Foreword

It gives us great pleasure to introduce this collection of papers to be presented at the 2013 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA’13), July 22 through 25, 2013, at The New Tropicana Hotel, Las Vegas, USA.

An important mission of the World Congress in Computer Science, Computer Engineering, and Applied Computing (a federated congress to which this conference is affiliated with) includes "Providing a unique platform for a diverse community of constituents composed of scholars, researchers, developers, educators, and practitioners. The Congress makes concerted effort to reach out to participants affiliated with diverse entities (such as: universities, institutions, corporations, government agencies, and research centers/labs) from all over the world. The congress also attempts to connect participants from institutions that have teaching as their main mission with those who are affiliated with institutions that have research as their main mission. The congress uses a quota system to achieve its institution and geography diversity objectives." By any definition of diversity, this congress is among the most diverse scientific meeting in USA. We are proud to report that this federated congress has authors and participants from 82 different nations representing variety of personal and scientific experiences that arise from differences in culture and values. As can be seen (see below), the program committee of this conference as well as the program committee of all other tracks of the federated congress are as diverse as its authors and participants.

The program committee would like to thank all those who submitted papers for consideration. About 52% of the submissions were from outside the United States. Each submitted paper was peer-reviewed by two experts in the field for originality, significance, clarity, impact, and soundness. In cases of contradictory recommendations, a member of the conference program committee was charged to make the final decision; often, this involved seeking help from additional referees. In addition, papers whose authors included a member of the conference program committee were evaluated using the double-blinded review process. One exception to the above evaluation process was for papers that were submitted directly to chairs/organizers of pre-approved sessions/workshops; in these cases, the chairs/organizers were responsible for the evaluation of such submissions. The overall paper acceptance rate for regular papers was 29%; 8% of the remaining papers were accepted as poster papers (at the time of this writing, we had not yet received the acceptance rate for a few individual tracks.)

We are very grateful to the many colleagues who offered their services in organizing the conference. In particular, we would like to thank the members of the Program Committee of PDPTA’13, members of the congress Steering Committee, and members of the committees of federated congress tracks that have topics within the scope of PDPTA. Many individuals listed below, will be requested after the conference to provide their expertise and services for selecting papers for publication (extended versions) in journal special issues as well as for publication in a set of research books (to be prepared for publishers including: Springer, Elsevier, BMC, and others).

- Dr. Alireza Abbasi; School of Engineering and Information Technology, University of New South Wales (UNSW), Canberra, Australia
- Dr. Selim Aissi (World Congress Steering Committee); formerly, Chief Strategist - Security, Intel Corporation, USA; Senior Business Leader & Head of Global Enterprise Security Architecture, Visa Corporation, USA
- Prof. Babak Akhgar (World Congress Steering Committee); Fellow of the British Computer Society, CITP; Professor of Informatics; Co-Director of CENTRIC (Centre of Excellence in Terrorism, Resilience, Intelligence & organised Crime research), Sheffield Hallam University, Sheffield, UK
- Prof. Hussain Al-Asaad; Senior Member, IEEE; University of California at Davis, Davis, California, USA
- Prof. Nizar Al-Holou (World Congress Steering Committee + ICWN); Professor and Chair, Electrical and Computer Engineering Department; Vice Chair, IEEE/SEM-Computer Chapter; University of Detroit Mercy, Detroit, Michigan, USA
- Prof. Hideharu Amano (ERSA); Keio University, Japan; Head, technical group of computer systems of IEICE; Editor, Journal of Parallel and Distributed Computing; Japan
- Prof. Hamid R. Arabnia (World Congress Steering Committee); Professor, Computer Science; Editor-in-Chief, The Journal of Supercomputing (Springer); Co-Editor/Board, Journal of Computational Science
(Elsevier); Elected Fellow, Int'l Society of Intelligent Biological Medicine (ISIBM); The University of Georgia, Department of Computer Science, USA

- Peyman Arebi; Assistant Professor, Department of Computer Engineering, Technical and Vocational University, Bushehr, Iran
- Prof. Ezendu Aririwa (Publicity Vice-Chair); Chair, IEEE Consumer Electronics Chapter, UK&RI; Visiting Professor, Gulf University, Bahrain; Visiting Professor, University of Lagos and Kano State Polytechnic, Nigeria
- Prof. P. Balasubramanian (CDES + ESA); Communication Engineering, Vel Tech Technical University, Chennai, India

- Prof. Stephen Brown (ERSA, Steering Committee); University of Toronto, Canada
- Prof. Gabriel Caffarena (ERSA); Universidad CEU San Pablo, Spain

- Prof. Juan Jose Martinez Castillio; Director of The Acantelys Research Group and Coordinator of the Computer Engineering Department, Universidad Gran Mariscal de Ayacucho, Venezuela
- Dr. Hsi-Ya (Jerry) Chung; Division Chief, National Center for High-Performance Computing, Taiwan; Secretary General of ACCTA; Member, Council of the Taiwan Association of Cloud Computing (TACC); Taiwan, ROC

