

Programme of ETAPS 2024
Luxembourg City,
Luxembourg
6–11 April 2024

08:45 **Opening**
Room: Europe A

09:00 **Lars Birkedal: Higher-Order Probabilistic Relational Separation Logic (unifying speaker)**
Room: Europe A
Chair: Ana Cavalcanti

10:00 **Coffee break**
Room: Europe C

TACAS: SAT and SMT

Chair: Laura Kovács
Room: Hollenfels

TACAS: Synthesis

Chair: Bernd Finkbeiner
Room: Diekirch-Echternach-Fischbach

FASE: Runtime Approaches

Chair: Reiner Hähnle
Room: Schengen II

Rust

Room: Schengen I

10:30 **DRAT Proofs of Unsatisfiability for SAT Modulo Monotonic Theories**

Nick Feng, Alan J. Hu, Sam Bayless, Syed M. Iqbal, Patrick Trentin, Mike Whalen, Lee Pike and John Backes

Fully Generalized Reactivity(1) Synthesis

Rüdiger Ehlers and Ayrat Khalimov

Foundations for Query-based Runtime Monitoring of Temporal Properties over Runtime Models

Lucas Sakizloglou, Holger Giese, and Leen Lambers

Tree Borrows

Neven Villani, Johannes Hostert, Ralf Jung and Derek Dreyer

11:00 **Z3-Noodler: An Automata-based String Solver**

Yu-Fang Chen, David Chocholatý, Vojtěch Havlena, Lukáš Holík, Ondrej Lengal and Juraj Sič

Knor: reactive synthesis using Oink

Tom van Dijk, Feije van Abbema and Naum Tomov

Probabilistic Runtime Enforcement of Executable BPMN Processes

Yliès Falcone, Gwen Salaün, and Ahang Zuo

Aeneas: Rust Verification by Functional Translation

Son Ho, Jonathan Protzenko and Aymeric Fromherz

11:15 **TaSSAT: Transferring and Sharing in SAT**

Md Solimul Chowdhury, Cayden Codel and Marijn Heule

11:30 **Speculative SAT modulo SAT**

Hari Govind Vediramana Krishnan, Isabel Garcia-Contreras, Sharon Shoham and Arie Gurfinkel

On Dependent Variables in Reactive Synthesis

S. Akshay, Eliyahu Basa, Dror Fried and Supratik Chakraborty

Integrating Look-ahead Design-time and Run-time Control-synthesis for Graph Transformation Systems

He Xu, Sven Schneider, and Holger Giese

Contracts for Rust

Felix Klock and Celina Val

12:00 **Happy ending: An empty hexagon in every set of 30 points**

Marijn Heule and Manfred Scheucher

CESAR: Control Envelope Synthesis via Angelic Refinements

Aditi Kabra, Jonathan Laurent, Stefan Mitsch and André Platzer

Formal Specification of Trusted Execution Environment APIs

Geunyeol Yu, Seunghyun Chae, Kyungmin Bae, and Sungkun Moon

Building User-Friendly Rust Verification Tools

Federico Poli

12:30 **Lunch**
Room: Europe B

**TACAS: Proof
Checking**

Chair: Marijn Heule
Room: Hollenfels

**FASE: System
Comprehension**

Chair: Andrzej Wąsowski
Room: Schengen II

Rust

Room: Schengen I

SV-COMP

Chair: Dirk Beyer
Room: Diekirch-
Echternach-Fischbach

**Diversity &
Inclusion**

Chair: Peter Roenne
Room: Europe A

14:00 **IsaRare:
Automatic
Verification of
SMT Rewrites in
Isabelle/HOL**

Hanna Lachnitt, Cesare
Tinelli, Andrew Reynolds,
Andres Noetzli, Haniel
Barbosa, Leni Aniva,
Clark Barrett and Mathias
Fleury

**Monitoring the
Future of Smart
Contracts**

Margarita Capretto,
Martin Ceresa, and Cesar
Sanchez

**Verifying a
Concurrent
Memory Allocator
with Verus**

Travis Hance

**Why do we talk
about Equality
and Diversity in
research?**

Inês Crisóstomo

14:30 **Automate where
Automation Fails:
Proof Strategies
for Frama-C/WP**

Loïc Correnson, Allan
Blanchard, Adel Djoudi
and Nikolai Kosmatov

**Comprehending
Object State via
Dynamic Class
Invariant Learning**

Jan H. Boockmann, and
Gerald Luetzgen

**Efficiently
Verifying Rust
Traits with SMT
Solvers**

Chris Hawblitzel

**The Computer
Girls: Exploring
Herstory**

Valérie Schafer

14:45 **VeSCMul: Verified
Implementation of
S-C-Rewriting for
Multiplier
Verification**

