Message from the General Chairs

SMC-IT 2009

The first two successful International Conferences on Space Mission Challenges for Information Technology (SMC-IT) were held in 2003 and 2006, respectively, each drawing over 300 attendees from space agencies, national labs, defense, academia, and aerospace and related industry. The Third IEEE International Conference on Space Mission Challenges for Information Technology (SMC-IT 2009) convenes on July 19-23, 2009, in Pasadena, CA. As previously, this forum provides the opportunity for system designers, engineers, scientists, practitioners, and space explorers to foster technical interchange on all hardware and software aspects of IT applications in space missions.

Since inception, SMC-IT 2009 has focused on current IT practice and challenges as well as emerging information technologies with applicability for future space missions. IT in all aspects of the space mission are explored, especially those of a cross-cutting multi-disciplinary nature – one of the distinguishing characteristics that sets SMC-IT apart from other domain specific conferences. This includes ground systems, science data processing, software engineering and reliable software, engineering and development tools, modeling and simulation methods, human and robotic systems interfaces, high performance computing, autonomous systems, image processing and visualization, operations, and telecommunications. The entire IT lifecycle of mission development are covered, such as conceptual design, engineering tools development, integration and test, operations, science analysis, quality control, and outreach.

SMC-IT 2009 continues under the sponsorship of the IEEE Computer Society, specifically the IEEE Computer Society Technical Committee on Complexity in Computing (TCCX Chair: Mike Hinchey), and the IEEE Computer Society Technical Committee on Autonomous and Autonomic Systems (TCAAS Chair: Roy Sterritt). We would like to acknowledge their support and helpful advice throughout the planning process.

Another pleasant surprise of SMC-IT 2009 is the widespread interest generated from the open call in organizing Mini-Workshops. Most of these are special one day tracks organized by individual chairs that focus on a specific technical theme in greater detail often tapping the latest technology developments. At the time we are going to press with the conference proceedings, we have ten such workshops in various stages of preparation covering a wide range of technical topics. These individual talks are not included in the proceedings, but their presentations can be found on line and are planned to be included in the post conference DVD. In total, we are expecting more than 50 contributed papers and 80 mini-workshop presentations, 7 Keynote speakers, a vendor exhibition, an expanded student paper track, and new this year, a student video game competition that pits skills in space mission design, operations, navigation and spacecraft piloting to achieve a time critical mission objective.

Finally, conferences like this just don’t happen without a lot of planning and hard work. In particular, we would like to thank and acknowledge the endless hours of work contributed by the Program Committee, Organizing Committee, and especially the authors and presenters, who form the backbone of the meeting.

We hope that you enjoy SMC-IT 2009 and return to future instantiations of the conference series.

Sven Grenander
Larry A. Bergman
SMC-IT 2009 General Chairs