

Chino-Hellenic WORKSHOP - Final Program

26 February – 2 March, 2015

“Multiscale Material Mechanics and Multiphysics Processes: Applications to Energy/Transport & Environment/Human Health Sectors”

Conference/Glass-Room, Top Floor of New Engineering Building - Above Secretariat of Civil Engng. Dept.
Aristotle University of Thessaloniki

Financed by GSRT through the ERC-13 Project “*Internal Length Gradient Mechanics Across Scales and Materials: Theory, Experiments and Applications/ IL-GradMech-ASM*” & SEDEMP Project “*Size Effects in Deformation and Electromechanical Problems*”

Thursday, February 26

- 9:30-9:45 am Rector P. Mitkas/Dean K. Katsabalos/Chairman Ch. Anagnostopoulos,
Aristotle University of Thessaloniki (AUT)
Welcome and Opening Remarks
- 9:45-10:15 am Elias Aifantis, LMM - Aristotle University of Thessaloniki (AUT)
Chino-Hellenic Collaboration: Science-Engineering-Art-Societal Aspects
- 10:15-11:00 am Yilong Bai, Academician - Lab of Nonlinear Mechanics Beijing (LNM)
Multiscale Simulations based on Molecular Interactions
- 11:00 - 11:30 am Coffee/Snack Break
- 11:30-12:15 pm Stavros Balogiannis, Emeritus Professor - Aristotle University of Thessaloniki (AUT)
Science, Neurology and Art: From Pythagoras, Hippocrates and Aristotle to Da Vinci and Modern Era
- 12:15-1:00 pm Magda Tsolaki, Professor - Aristotle University of Thessaloniki (AUT)
Neurogenerative Diseases - The role of Mechanics?
- 1:00-2:00 pm Coffee/Lunch Break
- 2:00-2:30 pm Chengzhi Qi, Dean - Beijing University of Civil Engineering & Architecture (BUCEA)
Material Mechanics in BUCEA: Building & Infrastructure Projects
- 2:30-3:00 pm Guozheng Kang/Han Jiang, Dean/Assistant Dean - Southwest Jiaotong University (SWJTU) - Chengdu
Transformation Ratcheting and Fatigue of Super-Elastic Ni-Ti Alloy: Observations and Modeling
- 3:00-3:30 pm Hang Xu, Professor - Shanghai Jiao Tong University (SJTU)
Homotopy Method & Applications in Material Mechanics
- 3:30-4:00 pm Han Jiang, Southwest Jiaotong University (SWJTU) - Chengdu
*Constitutive Model for Amorphous Glassy Polymers with Consideration of its Microstructure:
Cohesional Entanglement*
- 4:00-4:30 pm Fujiu Ke/Rong Yang, Professor - Beihang University/LNM
*Correlated Study of Constitutive Relations for Shear Localization Using a Modified Split Hopkinson
Torsional Bar System*
- 4:30-5:00 pm Mahmoud Mousavi, Aalto University - Finland/Aristotle University of Thessaloniki (AUT)
Dislocation-based Gradient Elastic Fracture Mechanics
- 5:00-7:00 pm Refreshing/Relaxation Break
- 7:00-9:00 pm Dinner

