumar A., Rowe P.*

**17:00-17:20**  
“Quality-Oriented Capabilities to Support and Assess Behavioural Digital Aircraft Simulations”  
*Dynyach J.-C., Vincent L., Polacek Th., Huet S., Pelissier G., Merlet J.*

**17:20-17:40**  
“A Simulation Approach to Evaluate the Quality and the Performance of a Software Requirements Engineering process”  
*Tsilika K., Gerogiannis V.*

*17:40-18:00*  
“A Smart Sustainability Optimizer for Complex Manufacturing Environments”  
*Tsahalis J., Tsahalis H-T., Moussas V.C.*

Wednesday, July 3rd 16:20-17:40  
**Room : KOZANI**

**NOISE CHARACTERIZATION OF COUNTER-ROTATING OPEN-ROTORS WITH BEAMFORMING**

*Chairmen: Moussas V., Tsahalis H-T.*

**16:20-16:40**  
“Acoustic Array Beamforming Analysis through Modeling, Simulation & Response Estimation”  
*Moussas V., Tsahalis D., Tsahalis H.-T.*

**16:40-17:00**  
*Tsahalis D., Moussas V., Tsahalis H.-T.*

**17:00-17:40**  
“Determination of Acoustic Array for Optimal Beamforming Using Genetic Algorithms: Part II – Application to Wind Tunnel Testing of Scaled Model of a Regional Aircraft with Counter-Rotating Open Rotors” – **Invited Lecture**  
*Tsahalis H.-T., Moussas V., Tsahalis D.*
Thursday, July 4th 09:30-10:50 Room: NAOUSSA

STUDY/MODELING OF ORGANIC MATERIAL PROCESSES

Chairmen: Farahani F.J., Mohagir A.

09:30-09:50 “Forecasting Model of Latvian Wood Processing Industry”

Krumins J., Dubrovskis D., Smits I., Dagis S., Arhipova I.

09:50-10:10 “Simulation and Optimization of Continuous Physical Refiner for Edible Oil”

Vahidi A., Farahani F.J.

10:10-10:30 “Study of Pre-Treatments Involved in the Extraction of SHEA (Vitellaria Paradoxa Gaertner F.) Butter”

Mohagir A., Kamga R., Kapseu C., Fon Abi C.

10:30-10:50 “Effects of Local and Industrial Adsorbents on Biogas Generation from Cow-Dung”

Osueke G.O., Makwe G.O., Umar U.I.N.

Thursday, July 4th 09:30-10:30 Room: EDESSA

DENSITY LEARNING-IMAGE ANALYSIS- SATELLITE SYSTEM ENGINEERING

Chairmen: Ito K., Tomkova B.

09:30-09:50 “Self-Organizing Map Based Adaptive Sampling”

Ito K., Dhaene T., Masri N.E., Dippolito R., Van de Peer J.

09:50-10:10 “Image Analysis in Textile Material Research”

Tomkova B., Grabmullerova J., Novakova J.


Deckert A., Eberwein R., Nicolai A., Raschke C.

Thursday, July 4th 09:30-10:30 Room: KOZANI

MODELING/CONTROL/MANAGEMENT OF WATER, HUMIDITY AND MOISTURE

Chairmen: Zhang L.-Z., Mansouri M.

09:30-09:50 “Modeling of Advanced Humidity Control Systems in Subtropical Regions”

Zhang L.-Z.

09:50-10:10 “Modeling of Nonlinear Agricultural Systems Using Bayesian Methods”

Mansouri M., Dumont B., Destain M.-F.

10:10-10:30 “Rational Water Management Based on Climatic Modeling and Development Analysis in Zakynthos Island”

Megalovasilis P., Kontoni D.-P.
Thursday, July 4th  11:20-12:40  Room : NAOUSSA

TWO-PHASE FLOWS AND HEAT TRANSFER

Chairmen: Husain I., Asendrych D.

