

# **6th International Workshop on Performance Modeling, Evaluation, and Optimization of Parallel and Distributed Systems (PMEO-PDS'07)**

## **1. Preface**

Welcome to PMEO-PDS'07! This is the sixth time a one-day workshop on Performance Modeling, Evaluation, and Optimization of Parallel and Distributed Systems is being held in conjunction with IPDPS.

Performance modeling, evaluation, and optimization of parallel and distributed systems have been an important and fundamental research topic over the past years and pose challenging problems that require innovative tools and techniques to keep up with the rapid evolution and increasing complexity of such systems. The workshop aims to provide a forum for scientists, engineers, practitioners, and computer users to share their experience and report state-of-the-art and in-progress research in this research field.

In response to the Call-for-Papers, 31 submissions have been received from all over the world. All submissions have been peer-reviewed by the members of the technical program committee and/or external reviewers. The manuscripts have been ranked according to their original contribution, technical strength, presentation, and relevance to the main theme of the workshop. 18 papers have been selected for presentation at the workshop and inclusion in the IPDPS'07 proceedings. The scope covered by the selected papers is quite broad, reflecting the importance and recent development of performance related topics at all levels of parallel and distributed systems.

We would like to deeply thank the IPDPS Workshop Organizing Committee for giving us this opportunity to organize PMEO-PDS'07, especially to the IPDPS Workshops Chair, Prof. Alan Sussman and Vice Chair, Prof. Yuanyuan Yang, for their great help and guidance. Our thanks also go to all authors for their valuable contributions and to all program committee members and reviewers for providing timely and in-depth reviews. Last but not least, we thank the attendees of this workshop. We hope you will enjoy the program!

## **2. Workshop Co-Chairs**

Geyong Min  
Department of Computing  
University of Bradford  
Bradford, BD7 1DP  
U.K.

Mohamed Ould-Khaoua  
Department of Computing Science  
University of Glasgow  
Glasgow, G12 8RZ  
U.K.

## **3. Publicity Co-Chairs**

Xiaolong Jin  
Department of Computing  
University of Bradford  
Bradford, BD7 1DP  
U.K.

Mirela Sechi Moretti Annoni Notare  
  
Barddal University  
Florianopolis, SC  
Brazil

## **4. Program Committee**

K. Al-Begain, Univ. of Glamorgan (UK)  
A. Al-Dubai, Napier Univ. (UK)  
H. R. Arabnia, Univ. of Georgia (USA)  
I. Awan, Univ. of Bradford (UK)  
A. Boukerche, Univ. of North Texas (USA)  
J. Bradley, Imperial College London (UK)  
P. Cockshott, Univ. of Glasgow (UK)  
M. Colajanni, Univ. of Modena (Italy)  
K. Day, Sultan Qaboos Univ. (Oman)

K. Djemame, Univ. of Leeds (UK)  
 T. El-Ghazawi, George Washington University (USA)  
 R. Fatoohi, San Jose State University (USA)  
 E. Gelenbe, Imperial College London (UK)  
 M. Gueroui, University of Cergy-Pontoise (France)  
 X. He, Tennessee Technological Univ. (USA)  
 R. Ibbett, Univ. of Edinburgh (UK)  
 S. Jarvis, Univ. of Warwick (UK)  
 X. Jin, Univ. of Bradford (UK)  
 H. Karatza, Univ. of Thessaloniki (Greece)  
 A. Katangur, Texas A&M Univ. (USA)  
 A. Khonsari, IPM (Iran)  
 W. Knottenbelt, Imperial College London (UK)  
 K. Li, State Univ. of New York at New Paltz (USA)  
 H. Liu, Huazhong Univ. of Science and Technology (CHINA)  
 S. Loucif, Emirates University, (UAE)  
 L.M. Mackenzie, Univ. of Glasgow (UK)  
 Y. Pan, Georgia State Univ. (USA)  
 D. K. Pradhan, Univ. of Bristol (UK)  
 X. Qin, New Mexico Inst. of Mining & Technology (USA)  
 H. Sarbazi-Azad, Sharif Univ. & IPM (Iran)  
 A. Shahrabi, Glasgow Caledonian Univ. (UK)  
 E. Song, Huazhong Univ. of Science and Technology (CHINA)  
 X.H. Sun, Illinois Institute of Technology (USA)  
 N. Thomas, Univ. of Newcastle (UK)  
 A. Touzene, Sultan Qaboos Univ. (Oman)  
 X. Wang, Villanova Univ. (USA)  
 M. Woodward, Univ. of Bradford (UK)  
 J. Wu, Florida Atlantic Univ. (USA)  
 L. Xiao, Michigan State Univ. (USA)  
 T. Xie, San Diego State University (USA)  
 C.Z. Xu, Wayne State Univ. (USA)  
 Z. Xu, Suffolk Univ. (USA)  
 S. Yan, Univ. of Bradford (UK)  
 L.T. Yang, St Francis Xavier Univ. (CANADA)  
 X. Zhou, University of Colorado at Colorado Springs (USA)  
 A. Zomaya, Univ. of Sydney (Australia)

