

# ACM SIGAda Annual International Conference

## High Integrity Language Technology

### HILT 2013

## Call for Technical Contributions



### Developing and Certifying Critical Software

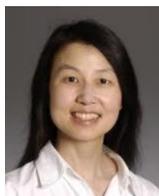
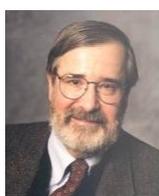
Pittsburgh, Pennsylvania, USA  
November 10-14, 2013



Sponsored by ACM SIGAda

Contact: SIGAda.HILT2013 at [acm.org](http://acm.org) [www.sigada.org/conf/hilt2013](http://www.sigada.org/conf/hilt2013)

### KEYNOTE & INVITED SPEAKERS



Edmund M. Clarke (ACM Turning Award 2007 and Professor of Electrical and Computer Engineering, Carnegie Mellon University), Jeannette Wing (Vice President and Head Microsoft Research International) and John Goodenough (Software Engineering Institute). Special session on Model-Based Engineering with invited talk by Michael Whalen of University of Minnesota.

### 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 2013 provides 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"><li>• New developments in formal methods</li><li>• Multicore and high integrity systems</li><li>• Object-Oriented Programming in high integrity systems</li><li>• High-integrity languages (e.g., SPARK)</li><li>• Use of high reliability profiles such as Ravenscar</li><li>• Use of language subsets (e.g., MISRA C, MISRA C++)</li><li>• Software safety standards (e.g., DO-178B and DO-178C)</li><li>• Typed/Proof-Carrying Intermediate Languages</li><li>• Contract-based programming (e.g., Ada 2012)</li><li>• Model-based development for critical systems</li><li>• Specification languages (e.g., Z)</li><li>• Annotation languages (e.g., JML)</li></ul> | <ul style="list-style-type: none"><li>• Teaching high integrity development</li><li>• Case studies of high integrity systems</li><li>• Real-time networking/quality of service guarantees</li><li>• Analysis, testing, and validation</li><li>• Static and dynamic analysis of code</li><li>• System Architecture and Design including Service-Oriented Architecture and Agile Development</li><li>• Information Assurance</li><li>• Security and the Common Criteria / Common Evaluation Methodology</li><li>• Architecture design languages (e.g., AADL)</li><li>• Fault tolerance and recovery</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, 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. Descriptions will be published in the final program or proceedings, but a paper will not be required.

**PANEL SESSIONS** gather groups of experts on particular topics. Panelists 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 and, if selected, a subsequent abstract for a 30-minute talk. The authors of accepted presentations will be invited to submit corresponding articles for ACM *Ada Letters*.

**WORKSHOPS** are focused sessions that allow knowledgeable professionals to explore issues, exchange views, and perhaps produce a report on a particular subject. 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:** Except for Tutorial proposals use [www.easychair.org/conferences/?conf=hilt2013](http://www.easychair.org/conferences/?conf=hilt2013)

<i>Submission</i>	<i>Deadline</i>	<i>Use Easy Chair Link Above</i>
Technical articles, extended abstracts, experience reports, panel session proposals, or workshop proposals	<b>June 29, 2013</b>	For more info contact: <b>Tucker Taft</b> , Program Chair taft@adacore.com
Industrial presentation proposals	<b>August 6, 2013</b> (overview) <b>September 22, 2013</b> (abstract)	
Send <b>Tutorial</b> proposals to	<b>June 29, 2013</b>	<b>John McCormick</b> , Tutorials Chair 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 **Greg Gicca** (greggicca@gmail.com) to learn the benefits of becoming a sponsor and/or exhibitor at HILT 2013.

**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 send email to SIGAda.HILT2013@acm.org, or contact the Conference Chair (Jeff Boleng, jlboleng@SEI.CMU.EDU) or Program Chair (**Tucker Taft**, taft@adacore.com).