# Table of Contents

Message from the Workshop Chairs ....................................................................................................... vii  
Committees and Reviewers ...................................................................................................................... ix  
Sponsors and Supporters ......................................................................................................................... xi

## Paper Session 1: Tests Automation

Automated Test Generation for Synchronous Controllers ................................................................. 1  
  Mouna Tka Mnad, Christophe Deleuze, Ioannis Parissis, Jackie Launay,  
  and Jean Baptiste Gning  
  —Laboratoire LCIS, France; University of Grenoble Alpes - Grenoble INP; France;  
  Crouzet, France

Model Extraction and Test Generation from JUnit Test Suites ......................................................... 8  
  Pablo Lamela Seijas, Simon Thompson, and Miguel Ángel Francisco Fernández  
  —University of Kent, United Kingdom; Interoud Innovation S.L., Spain

Automated Testing of DSL Implementations - Experiences from Building mbeddr ......................... 15  
  Daniel Ratiu and Markus Voelter  
  —Siemens CT, Germany; Independent/itemis, Germany

## Paper Session 2: Coverage and Mutation Analysis

Does Code Coverage Provide a Good Stopping Rule for Operational Profile Based Testing? .......... 22  
  Breno Miranda and Antonia Bertolino  
  —Università di Pisa, Italy; ISTI-CNR, Italy

The Impact of Fault Type on the Relationship between Code Coverage and Fault Detection .......... 29  
  Amanda Schwartz and Michael Hetzel  
  —University of South Carolina Upstate, USA

Virtual Mutation Analysis of Relational Database Schemas ............................................................ 36  
  Phil McMinn, Gregory M. Kapfhammer, and Chris J. Wright  
  —University of Sheffield, United Kingdom, Allegheny College, USA
Empirical Study of Correlation between Mutation Score and Model Inference Based Test Suite Adequacy Assessment ...................................................................................................................... 43
Hermann Felbinger, Franz Wotawa, and Mihai Nica
—Virtual Vehicle Research Center, Austria; Technische Universitaet Graz, Austria; AVL List GmbH, Austria

Paper Session 3: Testing Smartphone Applications

Fuzzy and Cross-App Replay for Smartphone Apps .................................................................................................................. 50
Yongjian Hu and Iulian Neamtiu
—University of California Riverside, USA; New Jersey Institute of Technology, USA

Graph-Aided Directed Testing of Android Applications for Checking Runtime Privacy Behaviours........... 57
Joseph Chan Joo Keng, Lingxiao Jiang, Tan Kiat Wee, and Rajesh Krishna Balan
—Singapore Management University (SMU), Singapore

Automated Test Generation for Detection of Leaks in Android Applications ............................................ 64
Hailong Zhang, Haowei Wu, and Atanas Rountev
—Ohio State University, USA

Paper Session 4: Fault Detection and Repair

Find More Bugs with QuickCheck! .......................................................................................................................... 71
John Hughes, Ulf Norell, Nick Smallbone, and Thomas Arts
—Chalmers University of Technology, Sweden; Quviq AB, Sweden

Automatic Web Security Unit Testing: XSS Vulnerability Detection ............................................................ 78
Mahmoud Mohammadi, Bill Chu, Heather Richter Lipford, and Emerson Murphy-Hill
—University of North Carolina at Charlotte, USA; NC State University, USA

DynaMoth: Dynamic Code Synthesis for Automatic Program Repair ......................................................... 85
Thomas Durieux and Martin Monperrus
—INRIA, France; University of Lille, France

Author Index .............................................................................................................................................. 92