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Preface

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International Conference on Computational Science, ICCS 2011

Preface

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First of all, we would like to express our deep sympathy with the people in East-Japan that were stricken by the catastrophic earthquake on March 11th, 2011, and its aftermath. Due to the continuing uncertainty about the situation in Japan, we had to make a decision to move this conference from Tsukuba, Japan to Nanyang Technological University, Singapore. We would like to thank our colleagues who understand this situation about the change of the venue, and Dr. Lees who has helped to organize the conference in the beautiful campus of Nanyang Technological University in Singapore.

The International Conference on Computational Science aims to bring together annually researchers and scientists from mathematics and computer science as basic computing disciplines, researchers from various application areas who are pioneering advanced application of computational methods to sciences such as physics, chemistry, life sciences, and engineering, arts and humanitarian fields, along with software developers and vendors, to discuss problems and solutions in the area, to identify new issues, and to shape future directions for research, as well as to help industrial users apply various advanced computational techniques.

ICCS 2011 will be the eleventh in this series of highly successful conferences. For the previous ten very successful meetings see: http://www.iccs-meeting.org/iccs2011/previous-iccs.html

The theme for ICCS 2011 is "The Ascent of Computational Excellence ", to mark the ever-increasing importance of and progress in computational science theory and practice. The conference will be a unique event focusing on recent developments in methods and modeling of complex systems for diverse areas of science, scalable scientific algorithms, advanced software tools, computational grids, advanced numerical methods, and novel application areas where the above novel models, algorithms and tools can be efficiently applied such as physical systems, computational and systems biology, environmental systems, finance, and others.

For this great event, we have invited world leading keynote speakers to give their current and future vision of Computational Science.

- Michele Parrinello, ETH Zürich
- Andrew Chien, University of California, San Diego
- Akira Ukawa, Center for Computational Sciences and Institute of Physics, University of Tsukuba
- David Srolovitz, Institute of High-Performance Computing, National University of Singapore
- Chris Barrett, Virginia Tech

Besides our excellent keynote speakers, out of the submitted papers to main track and workshops, we selected about 220 high-quality papers for presentation at the conference and publication in the proceedings, published by Elsevier in their new Procedia Computer Science series.

For ICCS 2011, about 580 papers were submitted in total, from numerous countries. ICCS 2011 had 28% of the submitted papers accepted for its Main Track. Workshops rely on direct invitation of topic specific authors; therefore in this case there is already a pre-selection of potential authors, resulting in a much higher acceptance rate. For ICCS 2011 this was: 41%.

ICCS relies strongly on the vital contributions of our workshop organizers to attract high quality papers in many subject areas. We would like to thank all committee members for the main track and the workshops for their contribution to ensure a high standard for the accepted papers.

We are proud to note that ICCS is an ERA 2010 A-ranked conference series.

Finally, we are deeply concerned that this severe situation is continuing in East-Japan. We hope that the Japanese people will together step forward to overcome this tragic disaster and walk the path toward recovery.

June 2011,   The ICCS 2011 Organizers,
                                                 Mitsuhisa Sato
                                                 Satoshi Matsuoka
                                                 Peter M.A. Sloot
                                                 G. Dick van Albada
                                                 Jack Dongarra

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Sponsors

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Elsevier B.V.	
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Workshop organizers

Simulation of Multiphysics Multiscale Systems, 8th International Workshop
   V.V. Krzhizhanovskaya, University of Amsterdam, The Netherlands

2nd Workshop on Computational Optimization, Modelling and Simulation (COMS 2011)
   X.S. Yang, National Physical Lab, UK; S. Koziel, Rekjavik University, Iceland; L. Leifsson, Rekjavik University, Iceland

6th Workshop on Computational Chemistry and Its Applications
P. Ramasami, University of Mauritius; H.F. Schaefer III, University of Georgia

