

THE 2007 HIGH PERFORMANCE COMPUTING & SIMULATION CONFERENCE (HPCS 2007)

**In conjunction with The 21st EUROPEAN CONFERENCE ON MODELLING
AND SIMULATION (ECMS 2007)**

PROGRAM

(Subject to Change)

**June 4 - 6, 2007
Prague, Czech Republic**

**Co-Sponsored by SCS-Europe, IEEE Germany, ASIM, EUROSIM, CASS, JSST,
PTSK, TSS and In Cooperation with the IEEE Computer Society Technical
Committee on Parallel Processing (TCPP)**



Proceedings of The 2007 High Performance Computing & Simulation Conference (HPCS 2007)

June 4 - 6, 2007
Prague, Czech Republic

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SPECIAL SESSION ON SECURITY AND HIGH PERFORMANCE COMPUTING SYSTEMS

Organizer: Luca Spalazzi

Dipartimento di Ingegneria Informatica, Gestionale e dell'Automazione
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SPECIAL SESSION ON PARALLEL AND GRID COMPUTING FOR OPTIMIZATION (PGCO 007)

Organizers: Nouredine Melab and El-Ghazali Talbi

Parallel Optimization Research Group
CNRS/LIFL, INRIA Futurs
Université de Lille1, France

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E-G. Talbi, Université de Lille1, France

SPECIAL SESSION ON PARALLEL AND DISTRIBUTED SIMULATION (PDSim 2007)

Organizer: Karim Kabalan

American University of Beirut, Lebanon

SPECIAL SESSION ON HIGH PERFORMANCE INFORMATION RETRIEVAL AND VISUALIZATION: ALGORITHMS AND APPLICATIONS

Organizer: Frederick C. Harris, Jr.

University of Nevada at Reno, Nevada, USA

Session Technical Program Committee:

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Pierre Tiako, Langston University, Oklahoma, USA

Gregory Vert, University of Nevada, Reno, Nevada, USA

HPCS 2007 ADDITIONAL REVIEWERS:

Mike McMahon, University of Nevada, Reno, Nevada, USA

Notes: HPCS 2007 tutorial is available to attendees free of charge.

Papers in the program with * are nominated by the Awards Committee for the HPCS 2007 Best Paper Award. The winner will be announced at the conference.

Sunday June 3 rd , 2007		
14:00 – 17:00 Room 223	Registration	Room A - Tutorial High Performance Nonlinear Global Optimization Techniques and Applications Dr. Mark Wachowiak
17:00 – 20:00	Welcome Party – Restaurant ZOOM	

Monday June 4 th , 2007		
9:00 – 9:15	Multi Conference Opening Session (Meeting Hall IV)	
9:15 – 10:15	Keynote Speech I by Prof. P. Berruet (Meeting Hall IV)	
10:15 – 10:45	Coffee Break (South Foyer, 2 nd Floor)	
10:45 – 12:45	HPCS 2007 Presentation Sessions	
	10:45-11:00 Room 223	HPCS 2007 Opening Remarks General Co-Chairs and Program Chair
	11:00-12:00 Room 223	HPCS 2007 Invited Talk Wireless Network Security: Threats and Counter Measures Prof. Ratan Guha SESSION CHAIR: HAMID ABACHI
	12:00-12:45 Room 223	S1: Storage & Warehousing for High Performance Systems SESSION CHAIR: ANTONIO NEBRO *1020: Multi-RAID Queueing Model with Zoned Disks Soraya Zertal, Peter Harrison PRISM, University of Versailles, FRANCE and Imperial College London, UK *1011: Optimizing Cache Efficiency by Simulation Driven Automatic Padding Marco Höbbel, Thomas Rauber, Carsten Scholtes University of Bayreuth, Bayreuth, Germany
12:45 – 13:45	Lunch Break (Holiday Inn Restaurant)	
13:45 – 15:25	Presentation Sessions	
	13:45-14:25 Room 223	S2: Power Aware Architectures and Techniques SESSION CHAIR: BERTRAND LE CUN *1005: Phased Drowsy I-Cache with On-Demand Wakeup Prediction Policy for High-Performance Low-Energy Microprocessors Zhou Hongwei, Zhang Chengyi, Zhang Minxuan National University of Defense Technology, Changsha, China 1008: Research on a Low-Power MCD Technique Based on EPIC Rong Ji, Liang Chen, Yongwen Wang, Xianjun Zeng, Junfeng Zhang National University of Defense Technology, Changsha, Hunan, China