11:20-11:40  “Effect of Different Inlet Geometries on an Impinging Jet Performance and Heat Transfer Rate”
Taghinia J., Siikonen T.

11:40-12:00  “Two-Phase Gas-Liquid Reacting Flow in Porous Media”
Asendrych D., Niegodajew P., Drobniaik S., Tatarczuk A.

12:00-12:20  “Solar Chimney Power Plants: 1-D Modeling and Parametric Studies”
Koubogiannis D., Apanomeritakis A.

12:20-12:40  “Water Hammer Phenomena Involving Two-Phase Flows”
Bogoń A., Rugescu R., Tsahalis D.

Thursday, July 4th  11:20-12:40  Room : EDESSA

MINI-SYMPOSIUM
FLOW MODELING AND SIMULATION OF INDUSTRIAL APPLICATIONS

“CPL PERFORMANCE” – SESSION I
Organizer: Prof. D.P. Margaris (University of Patras)

Chairmen: Tsahalis D., Margaris D.

Dioletis Ch., Makrygiannis G., Avgerinos N., Margaris D.

11:40-12:00  “CPL Evaporator Experimental Results Compared with the Predictions of a 3D CFD Model”
Avgerinos N., Margaris D., Tsahalis D.

12:00-12:40  “Overall Analysis of Pressure Drop in CPL Operation” – Invited lecture
Avgerinos N., Margaris D., Pittas K., Oikonomou D.

Thursday, July 4th  11:20-12:40  Room : KOZANI

CIVIL ENGINEERING

Chairmen: Belbas S., Deckert A.

Kontoni D.-P., Thomopoulos Th.

11:40-12:00  “Improved System Design and Analyses by Thermal-Electromechanical Modeling of Mechatronic Systems”
Deckert A.

12:00-12:20  “Systems with Memory and Non-Local Effects with Applications”
Belbas S.A.

12:20-12:40  “Investigation of the Effects of Blast Waves on a Reinforced Concrete Bridge”
Andreou A., Kotsoglou A., Pantazopoulos S.
MINI SYMPOSIUM
CURRENT TRENDS AND CHALLENGES IN THE DESIGN OF LOW EMISSIONS COMBUSTORS

THE IMPACT OF INLET CONDITIONS AND STABILIZATION CONFIGURATION ON BURNER PERFORMANCE CHARACTERISTICS – SESSION I
Organizer: As. Prof. P. Koutmos (University of Patras)

Chairmen: Founti M., Koutmos P.

Paterakis G., Souflas K., Dogkas E., Koutmos P. – Invited Lecture

Paterakis G., Dogkas E., Souflas K., Koutmos P.

Dogkas E., Karagiannaki Ch., Paterakis G., Souflas K., Koutmos P.

MINI SYMPOSIUM
FLOW MODELING AND SIMULATION OF INDUSTRIAL APPLICATIONS
“STUDING BLADE BEHAVIOR” – SESSION II
Organizer: Prof. D.P. Margaris (University of Patras)

Chairmen: Filios A., Margaris D.

14:30-15:10 “Experimental and Computational Study of the Effects of Different Liquid Water Content on the Aerodynamic Performance of a NACA 0012 Airfoil at Low Reynolds Number” - Invited lecture
Douvi E., Margaris D., Lazaropoulos S., Svanas S.

15:10-15:30 “The Effect of the Blade Geometry in the Velocity Profile in a Radial Pump Impeller”
Mentzos M., Vouros A., Margaris D., Filios A., Kaldellis J.

15:30-15:50 “Blade Leading Edge Angle Effect on Performance Improvement for a Centrifugal Pump”
Kyparissis S., Margaris D.

MINI SYMPOSIUM
iProd: “INTEGRATED MANAGEMENT OF PRODUCT HETEROGENOUS DATA” - SESSION I
Organizer: PARAGON S.A.

Chairmen: Tsahalis J., Sainvitu C.

