

# Call for Technical Contributions

## High-Integrity Language Technology (HILT 2012)

### SIGAda 2012



**ACM Annual International Conference on Ada and  
other High-Integrity Language Technologies**  
**Engineering Safe, Secure, and Reliable Software**

Boston, USA  
December 2-6, 2012



Submission Deadline: **June 30, 2012**

Sponsored by ACM SIGAda

<http://www.acm.org/sigada/conf/sigada2012>

**SUMMARY:** Reliability, safety, and security are among the most critical requirements of contemporary software. The application of software engineering methods, tools, and languages all interrelate to affect how and whether these requirements are met.

Such software is in operation in many application domains. Much has been accomplished in recent years, but much remains to be done. Our tools, methods, and languages must be continually refined; our management process must remain focused on the importance of reliability, safety, and security; our educational institutions must fully integrate these concerns into their curricula.

The conference will gather industrial and government experts, educators, software engineers, and researchers interested in developing, analyzing, and certifying reliable, safe, long-lived, secure software. We are soliciting technical papers and experience reports with a focus on, or comparison with, Ada.

We are especially interested in experience in integrating these concepts into the instructional process at all levels.

#### **POSSIBLE TOPICS INCLUDE BUT ARE NOT LIMITED TO:**

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| <ul style="list-style-type: none"><li>• Language selection for highly reliable systems</li><li>• Ada 2012</li><li>• Challenges for developing reliable, safe, long-lived, secure software</li><li>• Transitioning to next Ada version(s)</li><li>• Ada and SPARK in the classroom and student laboratory</li><li>• Mixed-language development</li><li>• Use of high reliability subsets or profiles such as Ravenscar, SPARK</li><li>• High-reliability standards and their conformance to DO-178B and preparing for DO-178C</li><li>• Software process and quality metrics</li><li>• System of Systems</li><li>• Real-time networking/quality of service guarantees</li></ul> | <ul style="list-style-type: none"><li>• Analysis, testing, and validation</li><li>• Use of ASIS for new Ada tool development</li><li>• High-reliability development experience reports</li><li>• Static and dynamic analysis of code</li><li>• Integrating COTS software components</li><li>• System Architecture &amp; Design including Service-Oriented Architecture and Agile Development</li><li>• Information Assurance</li><li>• Ada products certified against Common Criteria / Common Evaluation Methodology</li><li>• Distributed systems</li><li>• Use of Ada 2005 features/capabilities</li><li>• Fault tolerance and recovery</li><li>• Comparisons with other language technologies</li><li>• Cyber Security and Ada</li></ul> |
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#### **KINDS OF TECHNICAL CONTRIBUTIONS:**

**TECHNICAL ARTICLES** present significant results in research, practice, or education. Articles are typically 10-20 pages in length. These papers will be double-blind refereed and published in the Conference Proceedings and in ACM Ada Letters. The Proceedings will be entered into the widely-consulted ACM Digital Library accessible online to university campuses, ACM's 100,000 members, and the software community.

**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. In 5 pages or less, clearly state the work's contribution, its relationship with previous work by you and others (with bibliographic references), results to date, and future directions.

**EXPERIENCE REPORTS** present timely results on the application of Ada and related technologies. Submit a 1-2 page description of the project and the key points of interest of project experiences. Descriptions will be published in the final program or proceedings, but a paper will not be required.

**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 in length, identifying the topic, coordinator, and potential panelists.

**INDUSTRIAL PRESENTATIONS** Authors of industrial presentations are invited to submit a short overview (at least 1 page in size) of the proposed presentation to the Industrial Committee Chair by August 1<sup>st</sup> 2012. The authors of selected presentations shall prepare a final short abstract and submit it to the Program Chair by October 1<sup>st</sup>, 2012, aiming at a 30-minute talk. The authors of accepted presentations will be invited to submit corresponding articles for publication in the ACM Ada Letters.

**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. A list of planned workshops and requirements for participation will be published in the Advance Program. Workshop proposals, up to 5 pages in length, will be selected by the Program Committee based on their applicability to the conference and potential for attracting participants.

**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, and presenter's expertise. 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 (half-day or full-day).

**HOW TO SUBMIT:** Send contributions by **June 30, 2012**, in Word, PDF, or text format as follows:

*Technical Articles, Extended Abstracts, Experience Reports, Panel Session and Industrial Presentations Proposals to:* Program Chair, Jeff Boleng (Jeff.Boleng@usafa.edu)

*Tutorial Proposals to:* Tutorials Chair, Prof. John McCormick (mccormick@cs.uni.edu)

At-least one author is required to register and make a presentation at the conference.

#### **FURTHER INFORMATION:**

**CONFERENCE GRANTS FOR EDUCATORS:** The ACM SIGAda Conference Grants program is designed to help educators introduce, strengthen, and expand the use of Ada and related technologies in school, college, and university curricula. The Conference welcomes a grant application from anyone whose goals meet this description. The benefits include full conference registration with proceedings and registration costs for 2 days of conference tutorials/workshops. Partial travel funding is also available from AdaCore to faculty and students from GNAT Academic Program member institutions, which can be combined with conference grants. For more details visit the conference web site or contact Prof. Michael B. Feldman (MFeldman@gwu.edu)

**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.

**SPONSORS AND EXHIBITORS:** Please contact Alok Srivastava (Alok.Srivastava@auatac.com) for information about becoming a sponsor and/or exhibitor at SIGAda 2012.

**IMPORTANT INFORMATION FOR NON-US SUBMITTERS:** International registrants should be particularly aware and careful about visa requirements, and should plan travel well in advance. Visit the conference website for detailed information pertaining to visas.

#### **ANY QUESTIONS?**

Please submit any questions to the Conference Chair, Ben Brosgol (Brosgol@AdaCore.Com)