

09:00-09:15	Intro & Welcome <i>Infante</i>	
9:15-10:45	<b>RT1 - Fault Localization and Debugging</b> <i>Infante</i>	<b>IT1 - Test Generation &amp; Refactoring</b> <i>D. Maria</i>
	Mojdeh Golagha, Alexander Pretschner and Lionel Briand. Can We Predict the Quality of Spectrum-based Fault Localization?	<b>Marco Pistoia, Peng Liu, Chun-Fu Richard Chen, Shaohan Hu, Stephen Wood. Parallelization of Classical Numerical Optimization in Quantum Variational Algorithms</b>
	Rawad Abou Assi, Wes Masri and Chadi Trad. Substate Profiling for Enhanced Fault Detection and Localization: An Empirical Study	Jannik Fischbach, Andreas Vogelsang, Dominik Spies, Andreas Wehrle, Maximilian Junker, Dietmar Freudenstein. Specmate: Automated Creation of Test Cases from Acceptance Criteria
	Xiangyu Li and Alessandro Orso. More Accurate Dynamic Slicing for Better Supporting Software Debugging	Elodie Bernard, Julien Botella, Fabrice Ambert, Bruno Legeard, Mark Utting. Tool Support for Refactoring Manual Tests
10:45-11:00	Coffee Break	
11:00-12:30	<b>RT2 - Test Generation</b> <i>Infante</i>	<b>RT3 - Testing Deep Learning and Robotic Systems</b> <i>D. Maria</i>
	Patrick Kreutzer, Stefan Kraus and Michael Philippsen. Language-Agnostic Generation of Compilable Test Programs	<b>(DPA) Gunel Jahangirova and Paolo Tonella. An Empirical Evaluation of Mutation Operators for Deep Learning Systems</b>
	Kyle Dewey, Shant Hairapetian and Miroslav Gavrilo. MiMIs: Simple, Efficient, and Fast Bounded-Exhaustive Test Case Generators	Fitash Ul Haq, Donghwan Shin, Shiva Nejati and Lionel Briand. Comparing Offline and Online Testing of Deep Neural Networks: An Autonomous Car Case Study
	Hussein Almulla and Gregory Gay. Learning How to Search: Generating Exception-Triggering Tests Through Adaptive Fitness Function Selection	Afsoon Afzal, Claire Le Goues, Michael Hilton and Christopher Steven Timperley. A Study on Challenges of Testing Robotic Systems
12:30-14:00	Lunch	
14:00-16:00 14:00	<b>RT4 - Misc 1</b> <i>Infante</i>	<b>RT5 - Testing for APIs</b> <i>D. Maria</i>
	Thomas Bach, Ralf Pannemans and Artur Andrzejak. Determining Method-Call Sequences for Object Creation in C++	Stefan Karlsson, Adnan Causevic and Daniel Sundmark. QuickREST: Property-based Test Generation of OpenAPI Described RESTful APIs
	André Takeshi Endo and Anders Møller. NodeRacer: Event Race Detection for Node.js Applications	<b>(DPA) Emanuele Viglianisi, Michael Dallago and Mariano Ceccato. RESTTESTGEN: Automated Black-Box Testing of RESTful APIs</b>
15:00	<b>Posters (teasers):</b> - Rui Prada, Wishnu Prasetya, Fitsum Kifetew, Frank Dignum, Tanja E. J. Vos, Jason Lander, Jean-Yves Donnat, Alexandre Kazmierowski, Joseph Davidson, Pedro Fernandes. POSTER Novel Idea: Agent-based Testing of Extended Reality Systems - Rubing Huang, Chenhui Cui, Weifeng Sun, Dave Towey. Poster: Is Euclidean Distance the best Distance Measurement for Adaptive Random Testing? - Mahshid Helali Moghadam, Mehrdad Saadatmand, Markus Borg, Markus Bohlin, Bjorn Lisper. Poster: Performance Testing Driven by Reinforcement Learning - Hiroyuki Kirinuki, Toshiyuki Kurabayashi, Haruto Tanno, Ippei Kumagawa. Poster: SONAR Testing – Novel Testing Approach Based on Operation Recording and Visualization - Jeonghyun Joo, Seunghoon Yoo, Myunghwan Park. Test Case Prioritization Using Error Propagation Probability	<b>Andrea Arcuri and Juan Pablo Galeotti. Testability Transformations For Existing APIs</b>  Hassan Sartaj, Muhammad Zohaib Iqbal, Muhammad Uzair Khan. CDST: A Toolkit for Testing Cockpit Display Systems of Avionics (testing tools)  Miroslav Bures, Pavel Herout, Bestoun S. Ahmed. Open-source Defect Injection Benchmark Testbed for the Evaluation of Testing (testing tools)
16:00-16:15	Coffee break	
16:15-17:15	Keynote 1: Liana Hadarean - One-click formal methods <i>Infante</i>	

