

Preface of the EMISA Workshop 2021

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The special interest group „Enterprise Modeling and Information Systems Architecture“ (SIG EMISA)³ of the German Informatics Society (GI) regularly provides a forum for researchers from various disciplines who develop and apply methods to support the analysis and design of information systems, namely the EMISA workshop series.

The EMISA 2021 workshop is the 11th in this series, which emphasizes a holistic view on this field, fostering integrated approaches that address business processes, business people and information technology.

The leading topic for the EMISA 2021 workshop was the Internet-of-Things (IoT) and related technologies, methods and models. The rise of IoT is changing the way how models are captured and requires new design methods for information systems. In the past, (conceptual) models have been discovered from documents or interviews. IoT creates the need to automatically discover models from raw sensor events.

EMISA 2021 was searching for three types of contributions: *PhD research proposals*, *current research talk proposals* and *novel direction talk proposals*. As the main focus of the workshop was on discussions, we received several talk proposals, whereas current research talk proposals are not part of this proceedings.

This proceedings includes 7 peer-reviewed papers, namely novel direction talk proposals discussing IoT for business process improvement, data science methods for declarative process mining, improved service modeling, conformance checking with regulations, software design patterns for AI-systems, an architecture for assistive process execution environments and models in ancient Egypt.

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³ <http://www.emisa.org/>

Besides, EMISA 2021 accepted 13 current research talk proposals of already published scientific work to be published in the EMISA member magazine:

- *Monotone Precision and Recall Measures for Comparing Executions and Specifications of Dynamic Systems (Extended Abstract)* by Artem Polyvyanyy, Andreas Solti, Matthias Weidlich, Claudio Di Ciccio and Jan Mendling
- *Business process representation and performance of different task types (Extended Abstract)* by Hamzah Ritchi, Mieke Jans, Jan Mendling and Hajo A. Reijers
- *The Diverse Ends-in-View of Research on Business Processes and Organizational Routines (Extended Abstract)* by Jan Mendling, Nicholas Berente, Stefan Seidel and Thomas Grisold
- *A Consolidated Framework for Implementing Robotic Process Automation Projects (Extended Abstract)* by Lukas-Valentin Herm, Christian Janiesch, Alexander Helm, Florian Imgrund, Kevin Fuchs, Adrian Hofmann and Axel Winkelmann
- *Conceptual Modeling in a Digital World: A New Framework and Research Agenda (Extended Abstract)* by Jan Recker, Roman Lukyanenko, Mohammad Jabbari, Binny Samuel and Arturo Castellanos
- *Toward a Taxonomy of Modeling Difficulties: A Multimodal Study on Individual Modeling Processes (Extended Abstract)* by Kristina Rosenthal and Stefan Strecker
- *End-User Development of Internet of Things Processes in Augmented Reality (Extended Abstract)* by Ronny Seiger
- *Partial Order Resolution of Event Logs for Process Conformance Checking (Extended Abstract)* by Han van der Aa, Henrik Leopold and Matthias Weidlich
- *Ontology-Based Process Modelling - Will we live to see it? (Extended Abstract)* by Carl Coreia, Michael Fellmann and Patrick Delfmann
- *Revenue Management Systems as Symbiotic Analytics Systems: Insights from a Field Study (Extended Abstract)* by Catherine Cleophas, Claudia Schütze and Monideepa Tarafdar
- *On the Declarative Paradigm in Hybrid Business Process Representations: A Conceptual Framework and a Systematic Literature Study (Extended Abstract)* by Amine Abbad Andaloussi, Andrea Burattin, Tijs Slaats, Ekkart Kindler and Barbara Weber
- *Process Model Discovery from Sensor Event Data (Extended Abstract)* by Dominik Janssen, Felix Mannhardt, Agnes Koschmider and Sebastiaan J. van Zelst
- *Showing the Advantages of Pull over Push Production with the Aid of Petri Nets (Extended Abstract)* by Carlo Simon, Stefan Haag and Lara Zakfeld

EMISA 2021 was planned for May, 20-21 in Kiel, Germany. Due to the COVID pandemic, it was not possible to arrange the presentations in personal. Thus, EMISA 2021 is an online event, where the papers from EMISA 2020 and 2021 are discussed.

