

**Programme of ETAPS 2023**

**Paris, France**

**22—27 April 2023**

8:45 **Opening**  
Room: Auditorium

9:00 **Thomas Henzinger (unifying talk)**  
Room: Auditorium  
Chair: Natasha Sharygina

10:00 **Coffee break**  
Room: Foyer + 44 lobby

**TACAS: Model Checking I**

Chair: Natasha Sharygina  
Room: Auditorium

**TACAS: Machine Learning/Neural Networks**

Chair: Roderick Bloem  
Room: 44-45/108

**ESOP: Static Analysis**

Chair: Thomas Wies  
Room: 44-54/109

**FoSSaCS: Programming Languages**

Chair:  
Room: 44-45/106

10:30 **Bounded Model Checking for Asynchronous Hyperproperties**

T. Hsu, B. Bonakdarpour, B. Finkbeiner, C. Sanchez

**Feature Necessity & Relevancy in ML Classifier Explanations**

X. Huang, M. Cooper, A. Morgado, J. Planes, J. Marques-Silva

**Logics for extensional, locally complete analysis via domain refinements**

Flavio Ascari, Roberto Bruni and Roberta Gori

**When programs have to watch the paint dry**

Danel Ahman

11:00 **Model Checking Linear Dynamical Systems under Floating-point Rounding**

E. Lefaucheu, J. Ouaknine, D. Purser, M. Sharifi

**Towards Formal XAI: Formally Approximate Minimal Explanations of Neural Networks**

Shahaf Bassan and Guy Katz

**Clustered Relational Thread-Modular Abstract Interpretation with Local Traces**

Michael Schwarz, Simmo Saan, Helmut Seidl, Julian Erhard and Vesal Vojdani

**Deciding contextual equivalence of nu- calculus with effectful contexts**

Daniel Hirschhoff, Guilhem Jaber and Enguerrand Prebet

11:30 **Efficient Loop Conditions for Bounded Model Checking Hyperproperties**

T. Hsu, C. Sanchez, S. Sheinvald, B. Bonakdarpour

**OccRob: Efficient SMT-Based Occlusion Robustness Verification of Deep Neural Networks**

X. Guo, Z. Zhou, Y. Zhang, G. Katz, M. Zhang

**Adversarial Reachability for Program-level Security Analysis**

Soline Ducousso, Sébastien Bardin and Marie-Laure Potet

**Kantorovich Functors and Characteristic Logics for Behavioural Distances**

Pedro Nora, Sergey Goncharov, Dirk Hofmann, Lutz Schröder and Paul Wild

12:00 **Reconciling Preemption Bounding with DPOR**

Iason Marmanis, Michalis Kokologiannakis and Viktor Vafeiadis

**Neural Network-Guided Synthesis of Recursive Functions**

Naoki Kobayashi and Minchao Wu

**Automated Grading of Regular Expressions**

Su-Hyeon Kim, Youngwook Kim, Yo-Sub Han, Hyeonseung Im and Sang-Ki Ko

**A Logical Framework with Higher-Order Rational (Circular) Terms**

Zhibo Chen and Frank Pfenning

12:30 **Lunch**  
Room: Patio + Foyer

**TACAS: Automata**

Chair: Sriram Sankaranarayanan  
Room: Auditorium

**TACAS: SV-COMP**

Chair: Dirk Beyer  
Room: 24-25/405

**ESOP: Type Systems**

Chair: Sandrine Blazy  
Room: 44-45/106

**FoSSaCS: Semantics**

Chair:  
Room: 44-45/108

14:00	<b>Modular Mix-and-Match Complementation of Büchi automata</b>  V. Havlena, O. Lengal, Y. Li, B. Šmahlíková, A. Turrini	<b>Pragmatic Gradual Polymorphism with References</b>  Wenjia Ye and Bruno Oliveira	<b>A Higher-Order Language for Markov Kernels and Linear Operators</b>  Pedro H Azevedo de Amorim
14:30	<b>Validating Streaming JSON Documents With Learned VPAs</b>  V. Bruyère, G. Perez, G. Staquet	<b>Gradual Tensor Shape Checking</b>  Momoko Hattori, Naoki Kobayashi and Ryosuke Sato	<b>A Formal Logic for Formal Category Theory</b>  Max New and Daniel R. Licata
