Call for papers and extended abstracts

HILT 2016

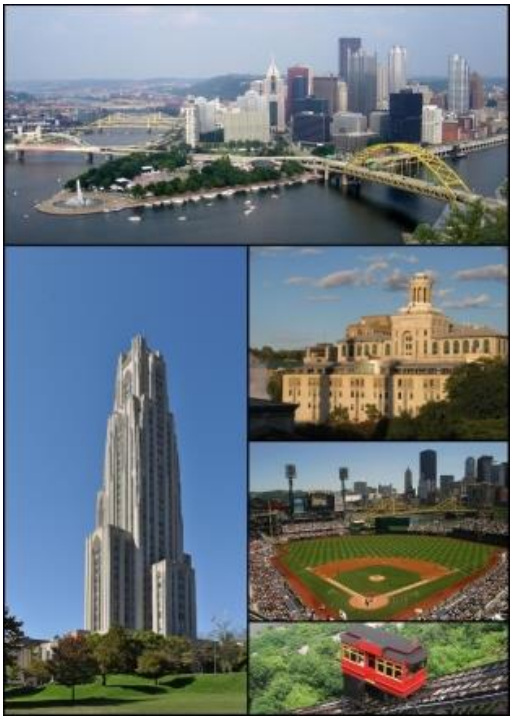
Association for Computing Machinery
Advancing Computing as a Science & Profession

Workshop on *Model-Based Development and Contract-Based Programming*
As part of ESWEEK, October 6 & 7, 2016, Pittsburgh, PA
Sponsored by ACM SIGAda

The *High Integrity Language Technology* (HILT) 2016 Workshop is focused on the synergy between *Model-Based Development* and *Contract-Based Programming*, producing a formal model-driven approach to the development of *high-assurance software-intensive systems*. An important output of this formal model-driven approach is code that preserves explicit representations, in the form of contracts (such as pre- and postconditions), of the safety and security requirements of the software. This depends on having formalized representations of at least some of the high-level requirements of the system, and allows for consistency checks and assurance case evaluation at every level of development, from the high-level architecture, through the coding and testing of the individual software components of the system. This formal approach also enables verification of system requirements and consistency throughout the integration of the components to physically build the system.

We encourage papers and extended abstracts relating to:

- Architecture-level and requirements-oriented modeling with systems such as AADL, SysML, and ArgoSim
- Component-level modeling with systems such as UML/OCL, Simulink, and SCADE
- Automated analysis and code generation targeting verification-oriented tools and/or programming language subsets such as Coq, PVS, ACL2, Why, SPARK/Ada, Frama C/ACSL, MISRA C, JML, and CompCert C.
- Other contributions linking *modeling* and *contracts* to the topics associated with the co-located EMSOFT conference:
    - Formal modeling and verification
    - Testing, validation, and certification
    - Model- and component-based software design and analysis
    - Software technologies for safety-critical and mixed-critical systems
    - Robust implementation of control systems
    - Embedded software security



This workshop is designed as a forum for communities of researchers and practitioners from academic, industrial, and governmental settings, to come together, share experiences, and forge partnerships focused on integrating and deploying tool and language combinations to support this formal approach to model-based development. The workshop will be a combination of presentations and panel discussions, with one or more invited speakers.

Attendees wishing to present at the workshop should prepare full papers (approx. 6-8 pages), or extended abstracts (approx. 2-4 pages) for their proposed presentations, and the workshop program committee will select presentations and organize them into sessions. Other interested participants are welcome to register for the HILT 2016 Workshop as part of their ESWEEK registration.

Keynotes: Phil Koopman, *CMU*; John Knight, *UVA*; Bernard Dion, *ANSYS*

~~June 30~~: Papers or Extended abstracts due; *now* **July 15**, *but please notify hilt2016@easychair.org immediately if considering submitting a paper or abstract.*
July 31: Notification of submissions accepted for presentation
Sep 15: Final submissions due
Oct 6&7: Workshop as part of ESWEEK

Please submit papers and extended abstracts, by July 15, 2016, to:
https://easychair.org/conferences/?conf=hilt2016

Workshop Co-Chairs

- Julien Delange, Software Engineering Institute
- Tucker Taft, AdaCore, Inc

Organizing Committee

- David Cook, Chair, ACM SIGAda, S.F. Austin State University
- Dirk Craeynest, ACM SIGAda International Representative, KU Leuven
- Clyde Roby, Secretary-Treasurer, ACM SIGAda, Institute for Defense Analyses
- Alok Srivastava, Editor, ACM Ada Letters, Engility Corp.
- Ricky E. Sward, Past Chair, ACM SIGAda, MITRE