Kiel and Aachen, May 2021

Agnes Koschmider and Judith Michael
EMISA 2021 Chairs

Program Committee

We thank our program committee members for their work, adherence to deadlines and contribution to EMISA 2021.

- Andrea Burattin, Technical University of Denmark
- Jörg Desel, University of Hagen
- Dirk Fahland, Eindhoven University of Technology
- Michael Fellmann, Rostock University
- Peter Fettke, Saarland University
- Hans-Georg Fill, Université de Fribourg
- Thomas Hildebrandt, University of Copenhagen
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- Stefan Strecker, University of Hagen
- Gottfried Vossen, University Münster
- Matthias Weidlich, Humboldt University of Berlin
- Mathias Weske, Hasso Plattner Institute, University of Potsdam

Series Publications

Please find the publication of the EMISA workshops and conferences at

- 2020 planned in Kiel, Germany as CEUR-WS.org Vol-2628 ⁴
- 2019 as LNI proceeding P-304 celebrating 40 years SIG EMISA with a conference in Tutzing, Germany ⁵
- 2018 in Rostock, Germany as CEUR-WS.org Vol-2097 ⁶
- 2017 in Vienna, Austria as CEUR-WS.org Vol-1859 ⁷
- 2004-2007 and 2009-2015 in the LNI series ⁸

⁴ <http://ceur-ws.org/Vol-2628/>

⁵ <https://dl.gi.de/handle/20.500.12116/33118>

⁶ <http://ceur-ws.org/Vol-2097/>

⁷ <http://ceur-ws.org/Vol-1859/>

⁸ <https://dl.gi.de/handle/20.500.12116/21074>

EMISA Journal (EMISAJ)

The journal „Enterprise Modelling and Information Systems Architectures – International Journal of Conceptual Modeling“ is a scholarly peer- reviewed open access journal with a unique focus on novel and innovative conceptual modelling and enterprise modelling research and its applications.

EMISAJ publishes thoughtful, well-developed articles on all facets of analyzing, designing, investigating, evaluating and applying conceptual models, enterprise models, enterprise and information systems architectures, corresponding modeling languages and modeling methods, and is open to submissions from all scientific disciplines and research fields. The editorial board imposes no restrictions regarding the research paradigm or research method, encourages multidisciplinary research contributions, and welcomes submissions from for-profit, nonprofit and government organizations.

The journal will address (but will not limit itself to) the following specific areas:

- General Purpose and Domain-Specific Modeling Languages
- Modeling Methods, Metamodeling, Method Engineering
- Enterprise Architectures, Information Systems Architectures
- Ontologies and Reference Models
- Analysis Patterns, Design Patterns, Architectural Patterns
- Analysis of Conceptual Models and Modeling Languages
- Evaluation and Quality of Conceptual Models, Architectures, and Languages
- Model-Driven Development, Models@run-time, Executable Models
- Business Process Management
- Enterprise Architecture Management
- Information Systems Design and Design Methods
- Information Systems Development Methods and Tools
- Software Tools for Conceptual and Enterprise Modeling, Business Process Management and Enterprise Architecture Management
- Learning and Teaching Conceptual Modeling
- Applications of Conceptual Modeling in Organizations
- Innovative Approaches to Conceptual Modeling

EMISAJ is a publisher-independent journal, and is published by the German Informatics Society (GI) and is a publication of its SIG on Modeling Business Information Systems (SIG MoBIS) and its SIG on Design Methods for Information Systems (SIG EMISA).

The editorial board invites submissions of these types: Original Research Contribution, Research Note, Industry/Experience Report, Report on Tool and Tool Application, and Reply to a Published Article.

For more details see <https://emisa-journal.org>