15:00	<b>Antichains Algorithms for the Inclusion Problem Between <math>\omega</math>-VPL</b>  K. Doveri, P. Ganty, L. Hadzi-Djokic	<b>Modal crash types for intermittent computing</b>  Farzaneh Derakhshan, Myra Dotzel, Milijana Surbatovich and Limin Jia	<b>A Strict Constrained Superposition Calculus for Graphs</b>  Rachid Echahed, Mnacho Echenim, Mehdi Mhalla and Nicolas Peltier
15:30	<b>Stack-Aware Hyperproperties</b>  A. Bajwa, M. Zhang, R. Chadha, M. Viswanathan	<b>Builtin Types viewed as Inductive Families</b>  Guillaume Allais	<b>A programming language characterizing quantum polynomial time</b>  Emmanuel Hainry, Romain Péchoux and Mário Silva

---

16:00 **Coffee Break**  
Room: Foyer + 44 lobby

**TACAS: Proofs**

Chair: David Monniaux  
Room: 44-45/108

**TACAS: SV-COMP**

Chair: Dirk Beyer  
Room: 24-25/405

**Invited tutorial**

Chair: Marieke Huisman  
Room: Auditorium

---

16:30 **Propositional Proof Skeletons**

J. Reeves, B. Kiesl-Reiter, M. Heule

**Ana Varbanescu: TBA**

17:00 **Unsatisfiability Proofs for Distributed  
Clause Sharing SAT Solvers**

D. Michaelson, D. Schreiber, M. Heule, B. Kiesl-Reiter, M.  
Whalen

17:30 **Carcara: An efficient proof checker and  
elaborator for SMT proofs in the Alethe  
format**

B. Andreotti, H. Lachnitt, H. Barbosa

---

18:00 **Welcome Reception**

---

9:00 **Mooly Sagiv (ESOP invited talk)**  
 Room: Auditorium  
 Chair: Thomas Wies

10:00 **Coffee break**  
 Room: Foyer + 44 lobby

**TACAS: Constraint Solving/Blockchain**

Chair: Sriram Sankaranarayanan  
 Room: Auditorium

**ESOP: Semantics and Type Theory**

Chair: Luis Caires  
 Room: 44-45/106

**FoSSaCS: Counters**

Chair:  
 Room: 44-45/108

**Ask-Me-Anything**

Chair:  
 Room: 24-25/405

10:30 **The Packing Chromatic Number of the Infinite Square Grid is 15**  
 B. Subercaseaux, M. Heule

**Interpreting Knowledge-based Programs**  
 Alexander Knapp, Heribert Mühlberger and Bernhard Reus

**On the Existential Arithmetics with Addition and Bitwise Minimum**  
 Mikhail Starchak

**Orna Kupferman: On Her Research**  
 interviewed by Georgiana Caltais

11:00 **Active Learning for SAT Solver Benchmarking**  
 T. Fuchs, J. Bach, M. Iser

**A Complete Inference System for Skip-free Guarded Kleene Algebra with Tests**  
 Todd Schmid, Tobias Kappé and Alexandra Silva

**Coverability in 2-VASS with One Unary Counter is in NP**  
 Filip Mazowiecki, Henry Sinclair-Banks and Karol Węgrzycki

**Marieke Huisman: On Conference Organisation And Related Issues**  
 interviewed by Eduard Kamburjan

11:30 **ParaQooba: A Fast and Flexible Framework for Parallel and Distributed QBF Solving**  
 M. Heisinger, M. Seidl, Armin Biere

**Contextual Modal Type Theory with Polymorphic Contexts**  
 Yuito Murase, Yuichi Nishiwaki and Atsushi Igarashi

**On History-Deterministic One-Counter Nets**  
 Aditya Prakash and K. S. Thejaswini

**Dirk Beyer and Andrzej Murawski: On Replicability**  
 interviewed by Benjamin Kaminski

12:00 **Inferring Needless Write Memory Accesses on Ethereum Bytecode**  
 E. Albert, J. Correas, P. Gordillo, G. Román-Díez, A. Rubio

**A Type System for Effect Handlers and Dynamic Labels**  
 Paulo Emilio de Vilhena and François Pottier

**Unboundedness problems for machines with reversal-bounded counters**  
 Pascal Baumann, Flavio D'Alessandro, Moses Ganardi, Oscar Ibarra, Ian McQuillan, Lia Schütze and Georg Zetsche