- Prof. Victor A. Clincy (FECS + ICOMP + ICWN); Professor of Computer Science, College of Science and Mathematics, Kennesaw State University, Georgia, USA
- Dr. Alan Coppola (ERSA Advisory Board); Principal, OptNgn Software, USA
- Prof. Juan Cuadrado-Gallego; Universidad de Alcalá, Edificio Politecnico, Madrid, Spain; Ecole de technologie superieure, University of Quebec, Canada
- Prof. Kevin Daimi (World Congress Steering Committee + SAM Chair); Director, Computer Science and Software Engineering Programs; Department of Mathematics, Computer Science and Software Engineering; University of Detroit Mercy, Detroit, Michigan, USA

- Prof. George A. Gravvanis; Democritus University of Thrace, Greece
- Prof. Masanori Hariyama (ERSA, Steering Committee); Tohoku University, Japan
- Prof. Houcine Hassan; Universitat Politecnica de Valencia, Spain
- Dr. Bing He; Cisco System Inc., San Jose, California, USA

- Prof. Hiroshi Ishii (Session Chair, PDPTA); Department Chair, Tokai University, Minato, Tokyo, Japan
- Prof. Minoru Ito (Session Chair, PDPTA); Nara Institute of Science and Technology, Japan
- Prof. George Jandieri (World Congress Steering Committee); Georgian Technical University, Tbilisi, Georgia; Chief Scientist, The Institute of Cybernetics, Georgia Academy of Science, Georgia; Editorial Board Member: International Journal of Microwaves and Optical Technology, The Open Atmospheric Science Journal, American Journal of Remote Sensing, Georgia
- Dr. Ju-wook Jang (ERSA); Sogang University, Korea

- Prof. Kazuki Joe (Session Chair, PDPTA); Nara Women University, Japan
- Prof. Seifedine Kadry; School of Engineering, American University of the Middle East, Kuwait
- Prof. Dong Hwa Kim; Department of Electronic and Control Engineering, Hanbat National University, Korea; Visiting Professor, Budapest University of Technology and Economics, Hungary; International Einstein awardee for Scientific achievement (2010)
- Dr. Paris Kitsos (ERSA); Hellenic Open University, Greece

- Prof. Dattatraya V. Kodavade (World Congress Steering Committee); Head of Computer Science and Engineering, D.K.T.E Society's Textile & Engineering Institute, Ichalkaranji, Maharashtra State, India
- Prof. B. Raja Sarath Kumar; Principal, Lenora College of Engineering, Andhra Pradesh, India
- Prof. Jeong A. Lee (ERSA); Chosun University, South Korea
As Sponsors-at-large, partners, and/or organizers each of the followings (separated by semicolons) provided help for at least one track of the World Congress: Aldebaran Robotics Inc., USA (http://www.aldebaran-robotics.com/); Altera Corporation, USA (http://www.altera.com/); Computer Science Research, Education, and Applications Press (CSREA); Impulse Accelerated Technologies, Inc., USA (http://www.impulseaccelerated.com/); NVIDIA Corporation, USA (http://www.nvidia.com/object/about-nvidia.html); Parallella Community, Supercomputing for Everyone, USA (http://forums.parallella.org/); Pico Computing, Inc., USA (http://picocomputing.com/); SemiWiki.com, The Semiconductor Wiki Project, USA (http://www.semiwiki.com/); Solarflare Communications, Inc., USA (http://www.solarflare.com/); Stream Computing, Performance Engineers, The Netherlands (http://streamcomputing.eu/); Taylor & Francis, UK (http://www.taylorandfrancis.com/); US Chapter of World Academy of Science (http://www.world-academy-of-science.org/); and WEBestSOL & Webest Solutions Ltd, UK (http://webestsol.com/). In addition, a number of university faculty members and their staff (names appear on the cover of the set of proceedings), several publishers of computer science and computer engineering books and journals, chapters and/or task forces of computer science associations/organizations from 5 countries, and developers of high-performance machines and systems provided significant help in organizing the conference as well as providing some resources. We are grateful to them all.

We express our gratitude to keynote, invited, and individual conference/tracks and tutorial speakers - the list of speakers appears on the conference web site. We would also like to thank the followings: UCMSS (Universal Conference Management Systems & Support, California, USA) for managing all aspects of the conference; Dr. Tim Field of APC for managing the printing of the proceedings; and the staff of the New Tropicana Hotel in Las Vegas for the professional service they provided. Last but not least, we would like to thank the Co-Editors and Associate Co-Editors of PDPTA’13: Prof. Hamid R. Arabnia, Dr. George A. Gravvanis, Prof. Hiroshi Ishii, Prof. Minoru Ito, Prof. George Jandieri, Prof. Kazuki Joe, Prof. Hiroaki Nishikawa, Ashu M. G. Solo, and Prof. Fernando G. Tinetti.

We present the proceedings of PDPTA’13.

Steering Committee, 2013
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