



Ca' Foscari  
University  
of Venice

Department of Environmental  
Sciences, Informatics and Statistics

# Challenges of Software Verification Symposium 2024

June 6-7, 2024, Aula Baratto, Dorsoduro 3246

## 6 June

9.15-9.30 Welcome

9.30-11.00 **SESSION: Practical aspects of static analysis and tools**

**Raphaël Monat** (joint work with Abdelraouf Ouadjaout and Antoine Miné), *Tools and techniques to ease maintenance of academic static analyzers*

**Francesca Scozzari** (joint work with Gianluca Amato), *Experimental results on optimal abstract operators for sharing and linearity*

**Idriss Riouak** (joint work with Görel Hedin, Niklas Fors and Christoph Reichenbach), *IntraJ: A Demand-driven Framework for Intraprocedural Java Code Analysis*

11.00-11.30 Coffee break

11.30-13.00 **Session: Analysis and Verification by Abstract Interpretation**

**Isabella Mastroeni**, *Enforcing Abstract Robustness for Classifiers: New ideas*

**Michael Schwarz** (joint work with Julian Erhard and Helmut Seidl), *Digests for Seamlessly Improving Precision of Abstract Interpretation of Multi-Threaded Programs*

**Matteo Boroni Grazioli** (joint work with Vincenzo Arceri, Greta Dolcetti and Enea Zaffanella), *Faster Static Analysis with Abstract Compilation*

13.00-14.00 Lunch break

14.00-16.00 **SESSION: Program verification and model checking**

**Gianluca Redondi** (joint work with Alessandro Cimatti, Alberto Griggio), *Checking Invariants of systems with SMT theories and quantifiers*

**Peter Müller** (joint work with Marco Eilers, Thibault Dardinier), *CommCSL: Proving Information Flow Security for Concurrent Programs using Abstract Commutativity*

**Linda Brodo** (joint work with Demis Ballis, Moreno Falaschi, Carlos Olarte), *Verification of Reaction Systems in Rewriting Logic*

**Dina Borrego** (joint work with Elisa Gonzalez Boix (VUB), Carla Ferreira (NOVA)), *Designing and Verifying conflict free mechanism to maintain application invariants in replicated environments*

16.00-16.30 Coffee break

16.30-18.30 **SESSION: Software engineering**

**Federico Serafini** (joint work with Roberto Bagnara, Abramo Bagnara, Nicola Vetrini), *Memory Safety for C-rusted: Challenges and Possible Solutions*

**Alessandro Cimatti** (joint work with Lorenzo Cappelletti, Roberto Cavada, Marco Keppel, Lorenzo Pilati), *A retrospective application of formal methods to the development of safety-critical software*

**Fabiano Pecorelli** (joint work with Antonio Trovato, Manuel De Stefano, Dario Di Nucci, and Andrea De Lucia), *Reformulating Regression Test Case Selection using Quantum Annealing: an Empirical Study*

**Marco Esposito** (joint work with Benigno Ansanelli, Leonardo Picchiami), *Simulation-based Design of Critical Systems via Black-Box Optimization and Statistical Model Checking*

19.00 Social dinner

## 7 June

9.00-11.00 **SESSION: Software engineering**

**Thomas Jensen**, *Compositional reasoning about non-interference properties of procedures*

**Chiara Braghin** (joint work with Elvinia Riccobene and Simone Valentini), *A Formal Framework for correct-by-construction development of Ethereum Smart Contracts*

**Cosimo Laneve** (joint work with Giuseppe De Palma, Saverio Giallorenzo, Cosimo Laneve, Jacopo Mauro, Matteo Trentin, Gianluigi Zavattaro), *Serverless Scheduling Policies based on Cost Analysis*

11.00-11.30 Coffee break

11.30-13.30 **SESSION: Applications of program analysis and verification**

**Luca Pasetto**, *Challenges of Software Verification for the EU AI Act*

**Marco De Vincenzi** (joint work with Chiara Bodei, Gabriele Costa, Ilaria Matteucci and Dajiang Suo), *Security Analysis of a V2I Authentication Protocol*

**Nicola Assolini** (joint work with Alessandra Di Pierro and Isabella Mastroeni), *Uncomputing Quantum Variables: a Static Analysis*

**Giacomo Zanatta** (joint work with Gianluca Caiazza, Pietro Ferrara, Luca Negrini, Ruffin White), *Automating ROS2 Security Policies Extraction through Static Analysis*

13.30-15.00 Lunch break