

MASCOT08

IAC-CNR, Roma, Italy

Thursday 23

8.30 Registration

9.10 **MASCOT08**

IAC Welcome: Michiel Bertsch

*IMACS Welcome: Robert Beauwens
Robert Vichnevetsky*

ISGG Welcome: Bharat K. Soni

Lecture Session I Chairperson: Robert Vichnevetsky

Lecturer: Francois Guibault

9.20 Subdivision-based geometric domain description for integrated mesh adaptation and geometry modification

F. Guibault, M. Wang

Lecturer: Jochem Häuser

10.00 Direct simulation Monte Carlo for the European expert space vehicle

J. Hauser, J-M Muylaert, T. Gollnick

10.40 *Coffee break*

Session I Chairperson: Maria Morandi Cecchi

11.10 Dirichlet to Neumann boundary conditions in generalized curvilinear coordinates for multiple scattering

S. Acosta, V. Villamizar

11.35 Moving the sources in the BS method

A. Garcès, R. Beauwens, G. Van den Eynde

12.00 Time-harmonic method for the linearized Euler equations for turbo-machinery noise propagation through engine exhaust

R. Arina, A. Iob

12.25 Mean value interpolation in algebraic numerical grid generation

C. Conti, R. Morandi

12.50 *Lunch time*

Session II Chairperson: Jochem Häuser

14.35 A spline based algorithm for the analysis of the flow of Scirocco plasma wind tunnel nozzle

E. Bucchignani, G. Pezzella, M. Marini

15.00 Optimization of the iteration parameters of the simulation of incompressible flow by genetic algorithm

A. Shklyar, A. Arbel

15.25 Numerical analysis of laminar separation bubbles

P. Catalano

15.50 *Coffee break*

Session III Chairperson: Renzo Arina

16.15 IESTA: a modular distributed simulation platform for the evaluation of air transport systems

R. Kervarc, A. Elie, T. Dubot, J. Bourrely

16.40 Assessment of air traffic environmental impacts using a large numerical code in a modular platform

R. Kervarc, A. Elie, M. Charlotte, P. Carle

17.05 Advanced numerical techniques for simulation of wingtip vortex

S. Ahmad, W. Brewer, P. Cinnella

20.30 *Workshop Dinner*

Friday 24

Lecture Session II Chairperson: Robert Beauwens

Lecturer: Jochem Häuser

9.10 Numerical electro and magneto-fluidynamics with applications

J. Hauser, J-M. Muylaert, O. Rybatzki

Lecturer: Bharat K. Soni

10.00 Computational simulations & 3D visualization applications in research & development, education, training & re-training

B.K. Soni

10.40 *Coffee Break*

Session IV Chairperson: Francois Guibault

11.10 Age-dependent pediatric finite element model development and validation

J-E. Kim, Y. Ito, A.M. Shih, B.K. Soni

11.35 Mathematical methods for the analysis of left ventricular wall motion

B. Quatember, M. Mayr, W. Recheis, S. Demertzis, G. Allasia, R. Cavoretto, A. De Rossi, E. Venturino

12.00 Design of an advanced user interface with dynamic windows enabling cardiologists to handle complex mathematical tasks

M. Mayr, B. Quatember

12.25 New gradient vector flow field for segmentation of breast tumors in ultrasound images

A. Rodtook, S.S. Makhanov

12.50 *Lunch time*

Session V Chairperson: Vianey Villamizar

14.35 Residual correction techniques for the efficient solution of the inverse medium problem

P. Maponi

15.00 An analysis of a spline collocation method for a normalized flux

K. Surla, Z. Uzelać, L. Teofanov

15.25 The solution of Tikhonov regularized equations arising from Fredholm integral equations of first kind

N. Egidi

15.50 *Coffee break*

Session VI Chairperson: Edoardo Bucchignani

16.15 Plasmon-polariton waveguides: mathematical modelling and numerical simulations

P. Curci

16.40 Neural modelling and fault diagnosis for prevention of cascading events in electric power systems

G.G. Rigatos, P. Siano

- 17.05 Applications of confined one-dimensional ultracold Bose gases with dipolar interactions
S. De Palo, R. Citro, E. Orignac, P. Pedri,
M.L. Chiofalo

Saturday 25

Session VII Chairperson: Pierluigi Maioni

- 9.25 Quadrature rules for Cauchy principal value integrals with refinable functions
L. Gori, E. Pellegrino, E. Santi
- 9.50 The best-approximation weighted-residuals method in finite elements
F. Marcuzzi, M. Morandi Cecchi
- 10.15 Time-frequency analysis of magnetoencephalographic data
G. Bretti, F. Pitolli
- 10.40 *Coffee Break*
- Lecture Session III Chairperson: Bharat K. Soni**
Lecturer: Alfio Borzi
- 11.10 Multigrid methods for PDE optimization
A. Borzi
- Session VIII Chairperson: Alfio Borzi**
- 11.50 Validation and assessment of turbulence transition models
G. Cheng, R. Nichols, K.D. Neroorkar,
P.G. Radhamony, B.K. Soni
- 12.15 Multigrid variational image segmentation and accomodative algorithms
R.M. Spitaleri

- 12.40 *Closing Greetings*

Consiglio Nazionale delle Ricerche

MASCOT08

Co-sponsors:

IAC-Istituto per le Applicazioni del Calcolo-CNR
SIMAI-Societa' Italiana di Matematica Applicata e Industriale
GNCS-Gruppo Nazionale di Calcolo Scientifico

Meetings Honorary Chair: Robert Vichnevetsky

Meeting Chairs: F. Pistella, R.M. Spitaleri

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webpages:

<http://www.iac.rm.cnr.it/~rosa/convegno>

Consiglio Nazionale delle Ricerche



IMACS/ISGG Workshop

October 23-25, 2008

MASCOT08

8th Meeting on Applied Scientific Computing and Tools

Grid Generation, Approximation and Visualization

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