

WEDNESDAY, 6 JULY, 2014

13:00 - 13:30: WELCOME

13:30 - 14:30: PLENARY LECTURE

"The Antikythera Mechanism: The First Known Analog Computer"

by

Xenophon Moussas

Professor in Space Physics

National & Kapodistrian University of Athens, Athens, Greece

PARALLEL SESSIONS

WEDNESDAY 14:30 -15:50

Wednesday, July 6th, 14:30-15:50

Room : NAOUSSA

WIDEBAND AND ULTRA WIDEBAND COMMUNICATIONS SYSTEMS

Invited Session

Organizer: Prof. H.E. Nistazakis (National & Kapodistrian University of Athens)

Chairmen: Nistazakis H.-E., Tsigopoulos A.D.

- 14:30-14:50** "A Computational Tool which has been Designed for Performance Estimation of Wireless Hybrid FSO/MMW Communication Links"
Katsilieris T.D., Latsas G.P., Nistazakis H.E., Tombras G.S.
- 14:50-15:10** "Optical Wireless Communication Links with Time Diversity Over Log-Normal Turbulence Channels with Time Dispersion and Spatial Jitter"
Varotsos G.K., Nistazakis H.E., Karagianni E.A., Tsigopoulos A.D., Tombras G.S.
- 15:10-15:30** "A Vacuum Channel Transistor for Sub-Milimeter Wave Spectrum Utilization in Amplifier's Design"
Kouzonis A., Karagianni E., Nistazakis H.E., Abushanamb A.A., Korfiati T.J., Lessi Ch., Fafalios M.
- 15:30-15:50** "Maximally Flat Microstrip Band-Pass Filter Design for UWB Applications Using Step Impedance Techniques and Quarter-Wave Structures"
Zisis S., Karagianni E., Nistazakis H.E., Vazouras C., Tsigopoulos A.D., Fafalios M.

Wednesday, July 6th 14:30-15:50

Room : EDESSA

FROM APPLIED MATHEMATICS TO COMPUTATIONAL ENGINEERING

Chairmen: Georgiev I., Belbas S.

- 14:30-14:50** "Some Development Aspects of Computer Surveillance System for Non-Destructive Archaeology"
Georgiev Il., Georgiev Iv.
- 14:50-15:10** "Comparison of Three Transition Models for CFD Predictions of Airfoil Aerodynamics"
Kapsalis P.-C., Voutsinas S., Vlachos N.
- 15:10-15:30** "Enhancing Low-Fidelity Compressor Design by Utilizing a Surrogate Model Based on Higher-Fidelity Information"
Hartwig L., Bestle D.
- 15:30-15:50** "Spatiotemporal Functional Series for Food-Energy Water Nexus Modeling"
Belbas S.

PARALLEL SESSIONS**WEDNESDAY 16:20 -17:40**

Wednesday, July 6th 16:20-17:40 **Room : NAOUSSA****ADVANCED MATERIALS AND APPLICATIONS****Invited Session****Organizer: Prof. S. Zaoutsos (Technical Educational Institute of Thessaly)***Chairmen: Zaoutsos S., Tsahalis D.*

- 16:20-17:00** “Experimental Characterization of Hybrid Calcium Phosphate-Geopolymer Cements” - **Invited Paper**
Zaoutsos S.P., Kanelopoulou D., Mouzakis D., Bouropoulos N.
- 17:00-17:20** “Physico-Mechanical Properties of Ceramic Materials made from Fly Ash and Metallurgical Wastes”
“Lamprakopoulos S., Ntampeglitis K., Spiliotis X., Zaoutsos S.P., Papapolymerou G., Karagiannis V.
- 17:20-17:40** “Mechanical Response and Strength Characteristics of Aluminium Honeycomb Sandwich Panels for Infrastructure Engineering”
Lambrakopoulos S., Kalogiannis D., Spiliotis X., Zaoutsos S.

Wednesday, July 6th 16:20-17:40 **Room : EDESSA****INNOVATIONS ON SOLAR THERMAL TECHNOLOGIES AND ENERGY EFFICIENT GREEK BUILDINGS****Invited Session****Organized by Prof. Ch. Tzivanidis (National Technical University of Athens)***Chairmen: Tzivanidis C., Tsilika K.*

- 16:20-16:40** “The Impact of Insulation Thickness in Various Greek Cities”
Mitsopoulos G., Bellos E., Tzivanidis C., Alexopoulos I., Korres D.
- 16:40-17:00** “Energetic, Exergetic and Financial Evaluation of Concentrating and Non-Concentrating Solar Collectors”
Bellos E., Tzivanidis C., Mitsopoulos G., Alexopoulos I.
- 17:00-17:20** “Thermal Behaviour of a Building Simulation Using COMSOL”
Alexopoulos I., Tzivanidis C., Bellos E., Mitsopoulos G., Korres D.
- 17:20-17:40** “Thermal and Optical Investigation of a U-Type Evacuated Tube Collector with a Mini-Compound Parabolic Concentrator and a Flat Absorber”
Korres D., Tzivanidis C., Alexopoulos I., Mitsopoulos G.