14:30-15:10 “Process Integration and Design Optimization Ontologies for Next Generation Engineering”

Dumeunier C. Sainvitu C.

15:30-15:50 “Optimization of an Heterogeneous Simulation Workflow”
Tsahalis J., Tsahalis H.-T., Moussas V.C.
Thursday, July 4th 16:20-17:40 Room : NAOUSSA

MINI SYMPOSIUM
CURRENT TRENDS AND CHALLENGES IN THE DESIGN OF LOW EMISSIONS COMBUSTORS
TWO-PHASE FLOW AND BIOMASS COMBUSTION APPLICATIONS – SESSION II
Organizer: As. Prof. P. Koutmos (University of Patras)

Chairmen: Founti M., Koutmos P., Panidis Th.

16:20-17:00 “Development of a Water-Mist Jet Issuing Normal to a Heated Flat Plate”
Vouros An., Vouros Al., Panidis Th.- Invited Lecture

17:00-17:20 “Design and Performance Evaluation of an 80000 Kcal Biomass Domestic Stove”
Dimopoulos K.

17:20-17:40 “Production of Biomass-Olive Oil Cake from 2- and 3 phases Decanders of
EKEM SA and Boilers EKEMbio, 60.000 and 100.000 Kcal/h for Domestic and
Industrial Use”
Karoumbalos N., Tasakopoulos N., Daskalopoulos A.

Thursday, July 4th 16:20-17:40 Room : EDESSA

MINI-SYMPOSIUM
FLOW MODELING AND SIMULATION OF INDUSTRIAL APPLICATIONS
“MULTIPHASE FLOW” – SESSION III
Organizer: Prof. D.P. Margaris (University of Patras)

Chairmen: Tsepenekas D., Margaris D.

16:20-17:00 “Numerical Simulation of Leaking Oil Collection from a Ship Wreck”- Invited
Lecture
Giannoulis D.-P., Margaris D.

17:00-17:20 “Experiment Investigation of an Airlift Pump Performance Under Various Multi-
Phase Conditions”
Androulakis D., Vlachos A., Margaris D.

17:20-17:40 “Design Construction and Performance Evaluation of a New Laboratory
Convective Dryer”
Tzempelikos D., Bardakas A., Vouros A., Tsepenekas D., Christoloukas D., Filios
A., Margaris D.

Thursday, July 4th 16:20-17:40 Room : KOZANI

MINI SYMPOSIUM
iProd: “INTEGRATED MANAGEMENT OF PRODUCT HETEROGENOUS DATA” SESSION II
Organizer: PARAGON S.A.

Chairmen: Nelissen M., Cordero R.

16:20-17:00 “iProd End User Stories: Developing the IPROD Vision for the Industry Needs”
Araujo B., De Prada L., Cordero R.– Invited Lecture

17:00-17:20 “Design of an Ontology for Simulation Workflow Optimization”
Moussas V.C., Tsahalis J. Tsahalis H.-T.

17:20-17:40 “Workflows for Hybrid Teams in Product Development”
Nelissen M., Berends J., D’Ippolito R.
MINI SYMPOSIUM
CURRENT TRENDS AND CHALLENGES IN THE DESIGN OF LOW EMISSIONS COMBUSTORS
DESIGN AND EVALUATION OF LOW EMISSION COMBUSTORS THROUGH MEASUREMENTS AND SIMULATIONS – SESSION III
Organizer: As. Prof. P. Koutmos (University of Patras)
Chairmen: Founti M., Koutmos P.

10:00-10:40
“Practical Combustion Systems Modeling and Details Chemical Kinetics”
Vourliotakis G., Skevis G., Founti M. - Invited Lecture

10:40-11:00
“Experimental Characterization of a Porous Inert Medium Burner with Intrusive and Non-Intrusive Diagnostic Techniques”
Keramiotis D., Founti M.

