

**ARISTOTLE UNIVERSITY OF THESSALONIKI**



**CALL FOR PAPERS**

**5<sup>th</sup> EUROMECH  
SOLID MECHANICS  
CONFERENCE  
(ESMC 5)**

Aristotle University of Thessaloniki (AUT)

Thessaloniki, GREECE  
August 17-22, 2003

**GENERAL**

The 5<sup>th</sup> EUROMECH Solid Mechanics Conference will be held at the Aristotle University of Thessaloniki, (Thessaloniki, Greece) under the auspices of EUROMECH during 17-22 August, 2003.

The Conference is aiming at the presentation of original, high level unpublished works in the various areas of Solid Mechanics.

**CONFERENCE LOCATION**

Thessaloniki is located in Northern Greece by the Aegean Sea with a population of over 1 million. It was established in 316 B.C. by King Kassandros and named after his wife, the sister of Alexander the Great. It is the center of the Balkan area. A city of commercial, cultural, and intellectual activities built in an area with the longest continuity of history in Greece starting from 3000 B.C. to the present. An area that gave birth of the most important, King Philip the Macedonian, his son Alexander the Great, and Aristotle, Alexander's teacher, founder of logic and of rational mechanics. It continued playing an important role during the Roman and Byzantine times and has traditionally served as a meeting and exchange point between East and West.

Today it emerges as a centerpiece of technological and educational activity in Southern Europe, featuring the Aristotle University of Thessaloniki, one of the largest in the world in terms of students' numbers.

The 2004 Olympic Games will take place in Athens, Thessaloniki's sister city in the South.

**CONFERENCE THEMES**

- Continuum Mechanics: Elasticity/Plasticity/Waves
- Structural Mechanics: Plates/Shells/Vibrations
- Experimental and Computational Mechanics
- Mechanics of Materials: Fracture/Damage/Composites
- Micromechanics and Nanomechanics
- Geomechanics and Biomechanics
- Manufacturing and Contact Mechanics
- Impact and Penetration Mechanics
- Nonlinear and Probabilistic Mechanics
- Other Topics in Mechanics: Smart Materials and Systems; Dynamics and Stability; Optimization and Control

## CONFERENCE SYMPOSIA AND POSTERS

A number of symposia and special sessions will be organized in contemporary and interdisciplinary topics of solid mechanics. Individuals who wish to organize additional such events can contact E.C.Aifantis. Two poster-sessions are also planned. The best Oral and Poster presentation of young researcher under 35 years of age will be recognized with a prize.

## CALL FOR CONTRIBUTIONS

Engineers and scientists working in the above areas are invited to submit electronically an Abstract not exceeding one page with up to 3 references to the conference e-mail address [esmc2003@mom.gen.auth.gr](mailto:esmc2003@mom.gen.auth.gr).

The abstract should clearly state the purpose, procedures, results and conclusions. Authors of accepted papers will be notified within 2 months following the submission deadline. It is also necessary to indicate in the abstract one primary and one secondary topic from the list under the Conference Themes in order to facilitate the review, the selection process and the final program preparation. The conference symposia / special sessions will include contributions by invitation only.

The full registration fee is € 350 before 30 March 2003, and € 400 afterwards. If the registration fee is not received by May 30, inclusion of the presentation in the final program may not be guaranteed. The students fee will be half of the above amounts. The registration fee for EUROMECH members will be reduced by 32 Euros. EUROMECH will also award three grants of € 200 each to support the participation of young scientists. A half-rate registration fee will apply towards participants from less-favored countries at the discretion of the organizers. Registration fee includes participation to all scientific activities, conference material including program and abstract booklets, as well as coffee breaks and the welcome reception. The conference banquet will require an additional fee of € 50. A number of excursions and social functions are planned in conjunction with a local travel agency.

## DEADLINES

- Abstract Submission by 30 November 2002
- Paper acceptance by 30 January 2003

A number of eminent scientists in selected areas will present general and plenary lectures. These will be published in a special issue of the *European Journal of Mechanics*. For the conference symposia and other conference contributions, there is an option to publish them in the *Journal of the Mechanical Behavior of Materials*. The official language will be English. Authors are encouraged to correspond by electronic mail and obtain updated information through the conference web site <http://mech3.gen.auth.gr>.

## ORGANIZATION

### ■ ESMC Committee

- **Chair:** B.A. Schrefler (IT)
- **Members:** A. Benallal (FR), J. Botsis (CH), N. Fleck (UK), I.G. Goryacheva (RU), M. Langseth (NW), M. Okrouhlik (CZ), M. Potier-Ferry (FR), F.G. Rammerstorfer (AU), H. Ulbrich (DE)

