

## Call for Papers

### ----- Special Section on Formal Approaches -----

The IEICE Transactions on Information and Systems announces a forthcoming special section on Formal Approaches to be published in October 2023.

Formal methods and techniques play a key role in designing and developing highly reliable information systems and embedded systems. The last decades have seen various new techniques and profound theoretical results using formal methods in surprisingly many fields such as modeling, requirements analysis, specification, automatic generation of codes, testing, verification, and maintenance. They are rapidly extending their application domains as a result of the recent growth of information and communication technologies.

The Special Section on Formal Approaches aims at stimulating research on formal approaches to information systems and embedded systems, ranging from fundamental theory to practical applications. Our emphasis is put on the cross-fertilization of related research fields and encouragement of young researchers.

#### 1. Topics

The major topics are listed below, but we solicit submissions in all areas of formal approaches, i.e., first to formalize information systems, embedded systems, and their environment, next to analyze their behavior and to derive their properties rigorously, and then to solve various problems in designing and managing the systems.

- **Theoretical foundations:** all aspects of theory related to formal description and verification for structure and behavior of systems.
- **Formal techniques:** techniques for mainly describing and analyzing systems, such as software, hardware and networks.
- **Formal tools:** tools based on formal methods such as model checkers, theorem provers, and static and dynamic analyzers.
- **Applications:** practical experiences of applying formal methods to information systems, embedded systems, circuits, security, AI systems, machine learning systems, multi-agent systems, automotive systems, etc.
- **Education:** education on formal methods.

#### 2. Submission Instructions

- The deadline for submission is Oct 21, 2022, 23:59 JST(GMT+9).
- Manuscripts should be carefully prepared according to the guideline in the "Information for Authors" (available at [https://www.ieice.org/eng/shiori/mokuji\\_iss.html](https://www.ieice.org/eng/shiori/mokuji_iss.html)). The preferred length of the manuscript is 8 pages.
- Only electronic submission through the web page is accepted. Submit a complete paper and transfer copyright of the paper using the IEICE Web site ([https://review.ieice.org/regist/regist\\_baseinfo\\_e.aspx](https://review.ieice.org/regist/regist_baseinfo_e.aspx)).
- Authors should choose the "[Special FO] Formal Approaches" as a "Journal/Section" on the online screen.
- Authors must agree to the "Copyright Transfer, Article Processing Charge Agreement, Notices from the IEICE, and Privacy Policy" via electronic submission.
- Further information may be obtained from the web page at : <https://t-yokoga.github.io/FA2022/>. All inquiries should be sent to the guest editor-in-chief:

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#### 3. Important Dates:

Submission Deadline: Oct 21, 2022 23:59 JST (GMT+9) [strict]  
First Notification: Dec 20, 2022  
Revised Version Deadline: Feb 20, 2023  
Final Notification: Mar 28, 2023

#### 4. Special Section Editorial Committee

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**\* Important Notice \***

- Upon accepted for publication, all authors should pay the page charges covering partial cost of publication around June, 2023. If payment is not completed by July 15, 2023, your manuscript will be handled as rejection.
- The standard period of 60 days between the notification (of conditional accept) and the second submission can be shortened according as the review schedule.
- If there are non-members among the authors, we recommend that the authors take this opportunity to join the IEICE. For detailed information on the IEICE Membership Application, please visit the web-page, [https://www.ieice.org/eng\\_r/join/individual\\_member.html](https://www.ieice.org/eng_r/join/individual_member.html). If all authors are non-members, the article processing charge for non-members will be applied.
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