Call for Papers

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Important Dates

Intent to submit	31 Oct 2023
Paper submission	12 Dec 2023
Notification	15 May 2023

Theme Section:
Models and Evolution

Software artefacts constantly increase in complexity, variety and novelty. Environment and business constraints, user requirements and new insights put additional pressure on their adaptability, availability, reliability and quality: they continuously need to be up to date. But evolution issues are critical, complex and costly to manage. They concern requirements, architecture, design, source code, documentation, integration or deployment. They also typically affect various kinds of models (data, behavioral, domain, source code or goal models). Addressing and managing these varieties of changes is essential. Models and meta-models, the cornerstone of complex software systems' abstractions, represent a powerful mean for facing software evolution challenges by ensuring a more abstract and expressive modeling of software evolution. They can help and guide software evolution and can enforce and reduce critical risks and important involved resources. The theme section puts the focus on Models and Evolution by considering two main sides: (1) Managing software evolution needs by relying on the high-level abstraction power of models and meta-models. (2) Managing model and metamodel evolution needs and the co-evolution of all related software artefacts by putting attention to their increasing evolution issues as they become primary artefacts.

This theme section will combine a strong practical focus with theoretical approaches as required in any discipline to support engineering practices. It will target researchers and practitioners on model-driven engineering to identify and tackle the key issues related to the problem of models and evolution and explore possible solutions.

The *Journal of Software and Systems Modeling* (SoSyM) invites original, high-quality submissions for its theme section on "Models and Evolution" focusing on topics, including:

- Formalisms, theories, formal approaches, methods and languages for expressing and understanding model-driven software evolution
- Supporting processes and tools for managing model-driven software evolution
- (Co-)evolution and (co-)adaptation of models, meta-models and modeling languages; classification of (co-)evolution scenarios
- Conformance checking, inconsistency management, synchronization, differencing, comparison, impact analysis of evolving models
- Transformation techniques for evolving models: restructuring, refactoring, migration, translation, composition, versioning, etc.
- Maintenance and evolution of domain-specific languages

- Maintenance and evolution of model transformations
- Traceability maintenance, verification, and validation of evolving models, evolving model transformations, and evolving modeling languages
- Analysis of model maintainability
- Variability management using models
- Model-driven software architecture recovery, reverse architecting, reconstruction, migration and software release engineering
- Model-based and model-related techniques for legacy systems evolution and systems integration
- Reusable evolution solutions and patterns
- Evolution issues in new and emerging systems and paradigms
- Model-driven software evolution regarding energy-awareness and sustainability
- Training, education, and certification around software evolution
- State-of-the-art and state-of-practice in software evolution
- Empirical studies, industrial needs, experience reports and experiments in software evolution
- Tools and methods supporting all of the above topics

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General Author Information

- Papers must be written in a scientifically rigorous manner with adequate references to related work.
- Submitted papers must not be simultaneously submitted in an extended form or in a shortened form to other journals or conferences. It is however possible to submit extended versions of previously published work if less than 75% of the content already appeared in a non-journal publication, or less than 40% in a journal publication. Please see the [SoSyM Policy Statement on Plagiarism](#) for further conditions.
- Submitted papers do not need to adhere to a particular format or page limit, but should be prepared using font "Times New Roman" with a font size no smaller than 11 pt, and with 1.5 line spacing. Please consult the [SoSyM author information for submitting papers](#).
- Each paper will be reviewed by at least three reviewers.

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Making a submission

- Communicate your intent to submit a paper by emailing the theme section editors the following information before the Intent to Submit deadline: Title, Authors, and an Abstract.
- Possible submission formats are:
  - Word (.doc, without macros)
  - Rich Text Format (.rtf)
  - PostScript (.ps, special fonts must be embedded)
  - PDF (saved as readable in version 5.0 or earlier)
- Submit your work using the online submission system [manuscript central](#):
  - In step 1, select "Theme Section Paper" as the manuscript type.
  - In step 5, make sure field "Cover Letter" includes the line: "Submission for Theme Section on Models and Evolution".

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Further information

If you have any questions or require additional information about this theme section, please contact the editors.