

# **2015 IEEE/ACM 2nd International Workshop on Software Architecture and Metrics**

**(SAM 2015)**

**Florence, Italy  
16 May 2015**



**IEEE Catalog Number: CFP15C57-POD  
ISBN: 978-1-4673-7077-6**

# Second International Workshop on Software Architecture and Metrics (SAM 2015)

## Table of Contents

Message from the Chairs .....	vii
Committees.....	ix
Sponsors and Supporters .....	x

### Quantifying Architecture Quality

Towards Assessing Software Architecture Quality by Exploiting Code Smell Relations.....	1
<i>Francesca Arcelli Fontana, Vincenzo Ferme, Marco Zanoni — University of Milano Bicocca, Italy; University of Lugano, Switzerland</i>	
Metrics for Architectural Synthesis and Evaluation—Requirements and Compilation by Viewpoint. An Industrial Experience Report .....	8
<i>Olaf Zimmermann — HSR FHO, Switzerland</i>	
A Metric-Based Approach to Managing Architecture-Related Impediments in Product Development Flow: An Industry Case Study from Cisco.....	15
<i>Ken Power, Kieran Conboy — Cisco Systems, Ireland; National University of Ireland Galway, Ireland</i>	
An Analysis of Techniques and Methods for Technical Debt Management: A Reflection from the Architecture Perspective .....	22
<i>Carlos Fernández-Sánchez, Juan Garbajosa, Carlos Vidal, Agustín Yagüe — Technical University of Madrid, Spain</i>	
Architecture-Based Quality Attribute Synergies and Conflicts.....	29
<i>Barry Boehm — University of Southern California, USA</i>	

### Architecture, Complexity, and Measurement

Comparing the Applicability of Complexity Measurements for Simulink Models during Integration Testing—An Industrial Case Study .....	35
<i>Jan Schroeder, Christian Berger, Thomas Herpel, Mirosław Staron — University of Gothenburg, Sweden; Automotive Safety Technologies GmbH, Germany</i>	
Exploring the Stability of Software with Time-Series Cross-Sectional Data .....	41
<i>Jukka Ruohonen, Sami Hyrynsalmi, Ville Leppänen — University of Turku, Finland</i>	

Evolution of Object Oriented Coupling Metrics: A Sampling of 25 Years of Research.....	48
<i>Ana Nicolaescu, Horst Lichter, Yi Xu — RWTH Aachen University, Germany</i>	
Using Metric Time-Lines for Identifying Architecture Shortcomings in Process Execution Architectures .....	55
<i>Daniel Lübke — Leibniz Universität Hannover, Germany</i>	
<b>Author Index .....</b>	<b>59</b>