

39th European Conference on Object-Oriented Programming

ECOOP 2025, June 30–July 2, 2025, Bergen, Norway

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■ Contents

Preface	
<i>Jonathan Aldrich and Alexandra Silva</i>	0:ix–0:x
Message from the Artifact Evaluation Chairs	
<i>Karine Even-Mendoza and Raphaël Monat</i>	0:xi
Message from the AITO President	
<i>Davide Ancona</i>	0:xiii
List of Authors	
.....	0:xv–0:xviii

Regular Papers

A Theory of (Linear-Time) Timed Monitors	
<i>Mouloud Amara, Giovanni Bernardi, Mohammed Aristide Foughali, and Adrian Francalanza</i>	1:1–1:30
The Algebra of Patterns	
<i>David Binder and Lean Ermantraut</i>	2:1–2:28
Pydrofoil: Accelerating Sail-Based Instruction Set Simulators	
<i>Carl Friedrich Bolz-Tereick, Luke Panayi, Ferdia McKeogh, Tom Spink, and Martin Berger</i>	3:1–3:31
Ensuring Convergence and Invariants Without Coordination	
<i>Dina Borrego, Nuno Preguiça, Elisa Gonzalez Boix, and Carla Ferreira</i>	4:1–4:29
Compositional Bug Detection for Internally Unsafe Libraries: A Logical Approach to Type Unsoundness	
<i>Pedro Carrott, Sacha-Élie Ayoun, and Azalea Raad</i>	5:1–5:28
Detecting Functionality-Specific Vulnerabilities via Retrieving Individual Functionality-Equivalent APIs in Open-Source Repositories	
<i>Tianyu Chen, Zeyu Wang, Lin Li, Ding Li, Zongyang Li, Xiaoning Chang, Pan Bian, Guangtai Liang, Qianxiang Wang, and Tao Xie</i>	6:1–6:27
Monadic Type-And-Effect Soundness	
<i>Francesco Dagnino, Paola Giannini, and Elena Zucca</i>	7:1–7:31
An Effectful Object Calculus	
<i>Francesco Dagnino, Paola Giannini, and Elena Zucca</i>	8:1–8:30
Event Race Detection for Node.js Using Delay Injections	
<i>Andre Takeshi Endo and Anders Møller</i>	9:1–9:28
Bottom-Up Synthesis of Memory Mutations with Separation Logic	
<i>Kasra Ferdowsi and Hila Peleg</i>	10:1–10:32
Contract Usage and Evolution in Android Mobile Applications	
<i>David R. Ferreira, Alexandra Mendes, João F. Ferreira, and Carolina Carreira</i> ..	11:1–11:30

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Automatic Goal Clone Detection in Rocq <i>Ali Ghanbari</i>	12:1–12:19
FuzzFlesh: Randomised Testing of Decompilers via Control Flow Graph-Based Program Generation <i>Amber Gorzynski and Alastair F. Donaldson</i>	13:1–13:26
IsaBIL: A Framework for Verifying (In)correctness of Binaries in Isabelle/HOL <i>Matt Griffin, Brijesh Dongol, and Azalea Raad</i>	14:1–14:30
Speigion: Implicit and Non-Lexical Regions with Sized Allocations <i>Jack Hughes, Michael Vollmer, and Mark Batty</i>	15:1–15:26
A Lightweight Method for Generating Multi-Tier JIT Compilation Virtual Machine in a Meta-Tracing Compiler Framework <i>Yusuke Izawa, Hidehiko Masuhara, and Carl Friedrich Bolz-Tereick</i>	16:1–16:29
Contrasting Deadlock-Free Session Processes <i>Juan C. Jaramillo and Jorge A. Pérez</i>	17:1–17:29
Practical Type-Based Taint Checking and Inference <i>Nima Karimipour, Kanak Das, Manu Sridharan, and Behnaz Hassanshahi</i>	18:1–18:25
Profile-Guided Field Externalization in an Ahead-Of-Time Compiler <i>Sebastian Klobhofer, Lukas Makor[1], Peter Hofer, David Leopoldseder, and Hanspeter Mössenböck</i>	19:1–19:32
Incremental Computing by Differential Execution <i>Prashant Kumar, André Pacak, and Sebastian Erdweg</i>	20:1–20:24
GSOHC: Global Synchronization Optimization in Heterogeneous Computing <i>Soumik Kumar Basu and Jyothi Vedurada</i>	21:1–21:30
Quantifying Cache Side-Channel Leakage by Refining Set-Based Abstractions <i>Jacqueline L. Mitchell and Chao Wang</i>	22:1–22:28
Wastrumentation: Portable WebAssembly Dynamic Analysis with Support for Intercession <i>Aäron Munsters, Angel Luis Scull Pupo, and Elisa Gonzalez Boix</i>	23:1–23:29
Fair Termination of Asynchronous Binary Sessions <i>Luca Padovani and Gianluigi Zavattaro</i>	24:1–24:29
Reusing Highly Optimized IR in Dynamic Compilation <i>Andrej Pečimúth, David Leopoldseder, and Petr Tůma</i>	25:1–25:25
Lightweight Diagramming for Lightweight Formal Methods: A Grounded Language Design <i>Siddhartha Prasad, Ben Greenman, Tim Nelson, and Shriram Krishnamurthi</i>	26:1–26:29
PoTo: A Hybrid Andersen’s Points-To Analysis for Python <i>Ingkarat Rak-amnonykit, Ana Milanova, Guillaume Baudart, Martin Hirzel, and Julian Dolby</i>	27:1–27:29
Reusing Caches and Invariants for Efficient and Sound Incremental Static Analysis <i>Mamy Razafintsialonina, David Bühler, Antoine Miné, Valentin Perrelle, and Julien Signoles</i>	28:1–28:29