□ **Interim Liaison:** D. Sotiropoulos

### ■ Hellenic Committee

- **Chair :** E.C.Aifantis (AUT)
- **General Secretariat:** K. Tsouros (AUT), G. Manolis (AUT), E. Papamichos (AUT), P. Argyrakis (AUT)
- **Assistant Secretary:** A. Konstantinidis (AUT)
- **Co-chairs:** Y. Dafalias (NTUA), I. Vardoulakis (NTUA)
- **Vice-chairs / HSTAM:** N. Aravas (UTH), D. Beskos (UP), E. Gdoutos (DUTH), J. Katsikadelis (NTUA), A. Kounadis (NTUA), C. Massalas (UI), M. Papadrakakis (NTUA), G. Tsamasfyros (NTUA)
- **AUT Advisory Board:** I. Antoniou, J. Antonopoulos, C. Bouzakis, N. Charalambakis, A. Goulas, O. Guiba, S. Ichtiaroglou, Th. Karakostas, C. Kiparissides, G. Lianis, S. Logothetidis, S. Natsiavas, C. Panayiotou, P. Papadopoulos, V. Papageorgiou, G. Penelis, K. Ptilakis, P. Prinos, D. Talaslidis, D. Tsipas, J. Vasalos
- **AUT General Department:** E. Douka, A. Kehagias, D. Kugiumtzis, M. Matsikoudi, S. Papargyri, A. Trochidis
- **Local Arrangements:** G. Efremidis, A. Garas, L. Gallos, E. Gavriilidou, P. Gotsis, I. Mastorakos, E. Taratori, I. Tsagrakis

## TITLES OF GENERAL/PLENARY LECTURES

- **General Lecture**  
C. Polizzotto (IT): *Unifying Thermodynamic Formulation in Nonlocal Theories of Solid Mechanics*
- **Plenary Lectures\***  
D. Gross (DE): *Configurational Forces and their Application in Solid Mechanics*  
N. Jones (UK): *Several Phenomena in Structural Impact and Structural Crashworthiness*  
L. Nilsson (SE): *An Analysis of the High Speed Machining Process*  
J. Plešek (CZ): *Geometric Framework for Incremental Constitutive Equations*  
A. Romanov (RU): *Mechanics and Physics of Disclinations in Solids*  
A. Rosakis (US): *Laboratory Studies of Earthquake Fault Rupture*  
P. Suquet (FR): *The Importance of Intrapulse Field Fluctuations in Nonlinear Heterogeneous Materials*

\*An eighth plenary lecture is reserved for the winner of a EUROMECH award to be determined at a later stage.

## TITLES OF CONFERENCE SYMPOSIA

The following symposia will be held in parallel with the regular sessions of the Conference. The smaller symposia involving two organizers are essentially mini-symposia of the type held, for example, during ESMC 4. The larger symposia involving several organizers, which may be viewed as featured-symposia, are clusters of previously proposed mini-symposia which shared common themes. The organizers are listed alphabetically for each of these events.

- A. El-Azab, Y. Estrin, M. Fivel, N. Ghoniem, L. Kubin, R. Rudd, D. Walgraef: *Mechanics and Physics of Microstructures and Nanostructures – Size Effects*
- H. Askes, E. Busso, S. Forest, M. Geers, L. Sluys, P. Steinmann: *Advanced Modelling of Heterogeneous Materials – Homogenization and Generalized Continua*
- I. Groma, P. Hähner, S. Kalidindi, A. Romanov, M. Seefeldt, M. Zaiser: *Dislocation and Disclination Models for Work Hardening and Failure*
- A. Chirazi, F. Cleri, E. Kaxiras, N. Kioussis, D. McDowell, H. Rafii-Tabar: *Bridging Length Scales and Computational Nanomechanics*
- D. Delafosse, G. Exadactylos, S. Kourkoulis, E. Meletis, P. Stahle, A. Varias: *Environmental Effects in Fracture and Material Degradation*
- S. Ahzi, M. Cherkaoui, D. Krajcinovic, G. Voyiadjis, H. Zbib: *Multiscale Modelling of Plastic Deformation and Damage*
- R. Ballarini, I. Chassiotis, H. Espinosa, R. Warrington, J. Gil-Sevillano: *Theoretical and Experimental Mechanics of Thin Films and Microsystems*
- F. Darve, I. Vardoulakis: *Mechanical Modelling in Natural Hazards*
- V. Kalpakides, G. Maugin: *Configurational Mechanics*
- E. van der Giessen, A. Needleman: *Nonlocal Plasticity – Continuum vs. Discrete Formulations*
- E. Papamichos, P. Papanastasiou: *Petroleum Geomechanics – From Theory to Industrial Applications*
- S. Natsiavas, C. Papadimitriou, F. Vestroni: *Vibration, Identification and Control of Dynamical Systems*
- G. Maier, G.E. Stavroulakis: *Identification Problems for Materials and Structures*

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**Note:** The organization of additional symposia / special sessions is in progress including the following events:  
D.E. Beskos, G. D. Manolis: *Recent Advances in the Boundary Element Methods*; A. Lakhtakia, I. Stratis: *Chiral and Oriented Nanostructures*; I. Ovid'ko: *Mechanics and Physics of Microstructures and Nanostructures / Dislocation and Disclination Models for Work Hardening and Failure*; J.-F. Ganghoffer: *Mechanical Behavior of Woven Structures. Fabric and other Reticulated Media*.