MASCOT 2010
ULPGC: Edificio de Humanidades
Las Palmas de Gran Canaria, Spain

Wednesday 20

8.30 Registration
9.30 Welcome
ULPGC: Fernando Real Varcarcel
IMACS: Robert Beuweens, Robert Vichnevetsky
ISGG: Bharat K. Soni
MASCOT: Rosa Maria Spitaleri, Angel Plaza

Lecture Session I
Chairperson: Robert Beuweens
Lecturer: Robert Vichnevetsky

9.40 Today’s trends in scientific computation: from algorithms to applications
Lecturer: Bharat K. Soni

10.20 Computational simulations, nD visualization & mixed reality: research & development, education, training & re-training
11.00 Coffee break

Session I Chairperson: Martin Berzins

11.30 The k-Fibonacci hyperbolic functions
S. Falcon

11.55 An edge-based Delaunay refinement algorithm made simple and robust
A. Márquez, A. Moreno-González, A. Plaza, J.P. Suarez

12.20 Results on the convergence of the longest-edge trisection method for triangles
F. Perdomo, E. Quevedo, J.P. Suárez, A. Plaza

12.45 Quality measure comparison for longest-edge based partitions
M.A. Padron, A. Plaza, J.P. Suárez
13.10 Lunch time

Thursday 21

Lecture Session II
Chairperson: Robert Vichnevetsky
Lecturer: Thiab Taha

9.00 Parallel numerical methods for solving nonlinear evolution equations
Lecturer: Martin Berzins

9.40 Algorithms for adaptive meshing on large scale parallel fluid-structure interaction problems

10.20 Communications&proposals

Session IV Chairperson: Pilar Abad

10.25 Design and implementation and jet performance validation software for the ATLAS experiment at LHC
C. Doglioni, P. Francavilla, P. Loch, K. Perez, C. Roda, R. Vittilo

10.50 Coffee Break

Special Session

Together for Research - From the Young Researchers of the South Europe Onwards
Chairperson: Bharat K. Soni

11.15 A comparison of local parametric C° Bézier interpolants for triangular meshes
M. Boschirelli

11.40 Lagrange interpolation on scattered data in Banach spaces by biorthonormal operators
C. Bracco

14.55 Finite difference schemes on logically rectangular grids
F.J. Dominguez-Mota, J-G. Tinoco-Ruiz, M.E. Equihua-Tinoco, S. Mendoza-Armenta

15.20 Mesh mapping for sliding the cells in large motion
S. Arabi, R. Camarero, F. Guibault

15.45 A triangular mesh structure for representation of GPS ground stations
P. Abad, J.P. Suarez
16.10 Coffee break

Session III Chairperson: Francois Guibault

16.30 Double-staggered grid partitioning in general curvilinear coordinates
A. Arbel, A. Shklyar

16.55 Numerical grid generation free-access knowledge: theory, methods and people
R.M. Spitaleri

Poster Session 17.20 – 18.15
A comparison of interpolating schemes for landmark-based image registration using radial basis functions and splines
R. Cavoretto, A. De Rossi
Almost orthogonal quasi-isometric grids
G.A. Chumakov, S.G. Chumakov

Finite-time Lyapunov stability analysis of canard-cycles
G.A. Chumakov, N.A. Chumakova, E.A. Lashina

Multiple choice questions with the LaTeX Eqexam Package, R and Excel
J.J. Gonzalez, N. Guerra Quintana

Custom tasks with automatic correction
N. Guerra Quintana, J.J. Gonzalez

Boosting based classification of non stationary signals
D. Montoro, A. Santana, C.N. Hernandez, P. Saavedra

Peer training and active learning in applied scientific computing
F. Pasella, R.M. Spitaleri

Conformal and quasi-conformal strips in periodic Bézier form
J. Sanchez-Reyes, B. Dorado
20.45 Workshop Dinner

12.05 A new FV method for solving elliptic problems resembling the mixed FE approach
A.C. Kengni Jotsa

12.30 Numerical modelling of oceanic turbulent mixing layers
S. Rubino

12.55 An innovative solution for the throughflow simulation of turbomachines
F. Vignati

13.20 Lunch time

Session V Chairperson: Thiab Taha

15.10 Isosurface extraction: generalized adaptive marching cubes
K-H. Brakhage

15.35 Real world applications of OOF3D
V.R. Coffman, A.C.E. Reid, G. Dogan, S.A. Langer
16.00 Coffee break

Session VI Chairperson: José Pablo Suarez

16.30 Region extraction from SAR images via level set
M.M. Cerimele, L. Cinque, R. Cossu

16.55 Development of advanced methods for the generation of 3D skeleton representations of the moving coronary artery tree from cineangiographic imagery
M. Mayr, B. Quatember, W. Recheis

17.20 Visual investigation of ancient documents
R. Cossu, M. Veneziani
17.45 Comments&queries
Friday 22

Lecture Session III  
Chairperson: Santiago García-Alonso  
Lecturer: Ernest Mund  
9.00 Spectral element methods for PDE's: a short review on implementation techniques and applications  
9.40 Communications&proposals

Session VII  
Chairperson: Karl-Heinz Brakage  
9.45 Numerical study of surgical effects on patients with obstructive sleep apnea syndrome using computational fluid dynamics  
G. Cheng, R. Koomullil, Y. Ino, A. Shih, S. Sittitarorpsawong, P. Waite  
10.10 Simulation of flow patterns and gas mixing within the human respiratory system  
B. Quatember, M. Mayer, W. Recheis  
10.35 Time-accurate conservative adaptive schemes for compressible flow simulations  
G. Forestieri, D. Isola, P. Murulli, A. Guardone, G. Quaranta  
11.00 Coffee Break

Session VIII  
Chairperson: Francisco Domínguez-Mota  
11.30 Towards three dimensional numerical simulation of high speed reacting flows  
Y. Shoraka, S. Tabajnaui  
11.55 Hybrid finite element/volume solution of compressible flows in spherical coordinates  
D. De Santis, G. Geraci, A. Guardone  
12.20 Chronicles: a temporal logic framework for the study of large simulations  
R. Kervarc, P. Carle, C. Choppy

Lecture Session IV  
Chairperson: Casimir Kulikowski  
Lecturer: Ernest Mund  
15.45 Artificial intelligence meets modeling and visualization

13.10 Lunch time

Session IX  
Chairperson: Romain Kervarc  
14.30 Entire solution space of Boolean SAT problems using genetic algorithms  
H. Navarro, V. Navarro  
14.55 SAT solving using polyhedral models in MILP  
H. Navarro, V. Navarro  
15.20 A derivative-free Extended Information Filtering approach for sensorless control of nonlinear systems  
G.G. Rigatos, P. Siano

12.45 Dynamic analysis of an electrostatic microswitch using Rayleigh-Ritz method  

13.10 Lunch time

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16.25 Closing Greetings

Consiglio Nazionale delle Ricerche

MASCOT10

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SIMAI-Società Italiana di Matematica Applicata e Industriale

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Organizer of the Special Session:  
Rosa Maria Spitaleri, IAC-CNR, Italy

webpage: http://alice.rm.cnr.it/wiki/index.php/MASCOT

IMACS/ISGG Workshop  
October 20-22, 2010

MASCOT 2010  
10th Meeting  
on  
Applied Scientific Computing and Tools  
Grid Generation, Approximation and Visualization

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