Friday, February 27

- 9:30-10:00 am** **Katerina Aifantis, University of Arizona (UA)**
Li-ion /Next Generation Battery Electrodes: Applications to Renewable Energy and Biomedicine
- 10:00-10:30 am** **Ioannis Karapanagiotis, Eccl. Academy - Thessaloniki**
Hydrophobic/Hydrophylic Materials: Applications to Modern Technology and Cultural Heritage
- 10:30-11:00 am** **Ioannis Samaras, Aristotle University of Thessaloniki (AUT)**
Advanced Batteries for Energy and Medical Applications
- 11:00-11:30 am** **Coffee/Snack Break**
- 11:30-12:00 pm** **Ioannis Tsagarakis, Aristotle University of Thessaloniki (AUT)**
Thermal and Diffusional Material Instabilities
- 12:00-12:30 pm** **Kai-Yu Xu/Yanmei Yue, Shanghai University**
Electromechanics and Gradient Theory
- 12:30-1:00 pm** **Ioannis Demetropoulos, Aristotle University of Thessaloniki (AUT)**
Molecular Knots & Nanotechnology
- 1:00-2:00 pm** **Coffee/Lunch Break**
- 2:00-2:30 pm** **Avraam Konstantinidis, Aristotle University of Thessaloniki (AUT)**
Gradient and Stochasticity in Micro/Nano Pillar Mechanics
- 2:30-3:00 pm** **Xu Zhang, Southwest Jiaotong University (SWJTU) - Chengdu**
Gradient Micro/Nano Mechanics and Size Effects
- 3:00-3:30 pm** **Dabiao Liu, Huzhong University of Science and Technology - Wuhan**
Size Effects in Torsion of Microwires
- 3:30-4:00 pm** **Coffee/Snack Break**
- 4:00-4:30 pm** **Aggelos Iliopoulos, Aristotle University of Thessaloniki (AUT)**
Statistics of Serrations in Metallic Glasses
- 4:30-5:00 pm** **Kostas Spiliotis, Aristotle University of Thessaloniki (AUT)**
Dislocation Patterning and Persistent Slip Bands
- 5:00-7:00 pm** **Refreshing/Relaxation Break**
- 7:00-9:00 pm** **Dinner**

Saturday, February 28

- 10:00-10:30 am** **Konstantinos Siettos, National Technical University of Athens (NTUA)**
Equation Free Method: Applications to Certain Engineering & Biology Problems
- 10:30-11:00 am** **George Petsos, Aristotle University of Thessaloniki (AUT)**
Nonlinear Waves in Necking and Spinodals
- 11:00-11:30 am** **Avraam Tsitlakidis/Dimitris Tragoudaras, Aristotle University of Thessaloniki (AUT)**
Reaction - Diffusion - Internal Stress Models in Biomedicine
- 11:30-12:00 pm** **Ioannis - Nikos Nikolaidis/Anestakis Doksakis, Aristotle University of Thessaloniki (AUT)**
Image Analysis and Applications to Material Mechanics and Biomedicine
- 12:00-1:00 pm** **Coffee/Snack Break**
- 1:00-6:00 pm** **Cultural Program:** *Visit Thessaloniki Touristic Sites/Museums*

Sunday, March 1

- Cultural Program:** *Excursion to Vergina*
[Litochoro - Monastery Dionysiou/Mount Olympus]

Monday, March 2

- 9:00-9:30 am** **Rong Yang, Lab of Nonlinear Mechanics (LNM) - Beijing**
Experimental and Computational Aspects in Nanoindentation
- 9:30-10:00 am** **Evghenii Harea, Aristotle University of Thessaloniki (AUT)/Moldova**
Cyclic Nanoindentation and Piezoresistivity
- 10:00-10:30 am** **Marianthi Manta, Aristotle University of Thessaloniki (AUT)/Athens**
Nanoindentation in Dental Materials
- 10:30-11:00 am** **Ioannis Zyganitidis/Alexandros Sidiropoulos, Aristotle University of Thessaloniki (AUT)**
Size Effects in Nanoindentation
- 11:00-11:30 am** **Coffee/Snack Break**
- 11:30-1:30 pm** **Short (10 min) Presentations on Current Research Explorations/Posters**
- 11:30-12:00 pm Jinbo Wu; Chen Haoxiang; Jianfeng Zhao;
 - 12:00-12:30 pm Grigorios Panagakos; Rafail Tasakis
 - 12:30-1:00 pm Theodoros Birois; Stratos Mitridis; Kimon Lapas/Ariadni Tsampali
 - 1:00-1:30 pm Kiriakos Stefanidis; Theodoros Chrysanidis; Andreana Boboti
- 1:30-3:00 pm** **Panel Discussion - Future Plans / Closure**

Workshop Observers

- Panagis Papadopoulos; Traianos Yioultsis; Konstantinos Samaras; Kampouris Asterios; Kokkinos Dimitris; Giulieta Lazarou; Mara Gkioka; Ifigenia Krania; Evaggelos Georgalis