



COMUNE DI
SPERLONGA



First Sperlonga Summer School on Mechanics and Engineering Sciences

Atomistic and Continuum Descriptions of Microstructures

Sperlonga, September 26-30, 2011

Fifth Announcement

Description and aim of the School:

The Fondazione “Tullio Levi-Civita” of Cisterna di Latina, the International Research Center of Mathematics and Mechanics of Complex Systems (M&MOCS) and the Italian Association of Theoretical and Applied Mechanics (AIMETA), with the support of the town of Sperlonga, are organizing the First Sperlonga Summer School on Mechanics and Engineering Sciences. The topics of the School, **Atomistic and Continuum Descriptions of Microstructures**, lie at the crossroads of mechanics, mathematics, physics, materials science, biology, and engineering. The aim of the School is to introduce young researchers and doctoral students to fundamental techniques and recent developments in the field.

Lecturers, courses and seminars:

The School will be organized in two courses:

Gianpietro Del Piero: *A variational approach to fracture and other inelastic phenomena*

Errico Presutti: *Macroscopic limits in statistical mechanics*

In addition to the regular lectures, topical seminars will be held:

Jean-Jacques Marigo: *1. Construction of fatigue laws from cohesive force models: the 2D case*

2. Dynamical effects in the propagation of cracks due to a toughness

Heterogeneity

At the end of the Summer School, a **Symposium in honour of Gianpietro Del Piero**, in occasion of his retirement, will take place at the same location of the School, **on September 30th and October 1st 2011**.

Symposium Speakers and Talks Titles:

Maurizio Angelillo: *Statics of masonry structures modeled as unilateral materials*

Francesco dell’Isola: *Contact actions in N-th gradient Continua*

Domenico De Tommasi: *Nonlinear theory of dielectric elastomeric membranes*

Massimiliano Lucchesi: *The Static Theorem of Limit Analysis for masonry panels*

Jean-Jacques Marigo: *From the onset of damage until the rupture: construction of the responses with damage localization for a general class of gradient damage models*

David Owen: *Moving Interfaces that Separate Loose and Compact Phases of Elastic Aggregates*

Michel Raous: *Simulation of the cyclic behavior of open-cell polymeric foams: non linear elasticity, viscosity and damage*
Raffaella Rizzoni: *Modelling, development and testing of a shape memory alloy actuated polymeric prototype*
Gianni Royer: *Towards a unified approach to fracture, yielding and damage*
Lev Truskinovsky: *Mechanics of active force generation in skeletal muscles*

The participants in the Summer School are warmly invited to attend the Symposium.

Provisional Programme

Monday 09-26-2011	9.15-9.45 opening ceremony	9.45-11.15 DEL PIERO	11.15-11.30 coffee- break	11.30-13.00 PRESUTTI	13.00-15.30 break	15.30-17.00 DEL PIERO	17.00-17.30 coffee- break	17.30-19.00 PRESUTTI	
Tuesday 09-27-2011	8.30-10.15 DEL PIERO		10.15-10.45 coffee-break		10.45-12.30 PRESUTTI		12.30-16.30 break		16.30-19.30 discussion
Wednesday 09-28-2011	8.30-10.15 DEL PIERO		10.15-10.45 coffee-break		10.45-12.30 PRESUTTI		12.30-16.30 break		16.30-19.30 discussion
Thursday 09-29-2011	8.30-10.15 DEL PIERO	10.15-10.45 coffee- break		10.45-12.30 PRESUTTI	12.30-16.30 break	16.30-17.45 MARIGO	17.45-18.15 coffee- break	18.15-19.30 MARIGO	
Friday 09-30-2011	8.30-10.15 DEL PIERO	10.15-10.45 coffee-break	10.45-12.30 PRESUTTI	12.30-15.30 break	15.30-17.30 Symposium Talks	17.30-17.45 coffee- break	17.45-19.15 Symposium Talks	after dinner G. Del Piero Domes	
Saturday 10-01-2011	8.30-10.00 Symposium Talks			10.00-10.30 Coffee-break			10.30-13.30 Symposium Talks		

Location:

The School will take place inside the deconsecrated church of Santa Maria, in the historical centre of Sperlonga. Information to get there can be found on the website.

Registration:

There is no registration fee to attend the School and limited funds are available for some participants. The application forms for registration and financial support and all information about the School are available on the website.

The deadline for requesting participation is **31 July 2011**

Accommodation:

A list of suggested hotels is available on

www.memocsevents.eu/sperlonga2011/?page_id=8

Interested persons are kindly requested to take the hotel reservation directly.

International phone code for Italy is +39.

Special prices for School participants. When contacting the hotel, please quote Sperlonga Summer School on Mechanics and Engineering Sciences.

Website and e-mail:

Website: www.memocsevents.eu/sperlonga2011

E-mail: sperlonga2011@gmail.com

Organizing Committee:

Gianpietro Del Piero, Errico Presutti.

Advisory Committee:

Antonio Carcaterra, Carlo Massimo Casciola, Francesco dell'Isola (*chairman*), Antonio Di Carlo, Raffaele Esposito, Angelo Luongo, Umberto Perego, Mario Pulvirenti, Giuseppe Rega.

Local Organizing Committee:

Alberto Bersani, Giovanna Tomassetti.