## 5. List of Accepted Papers

1. Average-Case Performance Analysis of Online Non-Clairvoyant Scheduling of Parallel Tasks with Precedence Constraints  
*K. Li (State University of New York at New Paltz, USA)*
2. A Probabilistic Approach to Measuring Robustness in Computing Systems  
*B. Eslamnour, S. Ali (University of Missouri-Rolla, USA)*
3. Dynamic Load Balancing of Unbalanced Computations using Message Passing  
*J. Dinan (Ohio State University, USA), S. Olivier (University of North Carolina at Chapel Hill, USA), G. Sabin (Ohio State University, USA), J. Prins (University of North Carolina at Chapel Hill, USA), P. Sadayappan (Ohio State University, USA), C.-W. Tseng (University of Maryland at College Park, USA)*
4. Software Tools for Performance Modeling of Parallel Programs  
*D.R. Martinez (University of Santiago de Compostela, Spain), V. Blanco (La Laguna University, Spain), M. Boullon (University of Santiago de Compostela, Spain), J.C. Cabaleiro (University of Santiago de Compostela, Spain), C. Rodriguez (La Laguna University, Spain), F.F. Rivera (University of Santiago de Compostela, Spain)*

5. Predicting the Effect on Performance of Container-Managed Persistence in a Distributed Enterprise Application  
*D.A. Bacigalupo (University of Warwick, UK), J.W.J. Xue (University of Warwick, UK), S.A. Jarvis (University of Warwick, UK), D.N. Dillenberger (IBM T.J. Watson Research Centre, USA), G.R. Nudd (University of Warwick, UK)*
6. Experimental Evaluation of Emerging Multi-core Architectures  
*A. Kayi, Y. Yao, T. El-Ghazawi (George Washington University), G. Newby (Arctic Region Supercomputing Center, USA)*
7. Optimization and Evaluation of Parallel I/O in BIPS3D Parallel Irregular Application  
*R. Filgueira, D. Singh, F. Isaila, J. Carretero (University Carlos III of Madrid, Spain), A.J. Garcia-Loureiro (Universidad de Santiago de Compostela, Spain)*
8. Modeling of NAMD's Network Input/Output on Large PC Clusters  
*N. Tran (University of North Carolina, USA)*
9. A Model and Prototype of a Resource-Efficient Storage Server for High-Bitrate Video-on-Demand  
*Y.R. Choe, C. Douglas, V.S. Pai (Purdue University, USA)*
10. Loss Probability of LRD and SRD Traffic in Generalized Processor Sharing Systems  
*X. Jin, G. Min (University of Bradford, UK)*
11. A Fault Identification Protocol for Emergency/Rescue MANETs and Wireless Mesh Networks: Proof and Complexity Analysis  
*M. Elhadef, A. Boukerche, H. Elkadiki (University of Ottawa, Canada)*
12. Distributed Broadcast Scheduling in Mobile Ad Hoc Networks with Unknown Topologies  
*G. Tan and S.A. Jarvis (University of Warwick, UK)*
13. An Efficient Hybrid Multicast Transport Protocol for Collaborative Virtual Environment with Networked Haptic  
*A. Boukerche, H. Maamar, A. Hossain (University of Ottawa, Canada)*
14. Low-Overhead LogGP Parameter Assessment for Modern Interconnection Networks  
*T. Hoeer (Technical University of Chemnitz, Germany, and Indiana University, USA), A. Lichei, W. Rehm (Technical University of Chemnitz, Germany)*
15. Performance Modelling of Necklace Hypercubes  
*S. Meraji, H. Sarbazi-Azad, A. Patoghy (Sharif University of Technology, and IPM School of Computer Science, Iran)*
16. Performance Evaluation of a Load Self-Balancing Method for Heterogeneous Metadata Server Cluster Using Trace-Driven and Synthetic Workload Simulation  
*B. Cai, C. Xie, G. Zhu (Huazhong University of Science and Technology, P.R. China)*
17. Evaluating Adaptive Fault-Tolerant Routing Algorithms for Wormhole-Switched Mesh Interconnect Networks  
*F. Safaei (IPM School of Computer Science, and University of Science and Technology, Iran), A. Khonsari (University of Tehran, and IPM School of Computer Science, Iran), M. Fathy (University of Science and Technology, Iran), A. H. Shantia (IPM School of Computer Science, Iran), M. Ould-Khaoua (University of Glasgow, UK)*
18. Message Routing and Scheduling in Optical Multistage Networks using Bayesian inference method on AI algorithms  
*A.K. Katangur (Texas A&M University, USA), S. Akkaladevi (Virginia State University, USA)*