Mertcan Temel

**Building an
Inclusive
Researcher
Journey**

Véronique Schlick

15:00 **A State-of-the-Art
Karp-Miller
Algorithm
Certified in Coq**

Thibault Hilaire, David
Ilcinkas and Jérôme
Leroux

**Smart Issue
Detection for
Large-Scale
Online Service
Systems Using
Multi-Channel
Data**

Liushan Chen, Yu Pei,
Mingyang Wan, Zhihui
Fei, Tao Liang, and
Guojun Ma

**OxiDD:
Verification
Challenge**

Nils Husung, Clemens
Dubsiaff and Maximilian
Alexander Köhl

**Interactive
session and
discussion**

15:30	A Logical Treatment of Finite Automata Nishant Rodrigues, Mircea Sebe, Xiaohong Chen and Grigore Rosu	Refinement Verification of OS Services based on a Verified Preemptive Microkernel Ximeng Li, Shanyan Chen, Yong Guan, Qianying Zhang, Guohui Wang, and Zhiping Shi	Rust Verification Workshop Proposal: Crowdsourcing the Rust standard library verification Celina G. Val and Rahul Kumar
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16:00	Coffee break Room: Europe C		
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	TACAS: Logic and Decidability Chair: Sebastian Junges Room: Hollenfels	Invited Tutorial Chair: Marieke Huisman Room: Europe A	Rust Room: Schengen I	SV-COMP Chair: Dirk Beyer Room: Diekirch-Echternach-Fischbach
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16:30	Answering Temporal Conjunctive Queries over Description Logic Ontologies for Situation Recognition in Complex Operational Domains Lukas Westhofen, Christian Neurohr, Daniel Neider and Jean	David Monniaux: Flavors of Abstract Interpretation	Panel Discussion / Lightning Talks	Open SV-COMP Community Meeting
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17:00	Deciding Boolean Separation Logic via Small Models Tomáš Dacík, Adam Rogalewicz, Tomáš Vojnar and Florian Zuleger			
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17:30	Asynchronous Subtyping by Trace Relaxation Laura Bocchi, Andy King and Maurizio Murgia			
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09:00 **Sandrine Blazy: From Operational Semantics to Verified Compilation (unifying speaker)**
 Room: Europe A
 Chair: Stephanie Weirich

10:00 **Coffee Break**
 Room: Europe C

FASE: Fuzzing and NIER

Chair: Dirk Beyer
 Room: Schengen II

TACAS: Program Analysis and Proofs

Chair: Andrei Voronkov
 Room: Hollenfels

FoSSaCS: Infinite games

Chair: Shaul Almagor
 Room: Diekirch-Echternach-Fischbach

Industry Day

Room: Wiltz

Rust

Room: Schengen I

10:30 **Fuzzy quantitative attack tree analysis**

Thi Kim Nhung Dang, Milan Lopushaa-Zwakenberg, and Mariëlle Stoelinga

SootUp: A Redesign of the Soot Static Analysis Framework

Kadiray Karakaya, Stefan Schott, Jonas Klauke, Eric Bodden, Markus Schmidt, Linghui Luo and Dongjie He

Fair Omega-regular Games

Daniel Hausmann, Nir Piterman, Irmak Saglam and Anne-Kathrin Schmuck

Invited talk: Formal Verification of Avionics Software

David Delmas (Airbus Operations SAS)

A hybrid approach to semi-automated Rust verification

Xavier Denis and Sacha-Elie Ayoun

11:00 **Towards Reliable SQL Synthesis: Fuzzing-Based Evaluation and Disambiguation**

Ricardo Brancas, Miguel Terra-Neves, Miguel Ventura, Vasco Manquinho, and Ruben Martins

Formally verified asymptotic consensus in robust networks

Mohit Tekriwal, Avi-Tachna Fram, Jean-Baptiste Jeannin, Manos Kapritsos and Dimitra Panagou