12:30 **Lunch**  
 Room: Patio + Foyer

**TACAS: Markov Chains/Stochastic Control**

Chair: Kim Larsen  
 Room: Auditorium

**TACAS: Verification I**

Chair: Haniel Barbosa  
 Room: 44-45/108

**ESOP: Concurrency**

Chair: Simon Gay  
 Room: 44-45/106

**FoSSaCS: Bisimulation**

Chair:  
 Room: 44-54/109

14:00 **A Practitioner's Guide to MDP Model Checking Algorithms**  
 Arnd Hartmanns, Sebastian Junges, Tim Quatmann and Maximilian Weisinger

**A Formal CHERI-C Semantics for Verification**  
 Seung Hoon Park, Rekha Pai and Tom Melham

**Quorum Tree Abstractions of Consensus Protocols**  
 Berk Cirisci, Constantin Enea and Suha Orhun Mutluergil

**Reverse Bisimilarity vs. Forward Bisimilarity**  
 Marco Bernardo and Sabina Rossi

14:30	<b>Correct Approximation of Stationary Distribution</b>  Tobias Meggendorfer	<b>Automated Verification for Real-Time Systems via Implicit Clocks and an Extended Antimirov Algorithm</b>  Yahui Song and Wei-Ngan Chin	<b>MAGn: Types for Failure-Prone Communication</b>  Matthew Alan Le Brun and Ornella Dardha	<b>Explainability of Probabilistic Bisimilarity Distances for Labelled Markov Chains</b>  Amgad Rady and Franck van Breugel
15:00	<b>Robust Almost-Sure Reachability in Multi-Environment MDPs</b>  Marck van der Vegt, Nils Jansen and Sebastian Junges	<b>Parameterized Verification under TSO with Data Types</b>  P. Abdulla, M.. Atig, S. Spengler, S. Krishna, F. Furbach, A. A. Godbole, Y. G. Hendi	<b>Safe Session-Based Concurrency with Shared Linear State</b>  Pedro Rocha and Luis Caires	<b>Weighted and Branching Bisimilarities from Generalized Open Maps</b>  Jérémy Dubut and Thorsten Wißmann
15:30	<b>Mungojerrie: Linear-Time Objectives in Model-Free Reinforcement Learning</b>  E. Hahn, M. Perez, S. Schewe, F. Somenzi, A. Trivedi, D. Wojtczak	<b>Verifying Learning-Based Robotic Navigation Systems</b>  Guy Amir, Davide Corsi, Raz Yerushalmi, Luca Marzari, Alessandro Farinelli, David Harel and Guy Katz	<b>System <math>\mu</math> with Context-free Session Types</b>  Diana Costa, Andreia Mordido, Diogo Poças and Vasco T. Vasconcelos	<b>Preservation and Reflection of Bisimilarity via Invertible Steps</b>  Ruben Turkenburg, Clemens Kupke, Jurriaan Rot and Ezra Schoen

16:00 **Coffee break**  
Room: Foyer + 44 lobby

#### TACAS: Tool Demos

Chair: Sergio Mover  
Room: 44-45/108

#### Invited Tutorial

Chair: Lenore Zuck  
Room: Auditorium

#### Diversity and Inclusion Activities

Chair: Fabrice Kordon  
Room: 44-45/106

16:30 **EVA: A Tool for the Compositional Verification of AUTOSAR Models**  
  
A. Cimatti, S. Corfini, L. Cristoforetti, M. Di Natale, A. Griggio, S. Tonetta, F. Barrau

**Verifying Probabilistic Programs: From Theory to Automation**  
  
Joost-Pieter Katoen

16:45 **PyLTA: A Verification Tool for Parameterized Distributed Algorithms**  
  
Bastien Thomas and Ocan Sankur

17:00 **WASIM: A Word-level Abstract Symbolic Simulation Framework for Hardware Formal Verification**  
  
Wenji Fang and Hongce Zhang

17:15 **FuzzBtor2: A Random Generator of Word-Level Model Checking Problems in Btor2 Format**  
  
