

# QRS 2021: The 21st International Conference on Software Quality, Reliability, and Security

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The ongoing pandemic that started in 2019 continues to have an adverse impact on conference organization. QRS 2021 (The 21<sup>st</sup> IEEE International Conference on Software Quality, Reliability, and Security) was no exception. In response to the unpredictable conditions that changed day by day and travel constraints imposed by different countries and cities, the conference was held in a hybrid mode with a physical in-person meeting from December 6 to 10 in Hainan Island, China, and an online virtual meeting via Zoom. More details can be found on the conference website <http://qrs.techconf.org>

Similar to the previous QRS conferences, this year's focus remained the same with *Q* representing *Quality*, *R* for *Reliability*, and *S* for *Security*. We received more than 300 submissions (243 regular papers and 60 short papers), not including workshop and fast abstract submissions. After the process of desk rejection, all remaining papers were reviewed by at least three program committee members and the majority by four based on their originality, contribution, soundness, presentation, and relatedness. No specific acceptance rate was communicated as a guideline to the program committee members. They were free to recommend any paper deemed strong and novel. In addition to the review comments, an extensive online discussion was conducted and monitored by the Program Chairs before an acceptance or a rejection decision was made. Of all the regular submissions, sixty-one (61) were accepted as regular papers. The acceptance rate was 25.10 %. Some of the regular submissions, although not accepted as regular papers but still with high quality, were recommended as short papers or to appropriate workshops co-located with the main conference.

Conference attendees voted on the top-quality papers recommended by the program committee for the Best Papers Award. The following three papers received the award:

- *Confuzzion: A Java Virtual Machine Fuzzer for Type Confusion Vulnerabilities*  
William Bonnaventure, Ahmed Khanfir, Alexandre Bartel, Mike Papadakis, and Yves Le Traon
- *ConcSpectre: Be Aware of Forthcoming Malware Hidden in Concurrent Programs*  
Yang Liu, Ming Fan, Ting Liu, Yu Hao, Zisen Xu, Kai Chen, Hao Chen, and Yan Cai
- *Understanding the Resilience of Neural Network Ensembles against Faulty Training Data*  
Abraham Chan, Niranjhana Narayanan, Arpan Gujarati, Karthik Pattabiraman, and Sathish Gopalakrishnan

In addition to the three papers above, other papers of top quality were also invited to submit the corresponding revised versions that had addressed the reviewers' comments from QRS 2021 to the *IEEE Transactions on Reliability* for further evaluation and possible publication.

The technical program also included three keynote speeches:

- *The Temptation of Searching for the Best—Balancing Validity and Optimality in Software Engineering*  
Professor Guenther Ruhe Canada  
University of Calgary, Canada &  
Editor-in-Chief, Elsevier Information and Software Technology (IST) Journal
- *Towards Intelligent Model-Driven Software Development Platform for Safety-Critical Systems*  
Professor Chunming Hu China  
Beihang University, China
- *ICT Software System Reliability Design and New Challenges*  
Dr. Xiao Chen China  
Huawei, China

Overall, the QRS conference provides a platform for experts and scholars from all over the world to exchange and share their latest research and application results in the field of software quality, reliability, and security. It also gives practitioners an opportunity to express their needs so that the academic community can better understand the challenges critical to the software industry and propose potential solutions.

We would like to thank all the volunteers (especially members of the organizing committee, program committee, and local committee), authors, and attendees for their valuable contributions and participation that made this year's conference a great success.

Steering Committee Chairs

W. Eric Wong, *University of Texas at Dallas, USA*

T.H. Tse, *The University of Hong Kong, China*

General Chairs of QRS 2021

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