## Day 3 - October, 26

09:00-09:30	Most Influential Paper Award <i>Infante</i>
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09:30-10:30	Keynote 2 - Elvira Albert - Smart – and also reliable and gas-efficient – Contracts <i>Infante</i>		
10:30-10:45	Coffee Break + Posters		
10:45-12:15	<b>RT6 - Web Testing</b> <i>Infante</i>	<b>IT2 - Misc</b> <i>D. Maria</i>	<b>Doctoral Symposium 1</b> <i>São João</i>
	Julien Leveau, Xavier Blanc, Laurent Réveillère, Jean-Rémy Fallier and Romain Rouvoy. Fostering the Diversity of Exploratory Testing in Web Applications	Thorsten Wuensche, Artur Andrzejak, Sascha Schwedes. Detecting Higher-Order Merge Conflicts in Large Software Projects	Panel 1: Topic and members TBA
	Matteo Biagiola, Andrea Stocco, Filippo Ricca and Paolo Tonella. Dependency-Aware Web Test Generation	Max Friese, Johannes Traub, Dirk Nowotka. EC.Lang - A Language for Specifying Response Time Analyses of Event Chains	Julian Harty, How Can Software Testing be Improved by Analytics to Deliver Better Apps?
	Xuan Phu Mai, Fabrizio Pastore, Arda Goknil and Lionel Briand. Metamorphic Security Testing for Web Systems	<b>Supriya Agrawal, R Venkatesh, Ulka Shrotri, Amey Zare, Sagar Verma. Scaling Test Case Generation For Expressive Decision Tables</b>	Misael Júnior, Automated verification of compliance of non-functional requirements on mobile applications through metamorphic testing
12:15-13:45	Lunch		
13:45-15:15	<b>RT7 - Optimizing Testing</b> <i>Infante</i>	<b>Journal First 1</b> <i>D. Maria</i>	<b>Doctoral Symposium 2</b> <i>São João</i>
	Marcio Augusto Guimarães, Leo Fernandes, Márcio Ribeiro, Marcelo d'Amorim and Rohit Gheyi. Optimizing Mutation Testing by Discovering Dynamic Mutant Subsumption Relations	Fabian Trautsch, Steffen Herbold, Jens Grabowski. Are Unit and Integration Test Definitions Still Valid for Modern Java Projects? An Empirical Study on Open-Source Projects	Panel 2 - Topic and members TBA
	Qianqian Zhu and Andy Zaidman. Massively Parallel, Highly Efficient, but What About the Test Suite Quality? Applying Mutation Testing to GPU Programs	Donghwan Shin, Shin Yoo, Mike Papadakis, Doo-Hwan Bae. Empirical evaluation of mutation-based test case prioritization techniques	Pouria Derakhshanfar, Well-informed Test Case Generation and Crash Reproduction
	Abdullah Alsharif, Gregory Kapfhammer and Phil McMinn. STICCER: Fast and Effective Database Test Suite Reduction Through Merging of Similar Test Cases	Tao Ma, Shaukat Ali, Tao Yue. Modeling Foundations for Executable Model-Based Testing of Self-Healing Cyber-Physical Systems	Allan Mori, Anomaly Analyses to Guide Software Testing Activity
15:15-15:30	Coffee Break + Posters		
15:30-17:00	<b>RT8 - Misc 2</b> <i>Infante</i>	<b>RT9 - Empirical Analysis and Program Repair</b> <i>D. Maria</i>	<b>Doctoral Symposium 3</b> <i>São João</i>
	Xin Yin, Iulian Neamtii, Saketan Patil and Sean Andrews. Implementation-induced Inconsistency and Nondeterminism in Deterministic Clustering Algorithms	Kesina Baral and Jeff Offutt. An Empirical Analysis of Blind Tests	Panel 3 - Topic and members TBA
	Oscar Cornejo, Daniela Briola, Daniela Micucci and Leonardo Mariani. CBR: Controlled Burst Recording	Maurizio Leotta, Matteo Biagiola, Filippo Ricca, Mariano Ceccato and Paolo Tonella. A Family of Experiments to Assess the Impact of the PO Pattern in Web Test Suite Development	Saba Gholizadeh Ansari, Toward Automated Assessment of User Experience in Extended Reality
	Shouvick Mondal, Rupesh Nasre. Mahtab: Phase-wise acceleration of regression testing for C. (Journal First)	Marcel Böhme, Charaka Geethal and Van-Thuan Pham. Human-In-The-Loop Automatic Program Repair	Camilo Escobar-Velásquez, Source-Codeless Testing for Android Apps