S. Xiao, C. Zhang, J. Li, G. Pu

17:30 **Eclipse ESCET™: The Eclipse Supervisory Control Engineering Toolkit**  
  
W. Fokkink, M. Goorden, D. Hendriks, B. Beek, A. Hofkamp, F. Reijnen, P. Etman, L. Moormann, A. Mortel-Fronczak, M. Reniers, K. Rooda, B. Sanden, R. Schiffelers, S. Thuijsman, J. Verbakel, H. Voge

17:45 **Multiparty Session Typing in Java, Deductively**  
  
Jelle Bouma, Stijn de Gouw and Sung-Shik Jongmans

9:00 **Véronique Cortier: Electronic Voting: Design And Formal Verification (unifying talk)**  
 Room: Auditorium  
 Chair: Orna Kupferman

10:00 **Coffee break**  
 Room: Foyer + 44 lobby

<p><b>TACAS: Combinatorial Optimization / Theorem Proving</b></p> <p>Chair: Haniel Barbosa                  Room: Auditorium</p>	<p><b>TACAS: Tools (Regular Papers)</b></p> <p>Chair: Alessandro Cimatti                  Room: 44-45/108</p>	<p><b>FASE: Requirements, Models and AI</b></p> <p>Chair: Facundo Molina                  Room: 44-54/109</p>	<p><b>FoSSaCS: Formal Languages</b></p> <p>Chair:                  Room: 44-45/106</p>	<p><b>SPIN (co-located)</b></p> <p>Chair:                  Room: 25-26/105</p>
--	---	---	--	--

<p>10:30 <b>New Core-Guided and Hitting Set Algorithms for Multi-Objective Combinatorial Optimization</b></p> <p>J. Cortes, I. Lynce, V. Manquinho</p>	<p><b>The WhyRel Prototype for Relational Verification of Pointer Programs</b></p> <p>R. Nagasamudram, A. Banerjee, D. Naumann</p>	<p><b>ACoRe: Automated Goal-Conflict Resolution</b></p> <p>Luiz Carvalho, Renzo Degiovanni, Matias Brizzio, Maxime Cordy, Nazareno Aguirre, Yves Le Traon and Mike Papadakis</p>	<p><b>Quantitative Safety and Liveness</b></p> <p>Thomas A. Henzinger, Nicolas Mazzocchi and N. Ege Saraç</p>	<p><b>Model-Checking Quantum Computing Systems (keynote)</b></p> <p>Simon Gay</p>
--	--	--	---	---

<p>11:00 <b>Verified reductions for optimization</b></p> <p>A. Bentkamp, R. Fernández Mir, J. Avigad</p>	<p><b>Bridging Hardware and Software Analysis with Btor2C: A Word-Level-Circuit-to-C Converter</b></p> <p>D. Beyer, P. Chien, Nian-Ze Lee</p>	<p><b>Democratizing Quality-Based Machine Learning Development through Extended Feature Models</b></p> <p>Giordano d'Aloisio, Antiniscia Di Marco and Giovanni Stilo</p>	<p><b>On the Comparison of Discounted-Sum Automata with Multiple Discount Factors</b></p> <p>Udi Boker and Guy Hefetz</p>	
--	---	--	---	--

<p>11:30 <b>Specifying and Verifying Higher-order Rust Iterators</b></p> <p>X. Denis, J. Jourdan</p>	<p><b>CoPTIC: Constraint Programming Translated Into C</b></p> <p>Martin Mariusz Lester</p>	<p><b>Compositional Automata Learning of Synchronous Systems</b></p> <p>Thomas Neele and Matteo Sammartino</p>	<p><b>Fast Matching of Regular Patterns with Synchronizing Counting</b></p> <p>Lukáš Holík, Juraj Sič, Lenka Turoňová and Tomas Vojnar</p>	<p><b>Efficient Implementation of LIMDDs for Quantum Circuit Simulation</b></p> <p>Lieuwe Vinkhuijzen, Thomas Grunl, Stefan Hillmich, Sebastiaan Brand, Robert Wille and Alfons Laarman</p>
--	---	--	--	---