	14:25-15:25 Room 223	<p>S3: Message Passing Algorithms and Architectures SESSION CHAIR: PETER HARRISON</p> <p>*1021: BSP/CGM Algorithms for the Transitive Closure Problem <u>Edson Norberto Caceres</u>, Cristiano Costa Argemom Vieira Federal University of Mato Grosso do Sul, Campo Grande - MS, Brazil</p> <p>1014: A Peer-to-Peer Simulation Architecture Bernardt Duvenhage, <u>Willem Herman Le Roux</u> CSIR, Pretoria, South Africa</p> <p>1012: Hardware Design, Expandability, System Cost and Mean Inter-node Message Distance of Augmented Hypercube Torus and Master-Slave Star-Ring Augmented Hypercube Architectures <u>Marvam Amiripour</u>, Hamid Abachi Monash University, Victoria, Australia</p>
15:25 – 15:50	Coffee Break (South Foyer, 2nd Floor)	
15:50 – 17:30	Presentation Sessions	
	15:50-17:30 Room 223	<p>S4: Special Session on Parallel and Grid Computing for Optimization (PGCO'2007) SESSION CHAIRS: N. MELAB AND E.-G. TALBI</p> <p>PGC-04: A Grid-Based Hybrid Cellular Genetic Algorithm for Very Large Scale Instances of the CVRP Bernabé Dorronsoro, Daniel Arias, Francisco Luna, <u>Antonio J. Nebro</u>, and Enrique Alba University of Malaga, Spain</p> <p>PGC-05: Toward a Napster-like P2P B&B Algorithm M. Mehdi, M. Mezmaç, <u>N. Melab</u> and E-G. Talbi Laboratoire d'Informatique Fondamentale de Lille and UMR CNRS 8022, INRIA Futurs, France</p> <p>PGC-01: Distributed Coevolutionary Genetic Algorithm for Optimal Design of Ad Hoc Injection Networks <u>Gregoire Danoy</u>, Pascal Bouvry, and E. Alba University of Luxembourg, Luxembourg and University of Malaga, Spain</p> <p>PGC-03: Bob++ : a Framework for Exact Combinatorial Optimization Methods on Grids Francois Galea and <u>Bertrand Le Cun</u> PRISM Laboratory, University of Versailles, France</p> <p>PGC-02: A Grid-enabled Framework for Exact Optimization Algorithms I. Zunino, <u>N. Melab</u> and E-G. Talbi ..., Argentina, CNRS/LIFL, INRIA Futurs, University of Lille1, France, Université des Sciences et Technologies de Lille, France</p>
17:45 - - - -	Departure for Prague Tours	

Tuesday June 5th, 2007	
9:00 – 10:00	Keynote Speech II by Dr. B. Maslowski (Meeting Hall IV)
10:00 – 10:20	Coffee Break (South Foyer, 2nd Floor)
10:20 – 12:30	Presentation Sessions
<p>10:20-11:25 Room 223</p>	<p>S5: Special Session on Security and High Performance Computing Systems SESSION CHAIR: L. SPALAZZI</p> <p>Sec-01: An Architecture for Distributed Dictionary Attacks to OpenPGP Secret Keyrings Massimo Bernaschi, <u>Mauro Bisson</u>, Emanuele Gabrielli, Simone Tacconi Italian National Research Council, Italy; CASPUR, Italy; University of Rome "La Sapienza", Italy; Italian Ministry of Internal Affairs, Italy</p> <p>Sec-02: TPMC: A Model Checker for Time--Sensitive Security Protocols Massimo Benerecetti, <u>Nicola Cuomo</u>, Adriano Peron Universita' di Napoli "Fedetico II", Italy</p> <p>Sec-03: An Experience-based Incident Response System Gianluca Capuzzi, <u>Egidio Cardinale</u>, Ivan Di Pietro, Luca Spalazzi Università Politecnica delle Marche, Ancona, Italy</p>
<p>11:25-12:30 Room 223</p>	<p>S6: Application-Specific Architectures and Networks SESSION CHAIR: EDSON CACERES</p> <p>1004: Implementation and Evaluation of Conditional Stream in Stream Processor <u>SUI Bingcai</u>, XING Zuocheng, MA Anguo, HUANG Ping, and ZHANG Minxuan National University of Defense Technology, ChangSha, HuNan, China</p> <p>*1022: Model of Lossy Links In Wireless Sensor Networks <u>Yelena Chaiko</u>, Viktors Gopejenko Riga Technical University & Information Management Institute (ISMI) Riga, Latvia</p> <p>1009: Simulation Based Optimization of Indirect Aluminum Extrusion Process Parameters <u>Sachin Man Bajimaya</u>, Chang Mok Park, Gi Nam Wang Ajou University, Suwon, Korea</p>
12:30 – 13:30	Lunch Break (Holiday Inn Restaurant)
<p>13:30 – 15:10</p>	<p style="text-align: center;">HPCS 2007 Panel and Forum (Room 223)</p> <p>Panel Moderator: Prof. Mads Nygård Norwegian University of Science and Technology, Norway</p> <p>Panelists: <i>Prof. Hamid Abachi</i>, University of Wales, U.K. <i>Prof. Ratan Guha</i>, University of Central Florida, US <i>Dr. Antonio Nebro</i>, University of Malaga, Spain <i>Prof. Domenico Talia</i>, Università della Calabria, Italy <i>Dr. Mark Wachowiak</i>, Nipissing University, Canada</p>
15:10 – 15:40	Coffee Break (South Foyer, 2nd Floor)

