Call for Papers

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Important Dates

Intent to submit	*01-Feb-2021*
Paper submission	*01-Apr-2021*
Notification	*01-Jul-2021*

Software and Systems Modeling

Theme Issue:
Open Environmental Software Systems Modeling

Nowadays, software-intensive systems, such as cyber-physical systems and self-adaptive systems, are radically transforming our daily lives, businesses, and industries. They have already started to become prominent in our daily life, in the form of self-driving cars, crop-spraying drones, and so on. Main expected characteristics of such systems include: (1) constantly operating in open and dynamic environment, (2) continuously evolving throughout their lifecycles, including autonomous adaptation -- via learning -- to the operating environment, (3) elegantly handling various levels of internal uncertainty by e.g., employing AI/MI techniques, and external uncertainty from e.g., human interactions, uncertain information networks, etc., and (4) gracefully dealing with emerging issues (such as safety, security, and trustworthiness) that are unknown at the design time but may occur during their operations.

Therefore, traditional software engineering methodologies need to be revolutionized in order to develop intelligent software systems that operate in open environments. Particularly, modeling, which has been recognized as an effective mechanism in dealing with the complexity by raising the level of abstraction and facilitating automation in e.g., test/code generation or prediction of future behaviors, can still be an effective and principled mechanism for managing the ever-increasing complexity of engineering such systems.

In this theme issue, we call for papers that present the state-of-the-art, the state-of-the-practice, and high-quality original research papers, in the area of open environmental software systems modeling. It solicits submissions describing results of theoretical, empirical, conceptual, and experimental software engineering research related to open environmental software system modeling. Topics of interests include but are not limited to:

- Novel modeling methods and tools for embedded systems, cyber-physical systems, etc.
- Modeling in emerging areas of machine learning, security, open source, and sustainability.
- Modeling in the era of data: data for enabling AI/ML, and their applications in intelligent systems such as smart cities.
- Modeling methodologies for handling uncertainties.
- Modeling of requirements, architecture, design, (open) environment, etc.
- Model-based engineering, including analyses, prediction, simulation, verification and validation.

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 issue editors (at OESSM21@sosym.org) 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 Issue on Open Environmental Software Systems Modeling".

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If you have any questions or require additional information about this theme issue, please contact the editors via this email address: OESSM21@sosym.org