<p>12:00 <b>Extending a High-Performance Prover to Higher-Order Logic</b></p> <p>P. Vukmirović, J. Blanchette, S. Schulz</p>	<p><b>Acacia-Bonsai: A Modern Implementation of Downset-Based LTL Realizability</b></p> <p>Michaël Cadilhac and Guillermo Perez</p>	<p><b>Feature-Guided Analysis of Neural Networks (NIER paper)</b></p> <p>Divya Gopinath, Luca Lungeanu, Ravi Mangal, Corina Pasareanu, Siqi Xie and Huafeng Yu</p>	<p><b>Compositional Learning for Interleaving Parallel Automata</b></p> <p>Faezeh Labbaf, Hossein Hojjat, Jan Friso Groote and Mohammadreza Mousavi</p>	<p><b>ParaGnosis: A Tool for Parallel Knowledge Compilation</b></p> <p>Giso Dal, Alfons W. Laarman and Peter J.F. Lucas</p>
--	---	--	---	---

**Specification and Validation of Normative Rules for Autonomous Agents (Tool paper)**

Sinem Getir Yaman, Charlie Burholt, Maddie Jones, Radu Calinescu and Ana Cavalcanti

12:30 **Lunch**  
 Room: Patio + Foyer

13:00 **ETAPS General Assembly**  
 Room: Auditorium

**TACAS: Synthesis I**

Chair: Cesar Sanchez  
Room: Auditorium

**ESOP: Probabilistic and Quantum Programming**

Chair: Benjamin Kaminski  
Room: 44-45/108

**FASE: Runtime Monitoring & Enforcement**

Chair: Heike Wehrheim  
Room: 44-54/109

**FoSSaCS: Formal methods**

Chair:  
Room: 44-45/106

**SPIN (co-located)**

Chair:  
Room: 25-26/105

14:00	<b>Verification-guided Programmatic Controller Synthesis</b>  Yuning Wang and He Zhu	<b>Type-safe (Variational) Quantum Programming in Idris</b>  Liliane-Joy Dandy, Emmanuel Jeandel and Vladimir Zamdzhiev	<b>Opportunistic Monitoring of Multithreaded Programs</b>  Chukri Soueidi, Yliès Falcone and Antoine El-Hokayem	<b>Pebble minimization: the last theorems</b>  Gaëtan Douéneau-Tabot	<b>The Probabilistic Model Checker Storm (keynote)</b>  Joost-Pieter Katoen
14:30	<b>Computing Adequately Permissive Assumptions for Synthesis</b>  Ashwani Anand, Kaushik Mallik, Satya Prakash Nayak and Anne-Kathrin Schmuck	<b>Bunched Fuzz: Sensitivity for Vector Metrics</b>  June Wunder, Arthur Azevedo de Amorim, Patrick Baillot and Marco Gaboardi	<b>VAMOS: Middleware for Best-Effort Third-Party Monitoring</b>  Marek Chalupa, Stefanie Muroya Lei, Fabian Muehlboeck and Thomas Henzinger	<b>Noetherian topologies defined via fixed-points</b>  Aliaume Lopez	
15:00	<b>Taming Large Bounds in Synthesis from Bounded-Liveness Specifications</b>  Philippe Heim and Rayna Dimitrova	<b>Fast and Correct Gradient-Based Optimisation for Probabilistic Programming via Smoothing</b>  Basim Khajwal, Luke Ong and Dominik Wagner	<b>Runtime Enforcement Using Knowledge Bases</b>  Eduard Kamburjan and Crystal Chang Din	<b>An Efficient Cyclic Entailment Procedure in a Fragment of Separation Logic</b>  Quang Loc Le and Xuan-Bach D. Le	<b>Model Checking Futexes</b>  Hugues Evrard and Alastair Donaldson
15:30	<b>Lockstep Composition for Unbalanced Loops</b>  Ameer Hamza and Grigory Fedyukovich	<b>Automatic Alignment in Higher-Order Probabilistic Programming Languages</b>  Daniel Lundén, Gizem Çaylak, Fredrik Ronquist and David Broman			<b>Sound Concurrent Traces for Online Monitoring</b>  Chukri Soueidi and Yliès Falcone

