

ACM SIGAda Annual International Conference

High Integrity Language Technology HILT 2012

Preliminary Announcement / Call for Technical Contributions

Developing and Certifying Critical Software



Hyatt Regency Boston
Boston, Massachusetts, USA
December 2-6, 2012



Sponsored by ACM SIGAda
SIGAda.HILT2012@acm.org

<http://www.sigada.org/conf/hilt2012>

SUMMARY

High integrity software must not only meet correctness and performance criteria but also satisfy stringent safety and/or security demands, typically entailing certification against a relevant standard. A significant factor affecting whether and how such requirements are met is the chosen language technology and its supporting tools: not just the programming language(s) but also languages for expressing specifications, program properties, domain models, and other attributes of the software or overall system.

HILT 2012 will provide a forum for experts from academia/research, industry, and government to present the latest findings in designing, implementing, and using language technology for high integrity software. To this end we are soliciting technical papers, experience reports (including experience in teaching), and tutorial proposals on a broad range of relevant topics.

POSSIBLE TOPICS INCLUDE BUT ARE NOT LIMITED TO:

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| <ul style="list-style-type: none">• New developments in formal methods• Multicore and high integrity systems• Object-Oriented Programming in high integrity systems• High-integrity languages (e.g., SPARK)• Use of high reliability profiles such as Ravenscar• Use of language subsets (e.g., MISRA C, MISRA C++)• Software safety standards (e.g., DO-178B and DO-178C)• Typed/Proof-Carrying Intermediate Languages• Contract-based programming (e.g., Ada 2012)• Model-based development for critical systems• Specification languages (e.g., Z) | <ul style="list-style-type: none">• Annotation languages (e.g., JML)• Case studies of high integrity systems• Analysis, testing, and validation• Static and dynamic analysis of code• System Architecture and Design including Service-Oriented Architecture and Agile Development• Information Assurance• Security and the Common Criteria / Common Evaluation Methodology• Architecture design languages (e.g., AADL)• Fault tolerance and recovery |
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KEYNOTE SPEAKERS

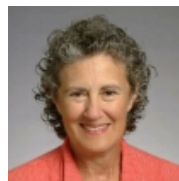
HILT 2012 will feature internationally recognized experts:



Kathleen Fisher
DARPA



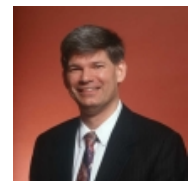
Nancy Leveson
MIT



Barbara Liskov
MIT



Greg Morrisett
Harvard Univ.



Guy Steele
Oracle Labs

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.

EXTENDED ABSTRACTS discuss current work for which early submission of a full paper may be premature. If your abstract is accepted, a full paper is required and 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 and "lessons learned". Submit a 1-2 page description of the project and the key points of interest, for publication in the proceedings. A paper will not be required.

PANEL SESSIONS gather groups of experts to discuss/debate particular topics. Panel proposals should be 1-2 pages in length, identifying the topic, coordinator, and potential panelists.

INDUSTRIAL PRESENTATIONS Submit a short overview (at least 1 page in length) of the proposed presentation. Authors of accepted presentations will be invited to submit full articles for *ACM Ada Letters*.

WORKSHOPS are focused sessions on particular subjects. Workshop proposals, up to 5 pages in length, will be selected based on their applicability to the conference and potential for attracting participants.

TUTORIALS can address a broad spectrum of topics relevant to the conference theme. Submissions will be evaluated based on applicability, 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 in Word, PDF, or text format:

<i>Submission</i>	<i>Deadline</i>	<i>Send to</i>
Technical articles, extended abstracts, experience reports, panel session proposals, or workshop proposals	July 6, 2012	Program Co-Chairs Jeff Boleng – j eff@bol eng. com or Tucker Taft – taft@adacore. com
Industrial presentation proposals	August 1, 2012 (overview) October 1, 2012 (abstract)	
Tutorial proposals	July 6, 2012	John McCormick, Tutorials Chair mccormi ck@cs. uni . edu

At least one author for each accepted submission needs to register for and commit to presenting 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 benefits include full conference and tutorial registration. For details please visit the conference web site or contact Prof. Michael B. Feldman (MFel dman@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 (asri vastava@yahoo. com) to learn the benefits of becoming a sponsor and/or exhibitor at HILT 2012.

ANY QUESTIONS?

Please send email to SIGAda. HI LT2012@acm. org, or contact:

- HILT 2012 Conference Chair (Ben Brosgol, brosgol @adacore. com),
- SIGAda Vice-Chair for Meetings and Conferences (Alok Srivastava, asri vastava@yahoo. com), or
- SIGAda Chair (Ricky E. Sward, rsward@mi tre. org).