COP ’21
Proceedings of the 13th ACM International Workshop on
Context-Oriented Programming and Advanced Modularity

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ECOOP/ISSTA ’21
Message from the Chairs

Welcome to COP 2021, the 13th International Workshop on Context-Oriented Programming and Advanced Modularity, co-located with the 35th European Conference on Object-Oriented Programming (ECOOP 2021) and the 30th ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA 2021).

Context-Oriented Programming (COP) is a programming paradigm that directly supports variability of contexts at the programming level. It enables run-time behavior to be dispatched directly on any varied properties of the execution or user context. COP addresses a crucial need of modern software systems, where continuous adaptation to the ever-changing execution and usage contexts is the norm not the exception of computing.

In the 2021 addition, we further expand the scope of this workshop to include advanced forms of software modularity. It is our belief that developing adaptive and dynamic software should further promote modular software development, instead of being at the expense of the latter. Topics of interest to the workshop include, but are not limited to:

- COP and contextual modeling in modern computer systems (mobile systems, IoTs, cloud/edge computing, autonomous systems, etc.)
- Programming language abstractions for COP (e.g., dynamic scoping, roles, traits, prototype-based extensions)
- Implementation issues for COP (e.g., optimization, VM support, JIT compilation)
- COP applications in computer systems (e.g., mobile systems, IoTs, cloud/edge computing, security)
- COP applications in autonomous systems (e.g., unmanned aerial vehicles, autonomous vehicles)
- Configuration languages (e.g., feature description interpreters, transformational approaches)
- Programming language abstractions for composition and modularization (e.g., modules, aspects, features, layers, plugins, libraries, components)
- Theoretical foundations and reasoning support for COP and modular systems (e.g., semantics, type systems, mechanized proofs)
- Software lifecycle support for modularization (e.g., requirements; architecture; synthesis; metrics; software product lines; economics; testing; patterns)
- Tool support for modular software development (e.g., platform; refactoring; static and dynamic analysis; evolution; reverse engineering; mining)
- Modular applications (e.g., data-intensive applications, micro-services, serverless computing)
COP 2021 attracted three submissions. Each submission was reviewed by at least four program committee members. The committee decided to accept all three papers for presentation and publication. The workshop was held on July 12th, 2021. It is the second virtual workshop of the COP series. Participants met online through live Zoom sessions.

We would like to thank our program committee members, all authors, and the workshop attendees for their contributions.

Best Regards,

Harumi Watanabe
Yu David Liu
Robert Hirschfeld
Atsushi Igarashi
Hidehiko Masuhara
Program Committee

- Mehdi Bagherzadeh, Oakland University
- Nicolás Cardozo, Universidad de los Andes
- Cynthia Disenfeld, Foretellix and Open University of Israel
- Robert Hirschfeld, HPI, University of Potsdam
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