THURSDAY 7 JULY, 2016

PARALLEL SESSIONS

THURSDAY 10:00 -11:20

Thursday, July 7th

10:00-11:20

Room : NAOUSSA

STRUCTURAL ENGINEERING

Chairmen: Zheng G., Tang B.

- 10:00-10:20** “Modeling of the Size Effects on the Mechanical Deformations of Amorphous Alloys”
Zheng G., Shen Y.
- 10:20-10:40** “Finite Element Modeling of Double-Steel Plate Composite Shear Walls”
Elmatzoglou M., Avdelas A.
- 10:40-11:00** “Finite Element Modeling and Numerical Investigation of the Structural Behaviour of Partially Restrained Steel Frames with Reinforced Concrete Infill Walls”
Vogiatzis T., Avdelas A.
- 11:00-11:20** “Numerical Methods used to Simulate Imperfections in Stability Analysis of Thin-Walled Structures”
Tang B., Sicard B.

Thursday, July 7th

10:00-11:00

Room : EDESSA

GEAR MECHANICS

Chairmen: Mohammadpour M., Sinyavskaya E.

- 10:00-10:20** “An Explicit Fast Numerical Approach for Multi-Physics Multi-Scale Simulation of Planetary Gear Sets”
Mohammadpour M., Rahnjeat H., King P., Trimmer G., Williams A., Womersley B.
- 10:20-10:40** “Analysis of the A Star Path Planning Algorithm and its Variants for Low Cost Differential Drive Wheeled Robot”
Sinyavskaya E., Potarusov R.
- 10:40-11:00** “An Integrated Approach for Designing Asymmetric Involute Helical Gears in CAD Environment”
Zouridaki A.E.N., Sanoudos-Dramaliotirs F.T.J., Kantarakis K.D.K., Papagianni Z.A.

12:00 - 13:00 PLENARY LECTURE

"The Boundary-Layer Separation Singularity in Steady and Unsteady Flows"

by

Prof. Demos T. Tsahalis

Director of LFME, Athens, Greece

PARALLEL SESSIONS**THURSDAY 14:30 -15:50**

Thursday, July 7th

14:30-15:50

Room : NAOUSSA**MINI-SYMPOSIUM****COMPUTATIONAL METHODS IN STRUCTURAL AND GEOTECHNICAL ENGINEERING****Invited Session: I****Organized by: Assoc. Prof. D.-P.N. Kontoni (Technological Educational Institute of Western Greece)***Chairmen: Kontoni D.-P., Giannopoulos G.I.***14:30-15:10**“An Efficient Finite Element Technique for the Vibrational Behavior of Single Walled Boron Nitride Nanotubes” – **Invited Paper***Giannopoulos G.I., Kontoni D.-P.N., Georgantzinis S.K.***15:10-15:30**

“Extensometer-Based Measurement of the Thermal Contraction Coefficient at Cryogenic Temperatures for Concrete”

*Tsolakis E.P., Spitas V., Kontoni D.-P.N.***15:30-15:50**

“Comparison of Field Test and Numerical Analysis for Laterally Loaded Piles”

*Naveen B.P., Kontoni D.-P.N.*Thursday, July 7th

14:30-15:50

Room : EDESSA**MINI SYMPOSIUM****FLOW SIMULATION FOR ENGINEERING SYSTEMS OPTIMIZATION****Invited Session: I****RENEWABLE ENERGY AND ENVIRONMENTAL SYSTEMS”****Organized by: Prof. D. Margaris (University of Patras)***Chairmen: Margaris D., Hartwig L.***14:30-14:50**

“Numerical Simulation of Tray Dryers Using Solar Energy”

*Ghiaus A.-G., Margaris D., Fatu V.***14:50-15:10**

“Aerodynamic Performance of a NREL S809 Airfoil in an Air-Sand Particles Two Phase Flow”

*Douvi D., Margaris D., Davaris A.***15:10-15:30**

“Numerical and Computational Analysis of a New Vertical Axis Wind Turbine, named KIONAS”

*Douvi E., Douvi D., Margaris D., Drosis I.***15:30-15:50**

“CFD Modeling of Air Pollution Motion Inside a Building Block”

Moraiti A., Margaris D., Panopoulos N.