Stochastic Window Mean-payoff Games

Laurent Doyen, Pranshu Gaba and Shibashis Guha

Collision-Free Trajectories in Automated Driving: Extending a Formal Argumentation From Single Scenarios to Scenario Ranges

Advances in the Rust compiler to ease the development of verification tools

Celina G. Val and Oli Scherer

11:30 **Invariant-based Program Repair**

Omar Al-Bataineh

Formally Verifying an Efficient Sorter

Bernhard Beckert, Peter Sanders, Mattias Ulbrich, Julian Wiesler and Sascha Witt

Symbolic Solution of Emerson-Lei Games for Reactive Synthesis

Daniel Hausmann, Mathieu Lehaut and Nir Piterman

[11:20] How Bosch Brings Formal Methods to Autonomous Systems Engineering

Michaela Klauk (Robert Bosch GmbH), Christian Heinzemann and Ralph Lange

Towards sound journeys through unsafe areas riding VeriFast

Nima Rahimi Foroushaani and Bart Jacobs

11:45 **Can ChatGPT support software verification?**

Cedric Richter and Heike Wehrheim

[11:40] Invited talk: European R&D Projects: Participation and Opportunities

Leonardo Tonetto (Advisor - European R&D and Innovation Support)

12:00	Combining Deductive Verification with Shape Analysis Téo Bernier, Yani Ziani, Nikolai Kosmatov, and Frédéric Loulergue	Explainable Online Monitoring of Metric First-Order Temporal Logic Leonardo Lima, Jonathan Huerta Y Munive and Dmitriy Traytel	Parity Games on Temporal Graphs Pete Austin, Sougata Bose and Patrick Totzke	Refinement Proofs in Rust using Ghost Locks Aurel Bîly
12:15	First Steps towards Deductive Verification of LLVM IR Dré van Oorschot, Marieke Huisman, and Ömer Şakar			[12:15] Networking Session Each participant can present a 1-minute no-slide pitch about their interests in collaboration

12:30 **Lunch**
Room: Europe B

	TACAS: Model Checking Chair: Kristin Rozier Room: Hollenfels	ESOP: Effects and Modal Types Chair: Kazutaka Matsuda Room: Schengen II	FoSSaCS: Categorical semantics Chair: Corina Cirstea Room: Diekirch-Echternach-Fischbach	Industry Day Room: Wiltz	Rust Room: Schengen I	Ask-me-anything Room: Europe A
14:00	JPF: From 2003 to 2023 Cyrille Valentin Artho, Pavel Parizek, Daohan Qu, Varadraj Galgali and Pu Yi	Scoped Effects as Parameterized Algebraic Theories Sam Lindley, Cristina Matache, Sean Moss, Sam Staton, Nicolas Wu and Zhixuan Yang	Drawing from an Urn is Isometric Bart Jacobs	Invited talk: Next Generation Model-based Testing for Industrial Applications Jan Peleska (Verified Systems International)	How to do modular verification of Rust programs using Kani – Tool Demo Justus Adam, Felipe Monteiro and Celina Val	On Ethics, AI and Programming with Tamar Sharon and Wolfgang Ahrendt Host: Tom van Dijk

14:30	Hitching a Ride to a Lasso: Massively Parallel On-The-Fly LTL Model Checking Muhammad Osama and Anton Wijs	Monadic Intersection Types, Relationally Francesco Gavazzo, Riccardo Treglia and Gabriele Vanoni	Enriching Diagrams with Algebraic Operations Alejandro Villoria, Henning Basold and Alfons Laarman	Invited talk: What Programmers Want from Proof with SPARK Yannick Moy (AdaCore)	Concolic Execution for Mid-level Intermediate Representation of Rust Programs Mohammad Omidvar Tehrani, Tan Khang Le, Frédéric Tuong and Steven Y. Ko
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15:00	Towards Safe Autonomous Driving: Model Checking a Behavior Planner during Development Lukas Koenig, Christian Heinzemann, Alberto Griqiao.	Layered Modal Type Theory: Where Meta-programming Meets Intensional Analysis Jason Z. S. Hu and Brigitte Pientka	Monoidal Extended Stone Duality Fabian Birkmann, Stefan Milius and Henning Urbat	Retrospective on Formal Verification of a JavaCard Virtual Machine with Frama-C Adel Djoudi (Thales Digital Identity & Security)	HACL-rs: A Verified Rust Cryptographic Library Aymeric Fromherz, Jonathan Protzenko and Son Ho	Putting Science on the Political Agenda with Ana Cavalcanti and Gerald Lüttgen Host: Sebastian Junges
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15:30	Enhancing GenMC's Usability and Performance Michalis Kokologiannakis, Viktor Vafeiadis and Rupak Majumdar	Program Synthesis from Graded Types Jack Hughes and Dominic Orchard	Towards a Compositional Framework for Convex Analysis (with Applications to Probability Theory) Dario Stein and Richard Samuelson	[15:20] Formal Methods in the Railways: Trajectory and Trends Thierry Lecomte (Clearsy), Sébastien Agostini, David Déharbe, Julien Molinéro-Pérez, Erwan Mottin and Denis Sabatier	Hax - Enabling High Assurance Cryptographic Software Franziskus Kiefer, Karthikeyan Bhargavan, Lucas Franceschino, Lasse Letager Hansen, Jonas Schneider-Bensch and Bas Spitters	
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[15:40] Recommended Practice on Assurance of AI-enabled systems

