THIRD CALL FOR PAPER AND WORKSHOP TOPIC ABSTRACTS
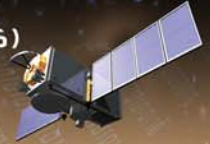
SECOND INTERNATIONAL SPACE MISSION CHALLENGES
FOR INFORMATION TECHNOLOGY CONFERENCE (SMC-IT 2006)

NASA

National Aeronautics and
Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

SMC-IT
2006

IMPORTANT DATES
- Call for Participation ....Aug 22, 2005
- First Call for Abstracts ....Sep 1, 2005
- Abstract Deadline ....Dec 1, 2005
- Abstract Notification ....Jan 16, 2006
- Full Papers Deadline ....Mar 1, 2006
- Final Manuscript Notification...Apr 15, 2006
- Final Manuscripts Ready..........May 1, 2006
- Presentations Due....................July 3, 2006
- Advanced Registration Opens Mar 1, 2006
- Regular Registration Opens ....May 1, 2006
- Conference................................Jul 17-21, 2006

Pasadena Convention Center
Pasadena, California

July 17 - 21, 2006

http://smc-it.jpl.nasa.gov

The role of space information technology has progressively grown in importance from the earliest days of space exploration. The ***Second International Conference on Space Mission Challenges for Information Technology (SMC-IT)*** is the first forum to gather system designers, engineers, scientists, practitioners, and space explorers with the objective of advancing information technology for space missions. The forum will provide an excellent opportunity for fostering technical interchange on all hardware and software aspects of IT applications in space missions.

The conference will focus 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 will be explored, including flight systems, relevant ground systems, science data processing, engineering and development tools, operations, and telecommunications. The entire IT lifecycle of the mission development will also be covered, such as conceptual design, engineering tools development, integration and test, operations, science analysis, and quality control.

Novel space IT papers are solicited from all sectors of the space community, including human spaceflight, earth orbiting systems, deep space missions, ground support systems, instruments, science, landers, rovers, and probes. The conference will address all space application areas, including civilian, military, and commercial. Likewise, domain areas extend from human crewed missions to robotic, and Earth observing to deep space.

New to SMC-IT 2006 are mini-workshops that will be held as part of the conference to explore specific emerging technology themes in greater depth. Each mini-workshop will typically run as one track during one day in a format decided upon by the individual workshop's organizers. If you would like to organize such a mini-workshop, please submit a short proposal abstract on the theme, scope, and goals.

All manuscripts will be reviewed in a two-step process. One-page abstracts of contributed papers as well as two-page mini-workshop proposals *must be received by December 1, 2005*. Notification will be mailed by January 16, 2006.

Authors of accepted abstracts must submit a full paper by March 1, 2006. Final publication notification will be mailed by April 15, 2006.

The conference will again be held in the beautiful Southern California city of Pasadena, home of the California Institute of Technology, the Jet Propulsion Laboratory, and the Tournament of Roses Parade, which is conveniently located near all popular attractions within the greater Los Angeles area, including Universal Studios, Hollywood, Disneyland, Beverly Hills, and many beaches.

For more detailed information on specific IT topic areas, schedule, author information, and general logistics information please refer to the conference website: ***http://smc-it.jpl.nasa.gov***

To join the SMC-IT informational mailing list, please send a blank email message to:
join-smcit2006@list.jpl.nasa.gov.

To unsubscribe to the list, please send a blank email message to:
leave-smcit2006@list.jpl.nasa.gov.

For all other information or general inquiries, please direct those to: ***smc-it@jpl.nasa.gov***.

We look forward to seeing you in Pasadena in July of 2006.

TOPICS OF INTEREST

- Reliable software and innovative fault tolerance approaches, including software-based methods
- Autonomy - rovers to operations
- Autonomy - system validation
- Automated planners and schedulers
- Human robotic interfaces
- Engineering design and modeling tools
- IT tools for risk management
- Innovative IT methods for rapid tehcnology mission infusion
- Real-time information systems
- Embedded IT systems (for control or on-board processing)
- Machine vision and advanced image processing methods
- Real-time software and IT hardware in the loop
- Novel applications - spacecraft, ground systems, telecom
- IT for low cost operations
- OOD methods that enhances reuse
- Middleware services
- Knowledge capture, management, and ontologies
- On-board vehicle health diagnosis and repair
- Reducing software development costs and risk through CMMI
- Science and user software applications
- IT for the Interplanetary Network and next generation space-based networking
- New software architectures, languages, compilers, tools for space missions
- Spaceborne computing architectures
- Advanced high performance computing systems and applications
- Revolutionary new information technologies

EXHIBITS

For information on exhibiting at
SMC-IT 2006, please contact Kathya Zamora
at: Kathya.G.Zamora@jpl.nasa.gov

CONFERENCE CHAIRS

Larry Bergman (+1 818 393-5314)

Sven Grenander (+1 818 354-0156)

California Institute of Technology
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, California 91109-8099

CL#05-3218