

Mutation 2019

Xian, China

Mutation is acknowledged as an important way to assess the fault-finding effectiveness of test sets. Mutation testing has mostly been applied at the source code level, but more recently, related ideas have also been used to test artefacts described in a considerable variety of notations and at different levels of abstraction. Mutation ideas are used with requirements, formal specifications, architectural design notations, informal descriptions (e.g. use cases) and hardware. Mutation is now established as a major concept in software and systems V&V and uses of mutation are increasing. The goal of the Mutation workshop is to provide a forum for researchers and practitioners to discuss new and emerging trends in mutation analysis. We invite submissions of both full-length and short-length research papers as well as industry practice papers. Please visit the website for more information: <http://mutation-workshop.github.io/2019>.

Topics of Interest

- Mutation-based test adequacy criteria (theory or practical application).
- Mutation-based test data generation.
- Higher order mutation testing.
- Novel mutation testing paradigms and applications.
- Empirical studies of mutation testing.
- Formal theoretical analysis of mutation testing.
- Comparative studies (i.e., studies that compare mutation with other techniques).
- Mutation testing tools.
- Industrial experience with mutation testing.
- New mutation systems for programming languages and for higher-level representations.
- Increasing the efficiency of mutation.
- Mutation for mobile, internet and cloud based systems.
- Mutation for security and reliability.

Submissions and Publication

Three types of papers can be submitted to the workshop:

- Full papers (10 pages): Research, case studies
- Short papers (6 pages): Research in progress, tools, experience reports, problem descriptions, new ideas
- Industrial papers (6 pages).

Each paper must conform to the two-column IEEE conference publication format (<https://www.ieee.org/conferences/publishing/templates.html>) and must be submitted in PDF format via EasyChair (<https://easychair.org/conferences/?conf=mutation19>). Submissions will be evaluated according to the relevance and originality of the work and to their ability to generate discussions between the participants of the workshop. Three reviewers will review each paper and all accepted papers will be published as part of the ICST proceedings.

Special Issue on Mutation Analysis and its Industrial Applications

Authors of selected papers will be invited to submit an extended version of their paper to a special issue on *Mutation Analysis and its Industrial Applications* published by the Journal of Software Testing, Verification and Reliability (STVR). The extended papers will go through the regular review process but will be assigned at least one reviewer from the Mutation 2019 Program Committee.

Important Dates

- Submission of full papers: January 21, 2019
- Notification of acceptance: February 10, 2019
- Camera Ready: February 15, 2019
- Workshop date: April 22, 2019

Organizers

- Rahul Gopinath CISPA, Saarland University, Germany
- Marinos Kintis University of Luxembourg, Luxembourg

Program Committee

- Paul Ammann, *George Mason University, USA*
- Lin Deng, *Towson University (USA)*
- Gordon Fraser, *University of Sheffield, UK*
- Sudipto Ghosh, *Colorado State University, USA*
- Rahul Gopinath, *Oregon State University, USA*
- René Just, *University of Washington, USA*
- Gregory Kapfhammer, *Allegheny College, USA*
- Marinos Kintis, *University of Luxembourg, Luxembourg*
- Jens Krinke, *University College London, UK*
- Yves Le Traon, *University of Luxembourg, Luxembourg*
- Nan Li, *Medidata Solutions, USA*
- Birgitta Lindström, *University of Skövde (Sweden)*
- Lech Madeyski, *Wroclaw University of Technology, Poland*
- Mike Papadakis, *University of Luxembourg, Luxembourg*
- Goran Petrovic, *Google Switzerland GmbH (Switzerland)*
- José Miguel Rojas *University of Leicester (UK)*
- Sina Shamshiri *The University of Sheffield (UK)*
- Donghwan Shin *University of Luxembourg (Luxembourg)*
- Shin Yoo *Korea Advanced Institute of Science and Technology (South Korea)*
- Andy Zaidman *Delft University of Technology (Netherlands)*
- Jie Zhang *University College London (UK)*
- Lingming Zhang *The University of Texas Dallas (USA)*
- Qianqian Zhu *Delft University of Technology (Netherlands)*