Odd Ivar Haugen (DNV)

16:00 **Coffee break**
Room: Europe C

TACAS: Automata and Learning

Chair: Anne-Kathrin Schmuck
Room: Hollenfels

Invited Tutorial

Chair: Lenore Zuck
Room: Europe A

Industry Day

Room: Wiltz

Rust

Room: Schengen I

16:30	Scalable Tree-based Register Automata Learning Paul Fiterau-Brostean, Simon Dierl, Falk Howar, Bengt Jonsson, Konstantinos Sagonas and Fredrik Tåquist	Tamar Sharon: The view from ethics: What technologies promise, what they do and who benefits	Invited talk: From Theory to Practice: What is a contract, really? Fritz Henglein (Deon Digital)	Panel Discussion
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17:00

**Small Test Suites for
Active Automata
Learning**

Loes Kruger, Sebastian Junges
and Jurriaan Rot

**Formal Methods in
Web3: Success Stories
and Opportunities**

Franck Cassez (Mantle Research)

17:30

**Mata: A Fast and Simple
Finite Automata Library**

David Chocholatý, Tomas Fiedor,
Vojtěch Havlena, Lukáš Holík,
Martin Hruska, Ondrej Lengal and
Juraj Síč

**[17:20] Securing the
Aptos Framework
through formal
verification with the
Move Prover**

Wolfgang Grieskamp (Aptos Labs),
Junkil Park and Teng Zhang

**[17:40] Experience
Report: Formally
Verifying Critical
Blockchain Network
Component**

Bhargav Bhatt (Web3 Foundation)

09:00 **Jérôme Leroux: The Petri Net Reachability Problem (FoSSaCS invited speaker)**
 Room: Europe A
 Chair: Naoki Kobayashi

10:00 **Coffee Break**
 Room: Europe C

TACAS: Software Verification

Chair: Tomáš Vojnar
 Room: Hollenfels

ESOP: Domain-Specific Languages

Chair: Josh Ko
 Room: Schengen II

FoSSaCS: Automata and Synthesis

Chair: Bart Jacobs
 Room: Diekirch-Echternach-Fischbach

Spin: Software Verification

Chair: Thomas Neele
 Room: Schengen I

10:30 **Accelerated Bounded Model Checking Using Interpolation Based Summaries**
 Mayank Solanki, Prantik Chatterjee, Akash Lal and Subhajit Roy

Circuit Width Estimation via Effect Typing and Linear Dependency
 Andrea Colledan and Ugo Dal Lago

Determinization of Integral Discounted-Sum Automata is Decidable
 Shaull Almagor and Neta Dafni

Taming the AI Monster: Monitoring of Individual Fairness for Effective Human Oversight (keynote)
 Holger Hermanns

11:00 **Weakest Precondition Inference for Non-Deterministic Linear Array Programs**
 Sumanth Prabhu, Deepak D'Souza, Supratik Chakraborty, Venkatesh R and Grigory Fedyukovich

Reconciling Partial and Local Invertibility
 Anders Ågren Thuné, Kazutaka Matsuda and Meng Wang

Checking History-Determinism is NP-hard for Parity Automata
 Aditya Prakash

11:30 **Automated Software Verification of Hyperliveness**
 Raven Beutner

On the Hardness of Analyzing Quantum Programs Quantitatively
 Martin Avanzini, Georg Moser, Romain Péchoux and Simon Perdrix