Tools for Program Development and Analysis in Computational Science
J. Tao, Karlsruhe Institute of Technology; C. Klausecker, Ludwig-Maximilians-Universität München; A. Knüpfer, Technische Universität Dresden; D. Kranzlmüller, Ludwig-Maximilians-Universität München; R. Wismüller, University of Siegen; A. Bode, Technische Universität München; J. Volkert, Johannes Kepler University Linz

Third Workshop on Emerging Parallel Architectures
B. Schmidt, Nanyang Technological University

Dynamic Data Driven Application Systems - DDDAS 2011
C.C. Douglas, University of Wyoming

Agent-Based Simulations, Adaptive Algorithms and Solvers
M. Paszynski, R. Schaefer, K. Cetnarowicz, Department of Computer Science, AGH University of Science and Technology, Krakow, Poland; D. Pardo IKERBASQUE, Basque Foundation of Science, Bilbao, Spain

Computational Science of Mesoscopic Methods for Fluid Dynamics
J. Bernsdorf, GRS Aachen; A.G. Hoekstra, University of Amsterdam

Fifth Workshop on Teaching Computational Science (WTCS 2011)
A.B. Shiflet, Wofford College, USA; A. Tirado-Ramos, Emory University

Sixth international Workshop on Automatic Performance Tuning (iWAPT2011)
T. Katagiri, The University of Tokyo, JAPAN; T. Imamura, The University of Electro-communications, JAPAN; R. Vuduc, Georgia Institute of Technology, USA

Fourth Workshop on Biomedical and Bioinformatics Challenges to Computer Science
M. Cannataro, University Magna Græcia of Catanzaro; J. Sundnes, Simula Research Laboratory, Norway; R. Weber dos Santos, Federal University of Juiz de Fora, Brazil

Second International Workshop on Computational Stochastics
K. Yamazaki, Osaka University

Dynamic Network Analysis
K. Kampis, L. Gulyas, Collegium Budapest

First International Workshop on Advances in High-Performance Computational Earth Sciences: Applications and Frameworks (IHPCES)
K. Nakajima, T. Furumura, M. Satoh University of Tokyo, Japan

Data Mining in Earth System Science (DMESS 2011)
F.M. Hoffman, R.T. Mills, Computational Earth Sciences Group, Computer Science & Mathematics Division, Oak Ridge National Laboratory, USA; J.W. Larson School of Computer Science, The Australian National University, Australia

Large Scale Computational Physics
F. Yuasa, S. Hashimoto, High Energy Accelerator Research Organization, KEK, Japan; E. de Doncker, Western Michigan University; N. Kawashima, University of Tokyo

Workshop on Climate Change Data Challenges – C2DC
G. Aloisio, S. Fiore University of Salento and Euro Mediterranean Center for Climate Change; P. Fox, Rensselaer Polytechnic Institute; A. Woolf, STFC, Rutherford Appleton Laboratory

International Workshop on Flow and Transport: Computational Challenges
S. Sun, King Abdullah University of Science and Technology; J. Liu, Colorado State University

Knowledge representation and applied models and metadata in computational science
M.-A. Sicilia, D. Rodríguez-García, Computer Science Department, University of Alcalá; N. Manouselis, Greek Research and Technology Network – GRNET; I.N. Athanasiadis, Electrical & Computer Engineering Department, Democritus University of Thrace

8th Workshop on Computational Finance and Business Intelligence

Y. Shi, Graduate University of the Chinese Academy of Sciences and University of Nebraska at Omaha; S.Y. Wang, Academy of Mathematical and System Sciences, Chinese Academy of Sciences; Y. Tian, Graduate University of the Chinese Academy of Sciences

Executable Paper Challenge

P.M.A. Sloot, Computational Science, University of Amsterdam

Large scale computational molecular science

S. Nagase, Institute for Molecular Science, Okazaki, Japan; S. Sakaki, Kyoto University A.F. Sax, Karl-Franzens-Universität Graz

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