15:40 – 17:50		Presentation Sessions
15:40-16:45 Room 223	<p>S7: Languages, Libraries, and Programming Environments SESSION CHAIR: RATAN GUHA</p> <p>1016: RuBLX : A Ruby-based Batch Language for Xgrid <u>Tetsuya Suzuki</u>, Kiyoto Hamano Shibaura Institute of Technology, Saitama City, Saitama, Japan</p> <p>1018: Experiences with Aspect-based Parallelization of Scientific Code Manuel Diaz, <u>Sergio Romero</u>, Bartolome Rubio, Enrique Soler, Jose M. Troya University of Malaga, Spain</p> <p>*1019: Pragmatics of Virtual Machines for High-Performance Computing: A Quantitative Study of Basic Overheads <u>Cam Macdonell</u>, Paul Lu University of Alberta, Edmonton, Alberta, Canada</p>	
16:45-17:50 Room 223	<p>S8: Scheduling and Load Balancing Algorithms and Schemes SESSION CHAIR: TETSUYA SUZUKI</p> <p>*1010: A Comparison of Scheduling Algorithms for Multiprocessor Tasks with Precedence Constraints <u>Jörg Dümmler</u>, Raphael Kunis and Gudula Rüniger Chemnitz University of Technology, Chemnitz, Germany</p> <p>1007: A Genetic Algorithm for Process Scheduling in Distributed Operating Systems Considering Load Balancing Mohammad Nikravan, <u>Mostafa H. Kashani</u> Islamic Azad University, Shahriar Shahrqods Branch, Tehran, Iran</p> <p>1006: Parallel Min-Max Ant Colony System (MMAS) for Dynamic Process Scheduling in Distributed Operating Systems Considering Load Balancing Mohammad Nikravan, <u>Mostafa H. Kashani</u> Islamic Azad University, Shahriar Shahrqods Branch, Tehran, Iran</p>	
20:00 - 23:00	<p>Conference Dinner (Vltava River Trip) Departure from Prague Congress Centre will be around 19:15</p>	

Wednesday June 6th, 2007	
9:00 – 10:00	Keynote Speech III by Dr. Wainer (Meeting Hall IV)
10:00 – 10:30	Coffee Break (South Foyer, 2nd Floor)
10:30 – 12:00	Presentation Sessions
10:30-12:00 Room 223	<p>S9: Special Session on High Performance Information Retrieval and Visualization: Algorithms and Applications SESSION CHAIR: F. HARRIS, JR.</p> <p>IRV-1001: An Efficient Method for Compressing and Searching Genomic Databases Jeffrey B. Wallace, Gregory L. Vert, <u>Sara Nasser</u> University of Nevada - Reno, Reno, Nevada, USA</p> <p>IRV-1002: Volumetric Visualization Methods for Atmospheric Model Data in an Immersive Virtual Environment Michael P. Dye, <u>Frederick C. Harris Jr.</u>, Philip A. McDonald, and William R Sherman University of Nevada -Reno & Desert Research Institute Center for Advanced Computation and Modeling, Reno, Nevada, USA</p> <p>IRV-1004: A Taxonomic Model Supporting High Performance Spatial-Temporal Queries In Spatial Databases Gregory Vert, Rawan Alkhalidi, <u>Sara Nasser</u>, Frederick C. Harris. Jr., Sergiu M. Dascalu University of Nevada - Reno, Reno, Nevada, USA</p> <p>IRV-1003: Managing Data and Computational Complexity for Immersive Wildfire Visualization Michael A. Penick, Roger V. Hoang, <u>Frederick C. Harris Jr.</u>, Sergiu M. Dascalu, Timothy J. Brown, William R. Sherman, Philip A. McDonald University of Nevada – Reno, & Desert Research Institute Center for Advanced Computation and Modeling, Reno, Nevada, USA</p>
12:00 – 12:15	HPCS 2007 Closing Session (Room 223) General Co-Chairs and Program Chair
12:15 – 12:45	Multi Conference Closing Session (Meeting Hall IV)
12:45 – 13:45	Lunch Break (Holiday Inn Restaurant)