



Preliminary Call for Participation – SIGAda 2006

Conference on Software Development for
Safety, Security, and High Reliability Systems
12-16 November 2006, Albuquerque, NM, USA

Sponsored by ACM SIGAda

<http://www.acm.org/sigada/conf/sigada2006>

(Approval pending by ACM)

Constructing high reliability software is an engineering challenge that can now be met in many domains. The application of software engineering methods, tools, and languages interrelate to make the challenge easier or more difficult. This conference focuses on safety, security and high reliability systems and the issues related to their development. Topics such as applied software engineering principles, conforming to specific safety or security standards, testing philosophies, programming language selection, etc. will be discussed. The conference will gather industrial experts, educators, software engineers, and researchers interested in developing, analyzing, and certifying reliable, cost-effective software. Technical or theoretical papers as well as experience reports with a focus on Ada are solicited. Possible topics include but are not limited to:

- Safety, security and high integrity development issues
- Language selection for a high reliability system: Ada, C, C++, Java, or others
- Use of high reliability subsets or dialects: Java HIP, MISRA C, Ravenscar, SPARK, etc.
- High reliability standards and their issues: DO-178B, EIC 61508, FDA, SAE, CC, EAL, etc
- Process and quality metrics
- Analysis, Testing, and Validation
- Use of ASIS for new Ada tool development
- Mixed-language development
- Quality Assurance
- Performance analysis
- High reliability software engineering education
- High reliability development experience reports
- Real-time networking/quality of service guarantees
- Fault tolerance and recovery
- Distributed system load balancing
- Static and dynamic code analysis
- Debugging complex systems
- Integrating COTS software components
- System Architecture & Design
- Information Assurance in the age of terrorism
- Improvements and additions to Ada to be included in Ada 2005
- Ada products evaluated per Common Criteria, Protection Profiles or Security Targets

How You Can Contribute

SIGAda 2006 is interested in receiving contributions in six major categories. Contributions from students are actively solicited.

- **Technical Articles** present significant results in research, practice, or education. These papers will be double-blind refereed and published in the Conference Proceedings. Articles will also be considered for poster presentation.
- **Extended Abstracts** discuss current work for which early submission of a full paper may be premature. If your abstract is accepted, you will be expected to produce a full paper, which will appear in the proceedings. Extended abstracts will be double-blind refereed.
- **Experience Reports** present timely results on the application of Ada and related technologies to the design and implementation of applications. Such reports will be selected on the basis of the interest of the experience presented to the community of Ada practitioners and will be published in the final program or proceedings, but a paper will not be required.
- **Workshops** are focused work sessions, which provide a forum for knowledgeable professionals to explore issues, exchange views, and perhaps produce a report on a particular subject. Workshop proposals will be evaluated by the Program Committee and selected based on their applicability to the conference and potential for attracting participants. Proposals should state the problem or issue to be addressed, the coordinator(s), and criteria for participant selection.
- **Panel Sessions** gather a group of experts on a particular topic who present their views and then exchange views with each other and the audience. Panel proposals should be 1-2 pages identifying the topic, coordinator, and potential panelists.
- **Tutorials** offer the flexibility to address a broad spectrum of topics relevant to Ada, and those enabling technologies which make the engineering of Ada applications more effective. Submissions will be evaluated based on relevance, suitability for presentation in tutorial format, presenter's expertise, and past performance. Tutorial proposals should include the expected level of experience of participants, an abstract or outline, the qualifications of the instructor(s), and the length of the tutorial.
- **Outstanding Student Paper Award.** An award will be given to the student author(s) of the paper selected by the program committee as the outstanding student contribution to the conference.

Please submit **Technical Articles, Extended Abstracts, Experience Reports, Workshops and Panel Sessions** proposals to the Program Chair, Leemon C. Baird III leemon.baird@usafa.af.mil

Please submit **Tutorial proposals** to the Tutorials Chair, David Cook dcook@aegistg.com

Please submit any questions to the Conference Co-Chairs, Greg Gicca gicca@ghs.com and Ricky Sward ricky.sward@usafa.af.mil

See the SIGAda 2006 Home Page for details: <http://www.acm.org/sigada/conf/sigada2006>

