



Call for Papers

Second International Workshop on Software Architecture and Metrics (SAM)

in conjunction with ICSE 2015, Florence, Italy

<http://www.sei.cmu.edu/community/sam2015/>

Workshop Chairs

Ipek Ozkaya, *Software Engineering Institute, US*

Robert L. Nord, *Software Engineering Institute, US*

Heiko Koziol, *ABB Corporate Research, DE*

Paris Avgeriou, *University of Groningen, NL*

Program Committee

Pierre America, *Philips Research, NL*

Ayse Bener, *Ryerson University, CA*

Barry Boehm, *University of Southern California, US*

Eric Bouwers, *Technical University Delft, NL*

Yuangfang Cai, *Drexel University, US*

Rich Hilliard, *Consulting Software Systems Architect, US*

Jane Cleland-Huang, *DePaul University, US*

Oliver Hummel, *iQser, DE*

Anton Jansen, *ABB, SE*

Rainer Koschke, *University of Bremen, DE*

Philippe Kruchten, *University of British Columbia, CA*

Patricia Lago, *VU University, NL*

Nazim Madhavji, *University of Western Ontario, CA*

Radu Marinescu, *"Politehnica" University of Timisoara, RO*

Tim Menzies, *North Carolina State University, US*

Matthias Naab, *Fraunhofer, DE*

Oscar Pastor, *Valencia University of Technology, ES*

Neeraj Sangal, *Lattix, US*

Jean-Guy Schneider, *Swinburne University of Technology, AU*

Bran Selic, *Malina Software Corp., CA*

Will Snipes, *ABB, US*

Michael Stal, *Siemens, DE*

Robert Stoddard, *Software Engineering Institute, US*

Uwe Zdun, *University of Vienna, AT*

Liming Zhu, *National ICT Australia, AU*

Olaf Zimmermann, *University of Applied Sciences, CH*

Tom Zimmermann, *Microsoft Research, US*

Important dates

Submission: January 23, 2015

Notification: February 18, 2015

Camera-ready: February 27, 2015

Workshop: May 16, 2015

Proceedings published by



Software engineers of complex software systems face the challenge of how best to assess the achievement of quality attributes and other key drivers, how to reveal issues and risks early, and how to make decisions about architecture and system evolution. There is an increasing need to provide ongoing quantifiable insight into the quality of the system being developed to manage the pace of software delivery and technology churn.

Additionally, it is highly desirable to improve feedback between development and deployment through measurable means for intrinsic quality, value, and cost. While there is body of work focusing on code quality and metrics, their applicability at the design and architecture level and at scale are inconsistent and not proven. We are interested in exploring whether architecture can assist with better contextualizing existing system and code quality and metrics approaches. Furthermore, we ask do we need additional architecture-level metrics to make progress and whether something as complex and subtle as software architecture can be quantified.

The goal of this workshop is to discuss progress on architecture and metrics, measurement, and analysis; to gather empirical evidence on the use and effectiveness of metrics; and to identify priorities for a research agenda. The workshop addresses both academic researchers and industrial practitioners for an exchange of ideas and collaboration.

We are seeking papers on practical experiences and research approaches to evaluate and manage architecture through metrics including, but not limited to, the following topics:

- Proposing and validating new metrics
 - architecture quality, value, cost, and uncertainty
 - architecture properties: understandability, maintainability, evolvability
 - architecture models and views: completeness, consistency
 - traceability: the connection between architecture and other artifacts
 - architecture knowledge and decision models: confidence, completeness
- Creating and validating tools and techniques
 - eliciting and visualizing architecture metrics
 - composing architecture metrics by aggregating or combining code-level metrics
 - associating multiple views and quality concerns with metrics
- Using architecture and metrics
 - application to software evolution, maintenance, refactoring, or software aging
 - analytics on software architecture data for managers and software engineers
 - support for project management with data such as velocity, scrap and rework
 - use by product management for the software business case
 - input to economic models: technical debt management, real option analysis
- Principles and practices
 - Creating principles for industrial software architecture metrics
 - Executing empirical studies on how architecture metrics are used in practice

We invite submissions of papers in any areas related to the themes and goals of the workshop in the following categories:

1. research papers – innovative and significant original research in the field (up to 7 pages)
2. industrial papers – industrial experience, case studies, challenges, problems, and solutions (up to 7 pages)
3. position and future-trend papers – ongoing research, new results, and future trends (up to 4 pages)

Papers must be original and not under consideration for publication elsewhere. All submissions will be reviewed by members of the program committee for quality and relevance. Accepted papers will become part of the workshop proceedings and be published in the ICSE electronic proceedings.