PARALLEL SESSIONS**THURSDAY 16:20 -18:00**

Thursday, July 7th

16:20-17:40

Room : NAOUSSA**MINI-SYMPIOSIUM****COMPUTATIONAL METHODS IN STRUCTURAL AND GEOTECHNICAL ENGINEERING****Invited Session: II****Organized by: Assoc. Prof. D.-P.N. Kontoni (Technological Educational Institute of Western Greece)***Chairmen: Kontoni D.-P., Giannopoulos G.I.*

- 16:20-16:40** “Evaluation of Seismic Vulnerability of Reinforced Concrete Flat Slab Buildings”
Tzevelekas L.I., Kontoni D.-P.N.
- 16:40-17:00** “Evaluation of Soil-Structure Interaction on the Seismic Response of Liquid Storage Tanks under Near-Field Ground Motions”
Farajian M., Khodakarami M.I., Kontoni D.-P.N.
- 17:00-17:20** “Investigation of 2D Seismic Behavior of Underground Rectangular Concrete Tanks Affected by in-Plane Seismic Vibrations Incorporating Soil-Structure-Fluid Interaction”
Tajik M., Khodakarami M.I., Kontoni D.-P.N.
- 17:20-17:40** “Urban Planning Interventions for Sustainable Development. The Case of the Historical Center of Kalavryta - Greece”
Martinis S.P., Kontoni D.-P.N.

Thursday, July 7th

16:20-18:00

Room : EDESSA**MINI SYMPOSIUM****FLOW SIMULATION FOR ENGINEERING SYSTEMS OPTIMIZATION****Invited Session: II****“Two-Phase Flow in Deep-Water Systems****Organized by: Prof. D. Margaritis (University of Patras)***Chairmen: Margaritis D., Vlachos N.*

- 16:20-16:40** “Observations on Local Scour and Embedment by Bottom Currents of Experimental Artificial Reefs Deployed in the Underwater Biotechnological Park of Crete”
Androulakis D., Dounas C., Margaritis D.
- 16:40-17:00** “Air Separation Investigation in Gas-Liquid Plug-Slug Flow Along Horizontal Pipe: Simulation and Experiment”
Panopoulos N., Margaritis D., Andriopoulos A.
- 17:00-17:20** “Integral Model of Buoyant Multi-Phase Oil-Gas Jet/Plume under Cross-Flow”
Avgerinos N., Margaritis K., Margaritis D.
- 17:20-17:40** “Positioning DIFIS System for Containing Oil-Gas Spills from Deep Offshore Well Blowouts”
Giannoulis D.-P., Margaritis D.
- 17:40-18:00** “Comparative Analysis of Oil-Gas Jet/Plume Characteristics in Cross-Flow Using Computational Fluid Dynamics Modeling”
Avgerinos N., Neofytou P.

FRIDAY, 8 JULY, 2016

09:00-11:00: Registration

10:00-11:00: PLENARY LECTURE

“Modelling of Magnetohydrodynamic Flows for Fusion Applications”

by

Professor Emeritus Nicholas S. Vlachos

University of Thessaly, Volos, Greece

PARALLEL SESSIONS

FRIDAY 11:30 -12:50

Friday, July 8th

11:30-12:50

Room : NAOUSSA

**EC FP7 Projects INTEFIX (Active Milling Chatter Reduction) and
ACTUATION 2015 (ANN Standardization Considerations)**

Invited Session

Organizer: PARAGON S.A., Athens, Greece

Chairmen: Tsahalis H.-T., Tsahalis J.

11:30-11:50

“Milling Chatter Reduction in Simulation with AIVAC”

Tsahalis H.-T., Tsahalis J.

11:50-12:10

“Milling Chatter Reduction in Laboratory Experiments with AIVAC”

Tsahalis J., Tsahalis H.-T.

12:10-12:30

“Milling Chatter Reduction in Industrial Experiments with AIVAC”

Tsahalis J., Tsahalis H.-T.

12:30-12:50

“ANN Subjects and Considerations Towards Standardization Through
Verification & Validation and Certification”

Tsahalis H.-T., Tsahalis J.

Friday, July 8th

11:30-12:50

Room : EDESSA

**PROCESS, INTEGRATED CIRCUIT and VOICE OVER INTERNET PROTOCOL
SIMULATION, VALIDATION, VERIFICATION**

Chairmen: Dossis M., Neumeyer S.

11:30-11:50

“High Level Synthesis-Based Signal Coding”

Dossis M.

11:50-12:10

“Simulation-Based HD-VOIP Performance Evaluation in Mobile AD-HOC
Networks under Different Traffic and Codec Conditions”

Unlu B.

12:10-12:30

“Virtual Prototyping and Validation of CPPS within a New Software Framework”

Neumeyer S., Exner K., Kind S., Hayka H., Stark R.

12:30-12:50

“On the Parallel Domain Decomposition for 1-D Active Thermal Control Process
(1D-ATCP) using Three Level Implicit Discretization with PVM”

Ewedafe S.