

IEEE Transactions on Reliability  
Special Section on Dependable Embedded Software and Systems

Call for Papers

**Background**

The advancement of embedded software and systems, such as intelligent vehicles, industrial internet, robots, wearable devices, and Internet-of-Things, has great societal and economic impacts. However, due to its increasing complexity and time-to-market pressure, the safety, reliability, and security of embedded system design and implementation cannot be guaranteed. Insufficient exploration and verification of such designs may result in catastrophic failures, which will not only cause significant property damage but also loss of life. The problem will be even more severe if these embedded systems are safety-critical and deployed within uncertain physical environments.

To address this problem, IEEE Transactions on Reliability (TRel) will have a special section soliciting original work that makes novel theoretical or practical contributions to enhance the dependability of emerging embedded computing paradigms. In particular, we welcome extended versions of papers that appeared in the 17th Embedded Systems Technical Conference (ESTC 2019). Submissions will be reviewed and selected based on innovation, technical correctness, presentation, and practical relevance.

**Topics**

Submissions related to the following topics are encouraged. However, others relevant to dependability of systems or software for emerging embedded computing paradigms are also welcome. Practical applications will be considered as well.

- Reliability, security, availability, and safety of embedded systems/software
- Fault tolerant and trusted embedded systems/software
- Component-based or model-based design
- Mixed-criticality system design
- Formal methods
- Testing, verification, and validation
- Compilation, debugging, and comprehension
- Performance evaluation
- Metrics, measurements, and analysis
- Internet of Things: reliability, security, and safety
- Security, and safety critical cyber-physical systems
- Benchmarks, tools, industrial applications, and empirical studies

**Submission**

We welcome high quality submissions that are original work, not published, and not currently submitted elsewhere. We also encourage extensions to conference papers, unless prohibited by copyright, if there is a significant difference in the technical content. Improvements such as adding a new case study or including a description of additional related studies do not satisfy this requirement. A description explains the difference between the conference paper and the journal submission is required. The overlap between each submission and other articles, including the authors' own papers and dissertations, should be less than 30%. Each submission must conform to the double column, single-spaced format of printed articles in the IEEE Transactions on Reliability with all figures and tables embedded in the paper, rather than listed at the end or in the appendix. Refer to the special guidelines posted at <https://mc.manuscriptcentral.com/tr-ieee>

### **Important Dates**

- July 1, 2019 Paper submission deadline to ESTC2019
- August 1, 2019 notification from ESTC2019
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- October 20, 2019 Paper submission deadline to TRel
- January 20, 2020 First round notification from TRel

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