

PET MASCOT 2008

IAC-CNR, Roma, Italy

Tuesday 21

8.30 *Registration*

9.00 **PET MASCOT 2008**

IAC Welcome: Michiel Bertsch

IMACS Welcome: Robert Vichnevetsky

ISGG Welcome: Bharat K. Soni

Key Note Lectures I

Chairperson: Jean-Marie Muylaert

Lecturer: Robert Vichnevetsky

9.15 **Science and society:
past and present**

R. Vichnevetsky

Lecturer: Maria Morandi Cecchi

10.00 **A finite element method for carbon**

10.40 **nanotubes in nanotechnologies**

M. Morandi Cecchi

10.45 *Coffee break*

Lecture Session I

Chairperson: Bharat K. Soni

Lecturer: Gennadii A. Chumakov

11.15 **Bases of the theory of 2D quasi-isometric
11.45 grids**

G.A. Chumakov

Lecturer: Roberto Della Ratta Rinaldi

11.50 **High-order schemes for the linearized
12.20 Euler equations**

R. Della Ratta Rinaldi, R. Arina

Lecturer: Raffaella Pavani

12.25 **About numerical integration of**

12.55 **Hamiltonian systems**

F. Mazzia, R. Pavani

13.00 *Lunch time*

Key Note Lecture II

Chairperson: Roy P. Koomullil

Lecturer: Rosa Maria Spitaleri

14.45 **Peer Training in Applied Scientific**

15.25 **Computing**

R.M. Spitaleri

Lecture Session II

Chairperson: Raffaella Pavani

Lecturer: Angelo R. Maligno

15.30 **Automatic industrial crack growth**

16.00 **simulation with the EXTended Finite**

Element Method

A.R. Maligno

16.05 *Coffee break*

Lecture Session III

Chairperson: Renzo Arina

Lecturer: Kirti Bhushan Mishra

16.30 **Experimental and numerical investigations**

17.00 **of pool flames of organic peroxides**

K.B. Mishra, K.D. Wehrstedt, A. Schonbucher

Lecturer: Manolo Venturin

17.05 **The CBS scheme for the numerical**

17.35 **approximation of the hydrodynamic**

model in semiconductor devices simulation

M. Venturin

Wednesday 22

Key Note Lectures III

Chairperson: Robert Vichnevetsky

Lecturer: Bharat K. Soni

9.15 **Meshing: algorithms, applications &**

9.55 **future directions**

B.K. Soni

Lecturer: Jean-Marie Muylaert

10.00 **In flight research on aerothermodynamics**

10.40 **(ATD) and thermal protection systems (TPS)
for space transportation systems**

*J.-M. Muylaert, M. Ivanov, V.A. Danilkin, C.
Park, H. Ritter, G. Ortega*

10.45 *Coffee break*

Lecture Session IV

Chairperson: Maria Morandi Cecchi

Lecturer: Joel Guerrero

11.15 **CFD study of biologically inspired flapping/**

11.45 **oscillating foils in forward motion**

J. Guerrero

Lecturer: Alberto Vocaturo

11.50 **Multiwavelets: elements of theory and**

12.20 **applications**

A. Vocaturo

Lecturer: Santa Agreste

12.25 **Critical aspects of a watermarking**

12.55 **algorithm enforceable in a real applicative
background**

S. Agreste

13.00 *Lunch time*

Key Note Lecture IV

Chairperson: Gerasimos G. Rigatos

Lecturer: Renzo Arina

14.45 Introduction to computational aeroacoustics

15.25

R. Arina

Lecture Session V

Chairperson: Gokhan Durmus

Lecturer: Daniele Di Rocco

15.30 Some experiences in simulation of

16.00 hydro-pneumatic accumulators

D. Di Rocco

16.05 *Coffee break*

Lecture Session VI

Chairperson: Gennadii A. Chumakov

Lecturer: Gerasimos G. Rigatos

16.30 Particle methods for intelligent robotic

17.00 systems

G.G. Rigatos

Lecturer: Gokhan Durmus

17.05 Effects of grid quality on the laminar

17.35 boundary layer flow over a flat plate

G. Durmus, M.S. Kavsaoglu

Lecturer: Roy P. Koomullil

17.40 Computational field simulations using

18.10 generalized meshes

R.P. Koomullil

PET MASCOT08 Closing

Consiglio Nazionale delle Ricerche

IAC-CNR

PET MASCOT 2008

Co-sponsors:

**IMACS- International Society for Mathematics and
Computer in Simulation**

ISGG- International Society for Grid Generation

Meeting Chair: R.M. Spitaleri

Meeting Co-Chair: F. Pistella

Scientific Committee:

R. Arina, Politecnico di Torino, Italy

M.M. Cerimele, IAC-CNR, Rome, Italy

J. Hauser, HPCC-Space GmbH, Germany

F. Pistella, IAC-CNR, Rome, Italy

B.K. Soni, UAB, USA

R.M. Spitaleri, IAC-CNR, Rome, Italy

R. Vichnevetsky, Rutgers University, USA

Organizing Committee:

F. Pistella, IAC-CNR, Rome, Italy

R.M. Spitaleri, IAC-CNR, Rome, Italy

Consiglio Nazionale delle Ricerche



**IAC-CNR
Peer Training Course
October 21-22, 2008**

PET MASCOT 2008

**1st PEER TRAINING Meeting
on Applied Scientific Computing
and Tools**

**Istituto per le Applicazioni del Calcolo-CNR
Viale del Policlinico 137
Roma, Italy**