## Day 4 - October, 27

9:00-11:00	<b>RT10 - Misc 3</b> <i>Infante</i>	<b>Tool Demos</b> <i>D. Maria</i>
	09:00 Mariano Ceccato, Davide Corradini, Luca Gazzola, Fitsum Meshesha Kifetew, Leonardo Mariani, Matteo Orru and Paolo Tonella. A Framework for In-Vivo Testing of Mobile Applications	- Antoine Craske. Cerberus: an Automated Tool for Continuous Testing - Andrea Arcuri, Juan Pablo Galeotti, Bogdan Marculescu, Man Zhang. ICST'2020 Tool Demonstration of EvoMaster: Search-Based System Test Generation for RESTful APIs - Takuya Iwatsuka, Haruto Tanno, Eric Sharidan, Joseph Feiman. Quick and Precise Security Testing During Development with Intelligence-Directed DAST - Mahesh Venkataraman, Chinmaya Jena, Sunder Nochilur, Prabir Ghoshal Kumar. Self guided Automation - Yu Yoshimura, Yu Adachi, Hiroyuki Kirinuki, Toshiyuki Kurabayashi, Haruto Tanno. User-Friendly Input Assistance with Web Crawling for Test Script Generation
	Breno Miranda, Igor Lima, Owolabi Legunsen and Marcelo d'Amorim. Prioritizing Runtime Verification Violations	
10:00	<b>Testing tools</b> <i>Infante</i>	<b>IT3 - Safety &amp; Security</b> <i>D. Maria</i>

	<p>Sakshi Udeshi, Xingbin Jiang, Sudipta Chattopadhyay. Callisto: Entropy based test generation and data quality assessment for Machine Learning Systems</p> <p>Antonia Bertolino, Guglielmo De Angelis, Breno Miranda, Paolo Tonella. Run Java Applications and Test Them In-Vivo Meantime</p>	<p>Vaggelis Atlidakis, Patrice Godefroid, Marina Polishchuk. Checking Security Properties of Cloud Services REST APIs</p>
	<p>Van-Thuan Pham, Marcel Boehme, Abhik Roychoudhury. AFLNet: A Greybox Fuzzer for Network Protocols</p> <p>Shaobo He, Michael Emmi, Gabriela Ciocarlie. ct-fuzz: Fuzzing for Timing Leaks</p>	<p>Alessandro Calò, Paolo Arcaini, Shaukat Ali, Florian Hauer, Fuyuki Ishikawa. Generating Avoidable Collision Scenarios for Testing Autonomous Driving Systems</p>
11:00-11:15	Coffee break	
11:15-12:15	Open Steering Committee & ICST 2021 Presentation <i>Infante</i>	
12:15-13:45	Lunch	
13:45-14:45	Keynote 3 - Franjo Ivancic - SunDew: Systematic Automated Security Testing <i>Infante</i>	