16:00 **Coffee Break**  
Room: Foyer + 44 lobby

**SPIN (co-located)**

Chair:  
Room: 25-26/105

**TOOLympics**

Room: Auditorium

**16:30 Elimination of Detached Regions in Dependency Graph Verification**

Peter Gjøel Jensen, Kim Guldstrand Larsen, Jiri Srba and Nikolaj Jensen Ulrik

**Introduction**

Dirk Beyer, Fabrice Kordon, Arnd Hartmanns

**CHC-COMP**

Hossein Hojjat

**MCC**

Fabrice Kordon

**QComp**

Arnd Hartmanns

17:00 **Potency-Based Heuristic Search with Randomness for Explicit Model Checking**  
Emil G. Henriksen, Alan M. Khorsid, Esben Nielsen, Theodor Risager, Jiri Srba, Adam M. Stuck and Andreas S. Sørensen

**ARCH-COMP**  
Arnd Hartmanns

**RERS**  
Falk Howar

**SL-COMP**  
Mihaela Sighireanu

**SV-COMP**  
Dirk Beyer

17:20 **GPUexplore 3.0: GPU Accelerated State Space Exploration for Concurrent Systems with Data**  
Anton Wijs and Muhammad Osama

**Test-Comp**  
Dirk Beyer

**VerifyThis**  
Gidon Ernst

**VT-LTC**  
Gidon Ernst

---

19:00 **Banquet**

---



9:00 **Sven Apel: Brains on Code: Towards a Neuroscientific Foundation of Program Comprehension (FASE invited talk)**  
 Room: Auditorium  
 Chair: Leen Lambers

10:00 **Coffee break**  
 Room: Foyer + 44 lobby

	<b>TACAS: Verification II</b> Chair: Dirk Beyer Room: Auditorium	<b>TACAS: Graphs/Probabilistic Systems</b> Chair: Natasha Sharygina Room: 44-45/108	<b>FASE: Analysis &amp; Verification</b> Chair: Eduard Kamburjan Room: 44-54/109	<b>FoSSaCS: Verification</b> Chair: Room: 44-45/106	<b>SPIN (co-located)</b> Chair: Room: 25-26/105
10:30	<b>Make flows small again: revisiting the flow framework</b> Roland Meyer, Thomas Wies and Sebastian Wolff	<b>A Truly Symbolic Linear-Time Algorithm for SCC Decomposition</b> Casper Abild Larsen, Simon Meldahl Schmidt, Jesper Steensgaard, Anna Blume Jakobsen, Jaco van de Pol and Andreas Pavlogiannis	<b>Parallel Program Analysis via Range Splitting</b> Jan Haltermann, Marie-Christine Jakobs, Cedric Richter and Heike Wehrheim	<b>Just Testing</b> Rob van Glabbeek	<b>Formal Verification of Privacy Policies for Social Networks (keynote)</b> Raúl Pardo
11:00	<b>ALASCA: Reasoning in Quantified Linear Arithmetic</b> Johannes Schoisswohl, Laura Kovacs, Giles Reger, Konstantin Korovin and Andrei Voronkov	<b>Transforming quantified boolean formulas using biclique covers</b> Oliver Kullmann and Ankit Shukla	<b>Yet Another Model! A Study on Model's Similarities for Defect and Code Smells</b> Geanderson Santos, Amanda Santana, Gustavo Vale and Eduardo Figueiredo	<b>Model and Program Repair via Group Actions</b> William Cocke and Paul Attie	
11:30	<b>A Matrix-Based Approach to Parity Games</b> Saksham Aggarwal, Alejandro Stuckey de la Banda, Henri Urpani, Luke Yang and Julian Gutierrez	<b>Certificates for Probabilistic Pushdown Automata via Optimistic Value Iteration</b> T. Winkler, Joost-Pieter Katoen	<b>A Modeling Concept for Formal Verification of OS-Based Compositional Software</b> Leandro Batista Ribeiro, Florian Lorber, Ulrik Nyman, Kim Guldstrand Larsen and Marcel Baunach	<b>Subgame optimal strategies in finite concurrent games with prefix-independent objectives</b> Benjamin Bordais, Patricia Bouyer and Stephane Le Roux.	<b>Efficient Trace Generation for Rare-Event Analysis in Chemical Reaction Networks</b> Bryant Israelsen, Landon Taylor and Zhen Zhang
12:00	<b>A GPU Tree Database for Many-Core Explicit State Space Exploration</b> Anton Wijs and Muhammad Osama	<b>Probabilistic Program Verification via Inductive Synthesis of Inductive Invariants</b> K. Batz, M. Chen, S. Junges, B. Kaminski, Joost-Pieter Katoen, Christoph Matheja	<b>Towards Log Slicing (NIER paper)</b> Joshua Dawes, Donghwan Shin and Domenico Bianculli		<b>Accelerating black box testing with light-weight learning</b> Roi Fogler, Itay Cohen and Doron Peled
			<b>JavaBIP meets VerCors: Towards the Safety of Concurrent Software Systems in Java (Tool paper)</b> Simon Bliudze, Petra van den Bos, Marieke Huisman, Robert Rubbens and Larisa Safina		