Tighter Construction of Tight Büchi Automata
 Marek Jankola and Jan Strejček

Augmenting Interpolation-Based Model Checking with Auxiliary Invariants
 Dirk Beyer, Po-Chun Chien and Nian-Ze Lee

12:00 **A Comprehensive Specification and Verification of the L4 Microkernel API**
 Leping Zhang, Yongwang Zhao and Jianxin Li

Efficient Matching with Memoization for Regexes with Look-around and Atomic Grouping
 Hiroya Fujinami and Ichiro Hasuo

Synthesis with Privacy Against an Observer
 Orna Kupferman, Ofer Leshkowitz and Naama Shamash Halevy

Test-Case Generation with Automata-based Software Model Checking
 Max Barth and Marie-Christine Jakobs

12:30 **Lunch**
 Room: Europe B

13:00 **ETAPS General Assembly**
 Room: Europe A

**TACAS:
Probabilistic
Systems**

Chair: Kim Larsen
Room: Hollenfels

**ESOP:
Bidirectional
typing / Session
types**

Chair: Ugo Dal Lago
Room: Schengen II

**FoSSaCS: Types
and Programming
Languages**

Chair: James Worrell
Room: Diekirch-
Echternach-Fischbach

**Spin: Anniversary
Track**

Chair: Anton Wijs
Room: Schengen I

**Tool demo
session**

Room: Europe B

14:00

**Accurately
Computing
Expected Visiting
Times and
Stationary
Distributions in
Markov Chains**

Hannah Mertens, Joost-
Pieter Katoen, Tim
Quatmann and Tobias
Winkler

**A formal
treatment of
bidirectional
typing**

Liang-Ting Chen and
Hsiang-Shang Ko

**From Rewrite
Rules to Axioms
in the lambdaPi-
Calculus Modulo
Theory**

Valentin Blot, Gilles
Dowek, Thomas Traversié
and Théo Winterhalter

**The Spin on Spin
(keynote)**

Gerald Holzmann

14:30

**CTMCs with
Imprecisely
Timed
Observations**

Thom Badings, Matthias
Volk, Sebastian Junges,
Marielle Stoelinga and
Nils Jansen

**Generic
bidirectional
typing for
dependent type
theories**

Thiago Felicissimo

Light Genericity

Beniamino Accattoli and
Adrienne Lancelot

15:00

**Pareto Curves for
Compositionally
Model Checking
String Diagrams
of MDPs**

Kazuki Watanabe, Marck
van der Vegt, Ichiro
Hasuo, Jurriaan Rot and
Sebastian Junges

**The Session
Abstract Machine**

Luis Caires and Bernardo
Toninho

**Logical
Predicates in
Higher-Order
Mathematical
Operational
Semantics**

Sergey Goncharov,
Alessio Santamaria, Lutz
Schröder, Stelios
Tsampas and Henning
Urbat

**Two Decades of
Industrializing
Formal
Verification: The
Reactis Story**

Rance Cleaveland, David
Hansel, Steve Sims and
Scott Smolka

15:30

**Learning
Explainable and
Better Performing
Representations
of POMDP
Strategies**

Alexander Bork, Debraj
Chakraborty, Kush
Grover, Jan Kretinsky and
Stefanie Mohr

**Deciding
Subtyping for
Asynchronous
Multiparty
Sessions**

Elaine Li, Felix Stutz and
Thomas Wies

**On Basic Feasible
Functionals and
the Interpretation
Method**

Patrick Baillot, Ugo Dal
Lago, Cynthia Kop and
Deivid Vale

**Automated
Reasoning in
Quantum Circuit
Compilation**

Dimitrios Thanos,
Alejandro Villoria,
Sebastiaan Brand,
Arend-Jan Quist, Jingyi
Mei, Tim Coopmans and
Alfons Laarman