Declarative Dynamic Object Reclassification <i>Riccardo Sieve, Eduard Kamburjan, Ferruccio Damiani, and Einar Broch Johnsen</i>	29:1–29:31
In-Memory Object Graph Stores <i>Aditya Thimmaiah, Zijian Yi, Joseph Kenis, Christopher J Rossbach, and Milos Gligoric</i>	30:1–30:30
Multiparty Asynchronous Session Types: A Mechanised Proof of Subject Reduction <i>Dawit Tirotre, Jesper Bengtson, and Marco Carbone</i>	31:1–31:30
Compositional Static Value Analysis for Higher-Order Numerical Programs <i>Milla Valnet, Raphaël Monat, and Antoine Miné</i>	32:1–32:29
Mono Types – First-Class Containers for Datalog <i>Runqing Xu, David Klopp, and Sebastian Erdweg</i>	33:1–33:26
Taming and Dissecting Recursions Through Interprocedural Weak Topological Ordering <i>Jiawei Yang, Xiao Cheng, Bor-Yuh Evan Chang, Xiapu Luo, and Yulei Sui</i>	34:1–34:31
Chain of Grounded Objectives: Concise Goal-Oriented Prompting for Code Generation <i>Sangyeop Yeo, Seung-Won Hwang, and Yu-Seung Ma</i>	35:1–35:25
Efficient Neural Network Verification via Order Leading Exploration of Branch-and-Bound Trees <i>Guanqin Zhang, Kota Fukuda, Zhenya Zhang, H.M.N. Dilum Bandara, Shiping Chen, Jianjun Zhao, and Yulei Sui</i>	36:1–36:29

Experience Papers

RacerF: Lightweight Static Data Race Detection for C Code <i>Tomáš Dacík and Tomáš Vojnar</i>	37:1–37:19
Type-Safe and Portable Support for Packed Data <i>Arthur Jamet and Michael Vollmer</i>	38:1–38:19
WebGlitch: A Randomised Testing Tool for the WebGPU API <i>Matthew K. L. Wong and Alastair F. Donaldson</i>	39:1–39:26

Replication Paper

Scaling Up: Revisiting Mining Android Sandboxes at Scale for Malware Classification <i>Francisco Handrick Tomaz da Costa, Ismael Medeiros, Leandro Oliveira, João Calássio, Rodrigo Bonifácio, Krishna Narasimhan, Mira Mezini, and Márcio Ribeiro</i>	40:1–40:26
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Pearl/Brave New Ideas

Shouting at Memory: Where Did My Write Go? 41:1–41:26
 Vasileios Klimis
Contract Systems Need Domain-Specific Notations 42:1–42:24
 Cameron Moy, Ryan Jung, and Matthias Felleisen

■ Preface

Started in 1987, ECOOP is Europe's oldest programming conference, welcoming papers on all practical and theoretical investigations of programming languages, systems, and environments that provide innovative solutions to real problems as well as evaluations of existing solutions. Papers were submitted to one of four categories: *Research* for papers that advance the state of the art in programming; *Replication* for empirical evaluations that reconstruct a published experiment in a different context in order to validate the results of that earlier work; *Experience* for applications of known techniques in practice; and *Pearl/Brave New Idea* for papers that either explain a known idea in an elegant way or unconventional papers introducing ideas that may take some time to substantiate. The chairs thank the Program Committee for their dedication to ensuring a quality program and providing constructive feedback to authors: Aaron Bembenek, Albert Rubio, Carla Ferreira, Daniele Nantes-Sobrinho, Di Wang, Einar Broch Johnsen, Elisa Gonzalez Boix, Elvira Albert, Farzaneh Derakhshan, Federico Olmedo, Jingling Xue, João F. Ferreira, Jules Jacobs, Lingming Zhang, Luis Caires, Max Willsey, Michael Vollmer, Mira Mezini, Niki Vazou, Pascal Weisenburger, Peter Thiemann, Ping Hou, Robbert Krebbers, Sebastian Erdweg, Serena Elisa Ponta, Sophia Drossopoulou, Sung-Shik Jongmans, Tobias Wrigstad, Wenjia Ye, Werner Dietl. We are also grateful for the help from a number of external experts who helped us ensure every paper got a high-confidence review: Adam Barwell, Andreas Löw, Andrew Lenharth, Ashish Mishra, Ben Titzer, Daniel Ramos, David Naumann, David Richter, Emilio Tuosto, Guillermo Henrique Botelho Guerra, Jérôme Feret, Jesus Correias, Joshua Sunshine, Justin Hsu, Marco Guarnieri, Mike Dodds, Pablo Gordillo, Paulo Torrens, Roberto Giacobazzi, Samir Genaim, Stefan Marr, Yu David Liu.