12:30 **Lunch**  
 Room: Patio + Foyer

**TACAS: Model Checking II**

Chair: Sriram Sankaranarayanan  
Room: Auditorium

**FASE: Testing**

Chair: Andrzej Wařowski  
Room: 44-45/108

**Awards**

Chair:  
Room: 44-45/106

**SPIN (co-located)**

Chair:  
Room: 25-26/105

14:00	<b>Optimal Stateless Model Checking for Causal Consistency</b>  Parosh Abdulla, Mohamed Faouzi Atig, Krishna S, Ashutosh Gupta and Omkar Tuppe	<b>Efficient Bounded Exhaustive Input Generation from Program APIs</b>  Mariano Politano, Valeria Bengolea, Facundo Molina, Nazareno Aguirre, Marcelo Frias and Pablo Ponzio	<b>Test-of-time Award</b>  Presentation by the winners	<b>Interpretability-Aware Verification of Machine Learning Software (keynote)</b>  Caterina Urban
14:30	<b>Symbolic Model Checking for TLA+ Made Faster</b>  R. Otoni, I. Konnov, J. Kukovec, P. Eugster, N. Sharygina	<b>Model-based Player Experience Testing with Emotion Pattern Verification</b>  Saba Gholizadeh Ansari, I. S. W. B. Prasetya, Davide Prandi, Fitsum Meshesha Kifetew, Frank Dignum, Mehdi Dastani and Gabriele Keller	<b>Dissertation Award</b>  Presentation by the winner	
15:00	<div style="border: 1px solid black; padding: 5px;"> <b>AutoHyper: Explicit-State Model Checking for HyperLTL</b>             R. Beutner and B. Finkbeiner         </div>	<b>Concolic Testing of Front-end JavaScript</b>  Zhe Li and Fei Xie	<b>Test-of-time Tool Award</b>  Presentation by the winners	<b>WikiCoder: Learning to Write Knowledge-Powered Code</b>  Théo Matricon, Nathanaël Fijalkow and Gaëtan Margueritte  <b>Provable Correct and Adaptive Simplex Architecture for Bounded-Liveness Properties</b>  Benedikt Maderbacher, Stefan Schupp, Ezio Bartocci, Roderick Bloem, Dejan Nickovic and Bettina Könighofer

16:00 **Coffee break**  
Room: Foyer + 44 lobby

**TACAS: Monitoring/Program Analysis**

Chair: Jan Kofroň  
Room: Auditorium

**TACAS: Synthesis II**

Chair: Cesar Sanchez  
Room: 44-45/108

**FASE: Test-Comp**

Chair: Dirk Beyer  
Room: 24-25/405

16:30	<div style="border: 1px solid black; padding: 5px;"> <b>Industrial-Strength Controlled Concurrency Testing for C# Programs with Coyote</b>             P. Deligiannis, A. Senthilnathan, F. Nayyar, C. Lovett, A. Lal         </div>	<div style="border: 1px solid black; padding: 5px;"> <b>Synthesis of Distributed Agreement-Based Systems with Efficiently-Decidable Verification</b>             N. Jaber, C. Wagner, S. Jacobs, M. Kulkarni, R. Samanta         </div>
17:00	<b>Context-Sensitive Meta-Constraint Systems for Explainable Program Analysis</b>  Kalmer Apinis and Vesal Vojdani	<b>LTL Reactive Synthesis with a Few Hints</b>  M. Balachander, E. Filot, Jean-Francois Raskin
17:30	<b>Explainable Online Monitoring of Metric Temporal Logic</b>  L. Lima, A. Herasimau, M. Raszzyk, D. Traytel, S. Yuan	<b>Timed Automata Verification and Synthesis via Finite Automata Learning</b>  Ocan Sankur