11:00-11:20
“Analysis and Development of a Low Emissions Premixer/Burner Configuration”
Souflas K., Dogkas E., Paterakis G., Koutmos P.

Friday, July 5th
10:00-11:20
ROOM: EDESSA

COMPOSITE MATERIAL ENGINEERING
Chairmen: Romeo G., Zaoutzos S.

10:00-10:20
“Simulation of Crack Initiation Affected by Microstructural Variation Under Biaxial Fatigue”
Hoshide T., Hitotsugi Y.

10:20-10:40
“Characterization of Aging Response of Carbon Fibre Reinforced Composites through Dynamic Mechanical Analysis”
Zaoutzos S.P., Vouthounis P., Mouzakis D.E.

10:40-11:20
“Design and Optimization of Composite Vessel for Hydrogen Storage Subject to Internal Pressure and In-Flight Loads” – Invited Lecture
Romeo G., Danzi F., Cestino E., Borello F.

Friday, July 5th
10:00-11:20
ROOM: KOZANI

MINI SYMPOSIUM
iProd: “INTEGRATED MANAGEMENT OF PRODUCT HETEROGENOUS DATA” - SESSION III
Organizer: PARAGON S.A.
Chairmen: Woll R., Xirouchakis P.

10:00-10:20
“How to Solve Product Design Processes in iProd – An Application Case” Video
Hoogreef M.

10:20-10:40
Spasojevic P., Sanseverino M., D’Ippolito R., Xirouchakis P.

10:40-11:00
“Development of Web Based Optimization Service for Distributed Heterogeneous Frameworks”
Moussas V.C., Tsahalis J., Tsahalis H.-T.

11:00-11:20
“Modular Ontology Design for Semantic Data Integration”
Woll R., Geibler C., Hayka H.
MINI SYMPOSIUM
CURRENT TRENDS AND CHALLENGES IN THE DESIGN OF LOW EMISSIONS
COMBUSTORS

FUEL CHEMISTRY ASPECTS IN LOW EMISSION COMBUSTORS – SESSION IV
Organizer: As. Prof. P. Koutmos (University of Patras)
Chairmen: Founti M., Skevis G.

11:50-12:30  “Combustion Diagnostics for Gaseous Emission Characterization”
Keramiotis Ch., Skevis G., Founti M. – Invited Lecture

12:30-12:50  “Some Observations of the Combustion Chemistry of C1-C2 Oxygenated Fuels in
Laminar Premixed Flames”
Gazi A., Vourliotakis G., Skevis G., Founti M.

Preheat”
Souflas K., Dogkas E., Paterakis G., Koutmos P.

Friday, July 5th  11:50-12:50  Room : EDESSA

ELECTRICAL ENGINEERING

Chairmen : Tsahalis D., Grine F.

11:50-12:10  “Spectral Domain Approach of Microstrip Open-End and Gap Discontinuities
Using New Pulses with Strongly Decaying Spectrum”
Grine F., Benhabiles M.T., Riabi M.I.

12:10-12:30  “Use of SFRA to Check Mechanical Condition of Transformers”
Dewangan R., Rathore R.K.

12:30-12:50  “Optimization and Prediction of Corona Breakdown of Small Air Gaps Stressed
by DC Voltages”
Maglaras A., Kousiouris T., Topalis F., Giannakopoulou K.

Friday, July 5th  11:50-12:50  Room : KOZANI

METALLURGICAL ENGINEERING

Chairmen: Samet H., Gerogiorgis D.

11:50-12:10  “Model-Based Optimization of Perlite Expansion Via a Response Surface Method
(RSM)”
Gerogiorgis D., Angelopoulos P., Paspaliaris I.

12:10-12:30  “Employing Markov Chain for Prediction of Electric ARC Furnace Reactive
Power”
Abbasi S., Samet H.

12:30-12:50  “Numerical Analysis of the Blank Transfer Process with Hot Stamping”
Georgiadis G., Weigert Ph., Kurz H.