

Call For Participation
5th International Workshop on Planning and Scheduling for Space
IWPSS-06
October 22nd-25th, 2006
Space Telescope Science Institute
Baltimore, MD. USA
www.stsci.edu/institute/conference/iwpss

This workshop continues a regular series started in October 1997 at Oxnard and continued in San Francisco (2000) and Houston (2002). In 2004 the workshop became an international event in Darmstadt, Germany. The fifth workshop will be the first held on the East Coast of the USA and is focused on the challenges facing the Planning and Scheduling community in meeting the wide range of needs of space-based applications.

From Software to Space Science

Planning and Scheduling (P&S) technologies add value to space missions by reducing costs, increasing returns, and enabling new types of science. Space applications are strong candidates for applying P&S technologies, as they require complex activities with high costs and high science value to be planned in harsh and often remote environments. While P&S technologies continue to evolve and have met with some success, there is ample room for increasing the impact of these technologies on space applications. The goal of this workshop is to understand how we can improve our ability to go from research results in computer science to operational space science applications. Particular topics to explore include:

- Current and future space applications
 - What challenges are associated with the application? What space systems need to be modeled? What needs to be optimized?
 - What technologies are currently being used for the application?
- Current advances in P&S technologies
 - What are the technologies? How can these technologies be applied to P&S applications? How can they be integrated into mission systems? How can these technologies be verified and validated?
- Case studies on fielded or to be fielded P&S technologies
 - What problem is being solved? What P&S technologies are incorporated into the mission? Are the techniques specific to the mission or general?
 - How do P&S technologies improve the mission? Do they lower costs? Enable higher quality? Enable more science? Enable new science? How are these improvements measured and quantified?
- Case studies on the process of fielding P&S technologies
 - What are the issues of taking computer science research into a mission? What are the technical issues? What are the cultural issues?
 - What is the gap between P&S technology used in current missions and the state of the art in P&S research? Is the gap shrinking or growing?

The aim of this workshop is to discuss these and other related issues in the context of space missions and applications. We welcome papers that offer insight into these and other planning and scheduling challenges. We especially welcome papers that describe deployed or to-be-deployed applications of planning and scheduling technology within space or space-relevant domains and papers that describe requirements for planning and scheduling in future missions. Example applications include: control of life support systems; robotic assembly and construction; spacecraft commanding and payload operations; planning and scheduling for process control; planning and scheduling for robotic space activities; operations of air, space and ground-based scientific observatories; scheduling of critical resources on the ground and on-board; science data analysis; design and analysis of spacecraft systems; planning and scheduling of scientific experiments; and planning and scheduling of crew activities. We also welcome papers on new P&S technology that may be applicable to space domains and papers that integrate planning and scheduling with other techniques, such as: planning and scheduling with time constraints; planning and scheduling with uncertainty and resources; decision support systems (e.g., for mission planning); mixed-initiative problem solving; robustness and fault tolerant schedules; robust optimization; and dispatchable schedules.

This workshop brings together technologists, researchers, and end-users of P&S technology. To encourage interaction among these groups, we will continue the commentary format used in previous workshops. The program committee will review all submitted papers for acceptance at the workshop. Accepted papers will be further categorized into plenary and poster presentations. For each of the plenary papers, a commentator will be selected from a different community than that of the paper's authors. The commentator will be encouraged to have a dialogue with the authors and will then write a short commentary on the paper, which will be presented with the paper and will be published in the proceedings. The commentary is not a review or critique, but simply a way to encourage interaction between different communities. Papers selected for poster presentations will also be published in full in the proceedings, although they will not have a commentary. The workshop will also include panel discussions, and invited speakers.

The Space Telescope Science Institute is located on the Johns Hopkins University Homewood campus. The city of Baltimore is rich with cultural amenities ranging from world-class museums to sport facilities, and was recently ranked as one of the top 10 up and coming world destinations by Frommers travel guide. Locally, the John Hopkins University campus is home to the Baltimore Museum of Art.

Time Table

Paper submission deadline:	May 30, 2006
Authors notified:	July 24, 2006
Commentator Period:	July 25 to September 11, 2006
Camera-ready papers and commentaries:	September 18, 2006
Dates of workshop:	October 22-25, 2006

Program Committee

- Ella Atkins (U of Maryland)
- Alice Berman (Johns Hopkins, FUSE)
- Daniel Borrajo (Univ. Carlos III de Madrid)
- Alessandro Donati (ESA/ESOC)
- Maria Fox (U of Strathclyde, UK)
- Mark Giuliano (STScI)
- Mark Johnston (JPL)
- Deepak Khemani (IIT Chennai)
- Laurence Kramer (CMU)
- David Kortenkamp (TRAC Labs Inc. at NASA JSC)
- Angelo Oddi (ISTC-CNR)
- Marcelo Oglietti (CONAE - Argentine Space Agency)
- David E. Smith (NASA – Ames Research Center)
- Gerard Verfaillie (ONERA)
- Toby Walsh (NICTA and UNSW)
- Terri Wood (NASA/GSFC)

Paper Submission

Papers should be prepared according to the AAI style template <http://www.aaai.org/Publications/Author/macros-link.html> and must be no more than 10 pages long, including figures and bibliography. Papers should be submitted by May 30, 2006 in PDF format as described in www.stsci.edu/institute/conference/iwpss. The program committee will review all submitted papers for acceptance at the workshop. Accepted papers will be further categorized into plenary and poster presentations.

For any inquiry please contact:

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