
ASSURE 2013: Assurance Cases for Software-Intensive Systems

San Francisco, California. May 19, 2013. In conjunction with ICSE 2013



Call for Papers

Software plays a key role in high-risk systems, e.g., safety- and security-critical systems. Several certification standards/guidelines now recommend and/or mandate the development of assurance cases for software-intensive systems, e.g., defense (UK MoD DS0056), aviation (CAP 670, FAA Interim Guidance 08-01), automotive (ISO 26262), and healthcare (FDA Guidance on Infusion Pumps 510(k)). As such, there is a need to understand and evaluate (a) the application of assurance cases to software, and (b) the relationship between assurance case development and assessment, and software engineering concepts, processes and techniques.

The goals of the ICSE Workshop on Assurance Cases for Software-intensive Systems (ASSURE 2013) are to explore techniques for the creation and assessment of assurance cases for software-intensive systems; leverage, adapt and apply techniques, concepts, and tools from software engineering in the assurance case lifecycle; identify the dimensions of effective practice in the development and evaluation of assurance cases, and identify critical challenges and define a roadmap for future developments.

We solicit high-quality research contributions and position papers on the application of assurance case principles and techniques for software assurance, and on the treatment of assurance cases as artifacts to which the full range of software engineering techniques can be applied. Papers should attempt to address the workshop goals in general. Topics of interest include, but are not limited to:

- Standards: How can assurance cases be used to show compliance to standards that recommend/mandate their use?
- Methodologies: How do development and verification methodologies (including configuration management) transfer to an assurance case paradigm?
- Use of output from software engineering tools (testing, formal verification, code generators) as evidence in assurance cases and use of software engineering tools for the modeling, analysis and management of assurance cases.
- Application of formal techniques to the creation and analysis of arguments.
- Exploring relevant techniques for assurance cases for real-time, concurrent, and distributed systems.
- Assurance issues in emerging computational paradigms, e.g., cloud, mobile, virtual, many-core architectures, and adaptive and autonomous systems.
- Representation of structured arguments through meta-models.
- Assurance of software quality attributes, e.g., safety, security and maintainability as well as dependability in general; exploring notions of quality of assurance cases.
- Domain-specific assurance issues, in domains such as aerospace, automotive, healthcare, defense and power.
- Reuse and modularization: contracts and patterns for improving the reuse of assurance case structures.
- Connections between the Goal Structuring Notation for assurance cases and goal-orientation from the requirements engineering community.

Papers must be no more than 6 pages long and must conform to the ICSE paper formatting guidelines. Accepted papers will be published in the ICSE 2013 electronic proceedings collection. Authors of best papers will be invited to submit extended versions for publication in an edited book (tentative). Instructions for submission via EasyChair are available at the workshop website:

<http://www.cs.york.ac.uk/assure2013>

Important Dates :	Paper submission:	February 14, 2013
	Author notification:	February 28, 2013
	Camera ready due:	March 7, 2013.

Organizers:	Ewen Denney	<i>SGT / NASA Ames, USA</i>
	Ibrahim Habli	<i>University of York, UK</i>
	Tim Kelly	<i>University of York, UK</i>
	John Knight	<i>University of Virginia, USA</i>
	Ganesh Pai	<i>SGT / NASA Ames, USA</i>