16:00

Coffee break

Room: Europe C

TACAS: Simulations

Chair: Javier Esparza
Room: Hollenfels

ESOP: Dependent Types

Chair: Benoit Montagu
Room: Schengen II

TACAS: Neural Networks

Chair: Arie Gurfinkel
Room: Diekirch-Echternach-
Fischbach

**Spin: Automated
Reasoning**

Room: Schengen I

16:30	Dissipative quadratzations of polynomial ODE systems Yubo Cai and Gleb Pogudin	Observational Equality Meets CIC Loïc Pujet and Nicolas Tabareau	Provable Preimage Under-Approximation for Neural Networks Xiyue Zhang, Benjie Wang and Marta Kwiatkowska	Random Access on Narrow Decision Diagrams in External Memory Steffan Christ Sølvsten, Casper Moldrup Rysgaard and Jaco van de Pol
17:00	Forward and Backward Constrained Bisimulations for Quantum Circuits Antonio Jiménez-Pastor, Kim Guldstrand Larsen, Mirco Tribastone and Max Tschaikowski	Trocq: Proof Transfer for Free, With or Without Univalence Cyril Cohen, Enzo Crance and Assia Mahboubi	Training for Verification: Increasing Neuron Stability to Scale DNN Verification Dong Xu, Nusrat Jahan Mozumder, Hai Duong and Matthew Dwyer	Solving Constrained Horn Clauses as C Programs with CHC2C Levente Bajczi and Vince Molnár
17:30	A Parallel and Distributed Quantum SAT Solver Based on Entanglement and Teleportation Shang-Wei Lin, Tzu-Fan Wang, Yean-Ru Chen, Zhe Hou, David Sanán and Yon Shin Teo	Definitional Functoriality for Dependent (Sub)Types Théo Laurent, Meven Lennon- Bertrand and Kenji Maillard	NeuroSynt: A Neuro- symbolic Portfolio Solver for Reactive Synthesis Matthias Cosler, Christopher Hahn, Ayham Omar and Frederik Schmitt	

09:00 **Ruzica Piskac (TACAS invited speaker)**
 Room: Europe A
 Chair: Laura Kovacs

10:00 **Coffee Break**
 Room: Europe C

TACAS: Testing and Verification

Chair: Ruzica Piskac
 Room: Hollenfels

ESOP: Verification and Analysis

Chair: Ori Lahav
 Room: Schengen II

FoSSaCS: Logic and Proofs

Chair: Ichiro Hasuo
 Room: Diekirch-Echternach-Fischbach

Spin: Verification Tools

Room: Schengen I

10:30 **HaliVer: Deductive Verification and Scheduling Languages Join Forces**

Lars B. van den Haak, Anton Wijs, Marieke Huisman and Mark van den Brand

Verified Inlining and Specialisation for PureCake

Hrutvik Kanabar, Kacper Korban and Magnus O. Myreen

Succinctness of Cosafety Fragments of LTL via Combinatorial Proof Systems

Luca Geatti, Alessio Mansutti and Angelo Montanari

Learning the State Machine Behind a Modal Text Editor: The (Neo)Vim Case Study

Pierre Ganty

11:00 **Gray-Box Fuzzing via Gradient Descent and Boolean Expression Coverage**

Martin Jonáš, Jan Strejček, Marek Trtík and Lukáš Urban

Maximal Quantified Precondition Synthesis for Linear Array Loops

Sumanth Prabhu, Grigory Fedyukovich and Deepak D'Souza

A Resolution-Based Interactive Proof System for UNSAT

Philipp Czerner, Javier Esparza and Valentin Krasotin

Tolerance: Quantifying Fault Masking in Stochastic Systems

Luciano Putruele, Ramiro Demasi, Pablo Castro and Pedro D'Argenio

11:30 **Fast Symbolic Computation of Bottom SCCs**

Anna Blume Jakobsen, Rasmus Skibdahl Melanchton Jorgensen, Andreas Pavlogiannis and Jaco van de Pol

Higher-Order LCTRSs and Their Termination

Liye Guo and Cynthia Kop

Craig Interpolation for Decidable First-Order Fragments

Balder ten Cate and Jesse Comer

Software Verification Witnesses 2.0

Paulína Ayaziová, Dirk Beyer, Marian Lingsch-Rosenfeld, Martin Spiessl and Jan Strejček

12:00 **Btor2-Cert: A Certifying Hardware-Verification Framework Using Software Analyzers**

Zsófia Ádám, Dirk Beyer, Po-Chun Chien, Nian-Ze Lee and Nils Sirrenberg

Suspension Analysis and Selective Continuation-Passing Style for Universal Probabilistic Programming Languages

