

Marie Curie Conferences and Training Courses

**EUA4X**  
**European Atelier for Engineering and Computational Sciences**

**CNR-IAC**  
**EUA4X#8-Training Course**

Scientific Committee:

M.M. Cerimele, IAC-CNR, Italy  
G. Fotia, CRS4, Italy  
S. Paoletti, ADAPCO, Italy  
F. Pistella, IAC-CNR, Italy  
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B.K. Soni, UAB, USA  
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Organizing Committee:

M. Accarino, Enginsoft, Italy  
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webpages:

<http://www.iac.rm.cnr.it/workshops>  
<http://www.iac.rm.cnr.it/~eua4x>

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Universita' di Lecce  
&  
Convento di San Domenico

Lecce, October 3-7, 2005

*Joint Events*



**EUA4X#8**  
**State of the Art in**  
**Numerical Grid Generation**  
**From Theory to Practice**



**IMACS/ISGG Workshop**  
**MASCOT05**  
**5<sup>th</sup> Meeting on Applied Scientific**  
**Computing and Tools**  
**Grid Generation, Approximation,**  
**and Visualization**

**TCN CAE 2005**  
**International Conference on CAE and**  
**Computational Technologies for**  
**Industry**

15.20 A CBS framework for shallow water problems

M. Morandi Cecchi, M. Venturin

15.40 Numerical study of an evolutive model for magnetostrictive materials

F. Pistella, M.M. Cerimele, V. Valente

16.00 Patient - specific simulation studies of the coronary hemodynamics in a GRID environment: methods, imaging and mesh generation issues

B. Quatember, M. Mayr, H. Muehlthaler

16.20 Coffee Break

Session III Chairperson: B. Quatember

17.00 Integral operators based on refinable B-bases

E. Santi, L. Gori, E. Pellegrino

17.20 Visualization of Cartesian grid simulation results on CAD models

R. Schneiders

17.40 Surface and grid generation methods

Y. Shevelev

18.00 A numerical method for the reconstruction of acoustic fields around an obstacle in presence of moving sources

R.M. Spitaleri, M.M. Cerimele, F. Pistella

18.20 Validation and verification of Courant number insensitive CE/SE method for transient viscous flow simulations

B.S. Venkatachari, G.C. Cheng, S.C. Chang, B.K. Soni

**EUA4X #8**

**Universita' di Lecce**

**Monday 3 8.45-18.00**

**8.45 Opening**

*ISGG Executive Committee: B.K. Soni*

*EUA4X#8 Coordinator: R.M. Spitaleri*

*Lecturer: B.K. Soni*

**9.00 High Fidelity Simulations & Enabling  
Technology Overview & Background**

*10.30 Coffee Break*

**11.00 Computer Aided Geometry Design &  
GGTK**

**12.30 Discussions &Q &As**

*13.00 Lunch*

**14.30 Grid Generation & Grid Quality -  
Fundamentals**

*16.00 Coffee Break*

**16.30 Structured Grid Generation I**

**17.30 Discussions &Q &As**

**Tuesday 4 9.00-18.00**

*Lecturer: B.K. Soni*

**9.00 Structured Grid Generation II**

*10.30 Coffee Break*

**11.00 Unstructured, Hybrid and Generalized  
Meshing**

**12.30 Discussions &Q &As**

*13.00 Lunch*

**14.30 Mesh adaptation**

*16.00 Coffee Break*

**16.30 Meshing Tools**

**17.30 Discussions &Q &As**

**Wednesday 5 9.00-13.00**

*Lecturer: B.K. Soni*

**9.00 Overset Tools & Technology**

*10.30 Coffee Break*

**11.00 Parallel Meshing & Applications**

**12.30 Discussions &Q &As**

*13.00 Lunch*

**Convento di San Domenico**

**Wednesday 5 15.00-19.00**

**15.00 TCNCAE Conference Opening**

**15.15 Opening Plenary Sessions**

*16.45 Coffee Break*

**17.15 Opening Plenary Sessions**

**19.00 End of the Conference Opening**

**Thursday 6 9.00-19.00**

**9.00 TCNCAE Plenary Session**

*9.45 Coffee Break*

**10.20 Grid Based Mesh Generation in the  
Industry: Trimmed and Polyhedral  
Meshes**

*Lecturer S. Paoletti*

**11.10 Unstructured Quadrilateral Mesh  
Generation**

*Lecturer R. Schneiders*

**12.00 Discussions &Q &As**

*12.30 Lunch*

**14.00 TCNCAE Plenary Session**

**15.00 EUA4X Annual Conference**

*16.30 Coffee Break*

**17.00 EUA4X8 Poster Session**

**Gala dinner**

**EUA4X#8 & MASCOT05**

**Friday 7 9.00-18.40**

**9.00 TCNCAE Plenary Session**

*9.45 Coffee Break*

**10.20 Opening**

*IMACS President: R. Beauwens*

*ISGG Secretary and Treasurer: B.K. Soni*

**Session I Chairperson: Y. Shevelev**

**10.25 Mixed hybrid methods for neutron  
transport**

*R. Beauwens, S. Van Criekingen, E. Lewis*

**11.00 Numerical simulation of Europa's crust  
thermomechanics via a liquid/solid phase  
transition model with convection**

*M.M. Cerimele, D. Mansutti, F. Pistella*

**11.20 The DSC approach to computational fluid  
dynamics**

*S.Hein*

**11.40 Adaptive unstructured grid generation for  
engineering computation of aerodynamic  
flows**

*A. Jahangirian, Y. Shoraka*

**12.00 Moving body simulation using overset  
framework with rigid body dynamics**

*R. Koomullil, R. Noack, G. Cheng,*

*N. Prewitt, B.K. Soni*

*12.30 lunch*

**14.00 TCNCAE Plenary Session**

**Session II Chairperson: R. Beauwens**

**15.00 Segmentation of the coronary artery in  
biplane angiograms**

*M. Mayr, B. Quatember*