

# Preface to the International Workshop on Collaborative and Participatory Modeling (CoPaMo) 2024

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## Overview

Collaboration has become an important topic in Model-Driven Engineering (MDE) due to the increasing complexity of systems, which requires a coordinated interplay between diverse stakeholders.

Apart from its technical concerns, collaborative modeling also entails stakeholder aspects, such as communication and user experience. The fact that collaborative modeling cannot be restricted to purely technical concerns has been recognized by the MDE community [1–3], but organizational and stakeholder aspects remain unaddressed and largely overlooked.

Complementary to the technical aim of collaborative modeling, *participatory modeling* [4, 5] focuses on including stakeholders, often without modeling skills, into a purposeful process during which models of many forms can be elicited. With this focus, participatory modeling also plays a key role in accelerating the adoption of collaborative modeling technology (tools, languages, algorithms) developed by the MDE community in recent years.

A MODELS-adjacent community in which participatory modeling has been extensively researched is the *Information Systems (IS)* community. Given the close alignment and shared concerns of the two communities, we found it appropriate to organize a workshop in which experts of the two communities can learn from each other and establish a joint roadmap.

CoPaMo, the International Workshop on Collaborative and Participatory Modeling, was the latest incarnation of the successful workshops on collaborative modeling at MODELS, most notably, the Hands-on Workshop on Collaborative Modeling (HoWCoM), with which CoPaMo had direct continuity in the organization. In a broader sense, the workshop also aimed to bring the MDE and IS communities closer. The complementary alignment of collaborative and participatory modeling is yet another instance of the synergy between the two communities.

## Accepted papers and summaries

The shifted focus of the workshop resulted in a high number of submissions and a thematically rich program. We received fourteen submissions and accepted eleven for publication and presentation.

- *Modular Consistency Checking Between Heterogeneous Models Without Direct Data Exchange Between Collaborators* – by S. Bergemann and N. Benkendorf.
- *Engaging End-User-Modelers: An Action Research Study* – by H. Störrle.
- *ARC<sup>3</sup>N: A Collaborative Uncertainty Catalog to Address the Awareness Problem of Model-Based Confidentiality Analysis* – by S. Hahner, N. Niehues, N. Boltz, M. Fuksa, and R. Heinrich.

- *Participatory and Collaborative Modeling of Sustainable Systems: A Systematic Survey* – by R. Manellanga and I. David.
- *A Tool for Collaborative Consistency Checking During Modeling* – by L. Marchezan, M. Homolka, A. Blokhin, W. Assunção, E. Herac, and A. Egyed.
- *Towards a collaborative approach for Digital Twin simulation models comprehension* – by A. Fedeli and D. A. Manrique Negrin.
- *Towards public understanding of software through modeling* – by R. Jongeling.
- *Towards Model-Based Adoption for Requirements Elicitation in Railway - the Role of Collaborative and Participatory Modelling* – by H. Gustavsson and J. Cederbladh.
- *New UX for Participatory Modeling* – by S. Kelly.
- *Towards Active Participation of Domain Experts in Modeling Language Evolution* – by M. Latifaj.
- *Bridging the Gap: Participatory Modeling for Stakeholder-Driven NoSQL Database Design* – by C. Asaad, K. Baïna, and M. Ghogho.

## Organization

### Organizing Committee

- Istvan David, McMaster University, Canada
- Anne Gutschmidt, University of Rostock, Germany
- Luciano Marchezan, Johannes Kepler University, Austria

### Program Committee

- Kousar Aslam, Vrije Universiteit Amsterdam, Netherlands
- Dominik Bork, TU Wien, Austria
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- Janis Stirna, Stockholm University, Sweden
- Gerson Sunyé, University of Nantes, France
- André van der Hoek, University of California Irvine, USA
- Irene Yuan, McMaster University, Canada

## References

- [1] Istvan David, Kousar Aslam, Sogol Faridmoayer, Ivano Malavolta, Eugene Syriani, and Patricia Lago. 2021. Collaborative Model-Driven Software Engineering: A Systematic Update. In *24th International Conference on Model Driven Engineering Languages and Systems, MODELS 2021, Fukuoka, Japan, October 10-15, 2021*. IEEE, 273–284. <https://doi.org/10.1109/MODELS50736.2021.00035>
- [2] Istvan David, Kousar Aslam, Ivano Malavolta, and Patricia Lago. 2023. Collaborative Model-Driven Software Engineering – A Systematic Survey of Practices and Needs in Industry. *Journal of Systems and Software* 199 (2023), 111626. <https://doi.org/10.1016/j.jss.2023.111626>
- [3] Mirco Franzago, Davide Di Ruscio, Ivano Malavolta, and Henry Muccini. 2018. Collaborative Model-Driven Software Engineering: A Classification Framework and a Research Map. *IEEE Transactions on Software Engineering* 44, 12 (2018), 1146–1175. <https://doi.org/10.1109/TSE.2017.2755039>
- [4] Anne Gutschmidt. 2021. An Exploratory Comparison of Tools for Remote Collaborative and participatory Enterprise Modeling. In *ECIS 2021*. [https://aisel.aisnet.org/ecis2021\\_rip/57](https://aisel.aisnet.org/ecis2021_rip/57)
- [5] Anne Gutschmidt, Birger Lantow, Ben Hellmanzik, Ben Ramforth, Matteo Wiese, and Erko Martins. 2023. Participatory modeling from a stakeholder perspective: On the influence of collaboration and revisions on psychological ownership and perceived model quality. *Software and Systems Modeling* 22, 1 (2023), 13–29. <https://doi.org/10.1007/s10270-022-01036-7>