Message from the General Chair
SMC-IT 2014

Previous international conferences on Space Mission Challenges for Information Technology (SMC-IT) have drawn attendees from space agencies, national labs, defense, academia, and aerospace industries. The Fifth IEEE International Conference on Space Mission Challenges for Information Technology (SMC-IT 2014) convenes on September 24-26, 2014, at a new venue on the campus of the Johns Hopkins University Applied Physics Laboratory in Laurel, MD. 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 has focused on current IT practices 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 is covered, including conceptual design, engineering tools development, integration and test, operations, science analysis, quality control, and outreach.

SMC-IT 2014 continues the tradition of combining the best of both worlds: one part of the conference provides a forum for disseminating the results from peer reviewed papers that are published in the conference proceedings, and the other part of the conference is comprised of interactive Mini-Workshops that include presenters (but no published papers). Most of these are special one day tracks organized by individual chairs that explore a specific technical theme in great detail. At the time we are going to press with the conference proceedings, we have six such workshops in various stages of preparation covering a wide range of technical topics. Papers from these individual talks are not included in the proceedings, but their presentations can be found on line and are planned to be included in a post conference distribution.

SMC-IT 2014 continues under the sponsorship of the IEEE Computer Society, specifically the IEEE Computer Society Technical Council on Software Engineering (TCSE). We would like to acknowledge their support and helpful advice throughout the conference planning process.

Conferences like this require a lot of planning and hard work. In particular, we would like to offer our thanks and acknowledge the endless hours of work contributed by the committee members, and especially the authors and presenters, who form the backbone of the meeting. We also would like to acknowledge the support of the JHU Applied Physics Laboratory for providing local arrangements for SMC-IT 2014.

We hope that you enjoy SMC-IT 2014 and return to future installations of the conference series.

Brian P. Duncan
SMC-IT 2014 General Chair