Daniel Lundén, Lars Hummelgren, Jan Kudlicka, Oscar Eriksson and

Clones, closed categories, and combinatory logic

Philip Saville

Fault Localization on Verification Witnesses

Dirk Beyer, Matthias Kettl and Thomas Lemberger

12:30 **Lunch**
 Room: Europe B

TACAS: Games

Chair: Hadar Frenkel
 Room: Hollenfels

ESOP: Verification

Chair: Luis Caires
 Room: Schengen II

FoSSaCS: Infinite-State Systems

Chair: Jerome Leroux
 Room: Diekirch-Echternach-Fischbach

Spin: Model Checking

Chair: Anton Wijs
 Room: Ansembourg

Test-Comp

Chair: Dirk Beyer
 Room: Schengen I

Award Winner Presentations

Chair: Marieke Huisman and Arnd Hartmanns
 Room: Europe A

14:00	Auction-Based Scheduling Guy Avni, Kaushik Mallik and Suman Sadhukhan	A Denotational Approach to Release-Acquire Concurrency Yotam Dvir, Ohad Kammar and Ori Lahav	Reachability in Fixed VASS: Expressiveness and Lower Bounds Andrei Draghici, Christoph Haase and Andrew Ryzhikov	MoXI: An Intermediate Language for Symbolic Model Checking (keynote) Kristin Yvonne Rozier	Doctoral Dissertation Award
14:30	Most General Winning Secure Equilibria Synthesis in Graph Games Satya Prakash Nayak and Anne-Kathrin Schmuck	Specifying and Verifying Persistent Libraries Léo Stefanescu, Azalea Raad and Viktor Vafeiadis	From Innermost to Full Almost-Sure Termination of Probabilistic Term Rewriting Jan-Christoph Kassing, Florian Frohn and Jürgen Giesl		Test Of Time Award
15:00	On-The-Fly Algorithm for Reachability in Parametric Timed Games Mikael Bisgaard Dahlsen-Jensen, Baptiste Fievet, Laure Petrucci and Jaco van de Pol	Intel PMDK Transactions: Specification and Concurrency Azalea Raad, Ori Lahav, John Wickerson, Piotr Balcer and Brijesh Dongol	Dimension-Minimality and Primality of Counter Nets Shaull Almagor, Guy Avni, Henry Sinclair-Banks and Asaf Yeshurun	Synchronisation in Language-level Symmetry Reduction for Probabilistic Model Checking Ivaylo Valkov, Alastair Donaldson and Alice Miller	Test-Of-Time Tool Award
15:30	Rabin Games and Colourful Universal Trees Rupak Majumdar, Irmak Saglam and K. S. Thejaswini	Hyperproperty Verification as CHC Satisfiability Shachar Itzhaky, Sharon Shoham and Yakir Vizel	Parameterized Broadcast Networks with Registers: from NP to the Frontiers of Decidability Lucie Guillou, Corto Mascle and Nicolas Waldburger	A Hypergraph-based Formalization of Hierarchical Reactive Modules and a Compositional Verification Method Daisuke Ishii	Artifact Evaluation Report & Awards

16:00 **Coffee break**
Room: Europe C

TACAS: Concurrency

Chair: Bernd Finkbeiner
Room: Hollenfels

ESOP: Abstract Interpretation

Chair: Thomas Wies
Room: Schengen II

Test-Comp

Chair: Dirk Beyer
Room: Schengen I

16:30 **Verification under TSO with an infinite Data Domain**

Florian Furbach, Parosh Aziz Abdulla, Mohamed Fouzi Atig and Shashwat Garg

A Modular Soundness Theory for the Blackboard Analysis Architecture

Sven Keidel, Dominik Helm, Tobias Roth and Mira Mezini

Open Test-Comp Community Meeting

17:00

OxiDD: A Safe, Concurrent, Modular, and Performant Decision Diagram Framework in Rust

Nils Husung, Clemens Dubsclaff, Holger Hermanns and Maximilian Alexander Köhl

Formalizing Date Arithmetic and Statically Detecting Ambiguities for the Law

Raphaël Monat, Aymeric Fromherz and Denis Merigoux

17:30

Decidable Verification under Localized Release-Acquire Concurrency

Abhishek Kr Singh and Ori Lahav

Detection of Uncaught Exceptions in Functional Programs by Abstract Interpretation

Pierre Lermusiaux and Benoit Montagu