PROGRAM

Third Brazil-China Conference on Scientific Computing - BCSciComp 2013

July 1-5, 2013, COPPE-UFRJ

Rio de Janeiro, Brazil

July 1

9:00 – 10:00 **Opening Ceremony**
Welcome address - Prof. Luiz Pinguelli Rosa

10:00 – 11:00 **Alvaro M. da Costa,** Petrobras, **N.F.F. Ebecken,** UFRJ
Overcoming the challenge of the salt

11:00 – 11:30 **Coffee**

11:30 – 12:30 **Yangjun Ying,** IAPCM
Introduction the scientific computation of IAPCM

12:30 – 13:30 **Lunch**

13:30 – 14:30 **Renato Cotta,** UFRJ
The UNIT algorithm in multidimensional convection-diffusion: unified integral transforms with symbolic computation

14:30 – 15:00 **Gang Li,** NUIST
Introduction to Nanjing University of Information Science and Technology

15:00 – 15:30 **Jianwei Zhang, G. Wang,** NUIST
Robust variational assimilation of hyper-spectral atmospheric infrared sounder with cloud-affected brightness temperature

15:30 – 16:00 **Coffee**

16:00 – 16:30 **Carolina Cotta,** UFRJ
Direct inverse analysis in nano microfluidics via integral transforms and Bayesian inference

July 2

9:00 – 10:00 **Pedro L. S. Dias,** LNCC, **C.F.M. Raupp**, USP, **E.R. Gutierrez**, INPE
The role of multiple scales analysis on climate variability

10:00 – 10:30 **Gang Xiao, R. She, Y. Ying,** IAPCM
The simulations of transient evolution of stochastic neutron fields in the dynamic multiplying system

10:30 – 11:00 **Ana B. de C.G. e Silva**, **Fernando L.B. Ribeiro,** UFRJ**, L. Wrobel,** Brunel U**.**
Numerical modeling of temperature in human brain using the finite element method

11:00 – 11:30 **Coffee**

11:30 – 12:00 **J. Xin**, **Weijia Zhao,** QDU, **J. Zhu,** LNCC
A high order numerical method for solving fractional differential equations

12:00 – 12:30 **Jiang Zhu, A.F.D. Loula,** LNCC**, J. Zhang,** CUP**, X. Yu,** IAPCM**, L. Bevilacqua,** UFRJ
Thermally coupled non-Newtonian flows: variational formulation and numerical analysis

12:30 – 13:30 **Lunch**

13:30 – 14:30 **Xijun Yu**, IAPCM
A new discontinuous Galerkin method for parabolic equations with discontinuous coefficients

14:30 – 15:30 **Abimael F.D. Loula,** LNCC
On numerical solutions of time harmonic waves

15:30 – 16:00 Coffee

16:00 – 16:30 Jiming Wu, Z. Gao, IAPCM
A cell-centered and linearity preserving scheme for the diffusion problems on arbitrary 2-D and 3-D meshes

July 3

9:00 – 10:00 Adalberto Fazzio, USP
Electronic, magnetic and transport properties of graphene and related materials

10:00 – 10:30 Xudeng Hang, IAPCM
An efficient preconditioner for multi-group radiation diffusion equations

10:30 – 11:00 M.P. Lima, USP
Interfaces between buckling phases in silicone

11:00 – 11:30 Coffee

11:30 – 12:00 Hui Zheng, B. Sun, H. Liu, H. Song, IAPCM
Amplification effects of the surface defect concentration and component for NiAl compound

12:00 – 12:30 Nilson Roberty, UFRJ
Reconstruction of coefficients and sources in elliptic systems

12:30 – 13:30 Lunch

Afternoon Free

July 4

9:00 – 10:00 **Marcelo Gattass,** PUC-RJ
A review of 26 years of development of technical and scientific software for the oil industry in Brazil

10:00 – 10:30 **Yanjin Wang, J. Liu, Q. Feng, P. Hao,** IAPCM
3D Eulerian numerical simulation for multi-material flows

10:30 – 11:00 **Philippe Devloo, S. Gomes, A. M. Farias,** UNICAMP
On the numerical simulation of multiphysics phenomena with the NeoPZ environment

11:00 – 11:30 **Coffee**

11:30 – 12:30 **Alvaro Coutinho,** UFRJ
Parallel mesh multiplication and generation: towards petascale simulations

12:30 – 13:30 **Lunch**

13:30 – 14:30 **Qianshun Chang,** CAS
Several fast algorithms of split Bregman method for the denoising and deblurring problems

14:30 – 15:00 **A.C. Galeão,** LNCC, **L. Bevilacqua, A.P. Rio Doce,** UFRJ
Modeling Anomalous Diffusion Phenomena: Theoretical and Computational Advances

15:00 – 15:30 **Jun Chen, R. Xu**, IAPCM
The multiscale method study on the shear band in metal under shock loading

15:30 – 16:00 **Coffee**

16:00 – 16:30 **J.E. Padilha,** USP
Electronic and structural properties of 2d-materials: Si, Ge and $Si_x ge_{1-X}$

July 5

9:00 – 10:00 **Huazhong Tang,** PKU
Numerical methods and solutions of nonlinear Dirac equations

10:00 – 10:30 **M.M. Barros,** LNCC**, G. Silva,** Petrobras
The nature of a fractal curve characterized through the dynamical dimension

10:30 – 11:30 **Luiz Bevilacqua,** UFRJ
COPPE-UFRJ 50 years of contribution for the advancement of scientific and technological research in Brazil

11:30 – 12:00 **Closing Ceremony**

Lunch: Brazilian Academy of Sciences