This year, we continued the review process introduced in 2024, in which all papers were rated on each of the following criteria:

- **Soundness:** How well the paper's contributions are supported by rigorous application of appropriate research methods;
- **Significance:** The extent to which the paper's contributions are novel, original, and important, with respect to the existing body of knowledge;
- **Presentation:** Whether the paper's quality of writing meets the high standards of ECOOP.

After the author response and reviewer discussions, papers were accepted if the PC decided that the paper meets our high bar for Soundness and Presentation, and if at least one reviewer judges the paper to meet the bar for Significance. The goal of this process is to ensure quality of writing and confidence in results, while assuming that if one reviewer finds the paper to be significant then there will be readers who do so as well.

Overall, 102 papers were submitted in the first and second rounds. In the end 42 papers were accepted, in some cases after a round of revisions between the two rounds or a final round of checking for papers that initially received a conditional accept rating. As is common with journals, the ability to resubmit improved versions of a paper allowed the conference to accept a larger percentage of papers overall than in prior editions of ECOOP, while maintaining a high quality threshold.

We hope that future chairs will continue to experiment with more, and perhaps, different innovations that will enrich the ECOOP community further.

Finally, we would like to thank the local organizers, in particular the ECOOP General Chair, Volker Stolz, and the Local Organization Chair, Violet Ka I Pun, for all the work they did to put together the conference, the AITO executive committee, and the Dagstuhl LIPIcs team. For those who have edited a volume supported by the team led by Michael Wagner will know how responsive and helpful they are, we are extremely grateful for the service they provide, as we recognize this is very valuable for our community and the mission of keeping science open to everyone.

Jonathan Aldrich

*Program Committee Co-chair
Carnegie Mellon University*

Alexandra Silva

*Program Committee Co-chair
Cornell University*

■ Message from the AEC chairs

ECOOP has a long-standing tradition of offering artifact evaluation dating back to 2013. This edition's artifact evaluation exceptionally focused on performing artifact evaluation of accepted papers only, contrary to the ECOOP tradition of evaluating artifacts at the same time as papers are reviewed.

In order to ensure a thorough and efficient artifact evaluation process, we recruited a large and diverse artifact evaluation committee that included a total of 55 artifact reviewers. The artifact submissions were due a few days after papers were accepted at ECOOP. Due to aforementioned change in the artifact evaluation process, we received a total of 21 submissions this year, down from 64 last year. Due to tight calendar constraints of this year's artifact evaluation, and to address potential hardware shortcomings, each artifact has been assigned four reviewers instead of the traditional three. The review phase started with a kick-the-tires review and author response, during which authors had the opportunity to clarify or address technical issues with their submissions. Full reviews have been provided a few weeks later.

We followed ACM's badging policy¹ since 2023. Details about the evaluation process and results can be found in the ECOOP 2025 DARTS proceedings.

The smooth and thorough artifact evaluation process would have not been possible without the members of the committee, who handled the artifact review workload with great dedication. We would like to thank them for their valuable work, feedback to authors and the inspiring discussions! We would also like to thank the ECOOP 2025 program committee chairs Jonathan Aldrich and Alexandra Silva for the pleasant and productive interactions over the coordination of the paper and artifact review processes, and the Dagstuhl Publishing team for their proactive and highly responsive assistance during the preparation of this DARTS volume.

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¹ <https://www.acm.org/publications/policies/artifact-review-and-badging-current>

■ Message from the AITO president

After 21 years, ECOOP returns to Norway, this time hosted by the Western Norway University of Applied Sciences in Bergen. I am delighted to welcome all ECOOP attendees to this vibrant and fascinating city.

Norway holds a special place in the history of ECOOP. One of the early editions of the conference was held here in 1988. More importantly, Norway is the home of Ole-Johan Dahl and Kristen Nygaard, the acknowledged co-inventors of Object-Oriented Programming, who were honored with the “ACM A. M. Turing Award” in 2001 for their groundbreaking contributions.

This year, for the first time, the “ACM SIGPLAN International Conference on Generative Programming: Concepts & Experiences” (GPCE) is co-located with ECOOP. I am confident this will establish a long-standing collaboration between the two conferences and their closely connected communities, which share many researchers and interests.

The ECOOP 2025 organizers, together with the GPCE team, have done an outstanding job putting together a rich and diverse program, featuring seven workshops and a doctoral symposium. Many thanks to the ECOOP General Chair, Volker Stolz; the Local Organization Chair, Violet Ka I Pun; the Program Committee Co-Chairs, Alexandra Silva and Jonathan Aldrich; and all other members of the organizing committee for their dedication and contributions.

I look forward to an exciting week of conferences and workshops, stimulating presentations, fruitful personal interactions, and inspiring keynotes—including the talks by the two 2025 Dahl-Nygaard Prize winners. Enjoy the conference and your time in Bergen!

Davide Ancona
AITO President

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