



IWPD 2017

The 8th IEEE International Workshop on Program Debugging

Co-Located with ISSRE 2017: The 28th IEEE International Symposium on Software Reliability Engineering

October 23-26, 2017, Toulouse, France

Workshop information: paris.utdallas.edu/iwpd17/

Software today is larger and more complex than ever before. Under this circumstance, it is not surprising that the debugging process is becoming more difficult and costly. On the other hand, it presents golden opportunities for researchers to make significant impacts on solving real-world problems. While manual debugging is impractical for large software, techniques that claim to effectively locate a fault have not matured to the desired level of accuracy, consistency, and usability. Developers face many obstacles during the debugging process, such as ambiguities of distinguishing executions in the presence of multiple causative faults, difficulties in reliably recording and replaying failed executions, and uncertainty that bug fixes might introduce even more faults into the software. Furthermore, many existing approaches suffer from critical shortcomings that limit their applicability, including the complexity and lack of scalability of formal verification, the imprecision of static analysis, the high performance cost of dynamic techniques, non-productive human-centric debugging environments, and high setup and operating costs. It is very common that researchers rely on simplified assumptions or model their solutions after methods to handle selected subject programs that do not accurately reflect the complexity in large-scale industrial software and related development processes. Therefore, practitioners raise the question of which value research proposals can add to their actual work.

The goal of this workshop is to highlight the most pressing challenges and innovative solutions associated with program debugging, especially with respect to software business, methodologies, techniques, environments, and human factors. Experience reports from industry or empirical studies on these aspects are also welcome. IWPD aims to bring together researchers and practitioners to discuss the latest advancements and determine further challenges that must be overcome in the area of program debugging.

Topics of Interest

The workshop welcomes submissions that cover, but are not limited to, the following topics:

- Strategies for effective and efficient program debugging
- Challenges and emerging techniques in program debugging for large scale real-life applications and domain-specific applications
- Debugging for multi-(core, process, or threaded) programs
- Empirical studies and open source-based benchmarking infrastructure
- Experience reports and industrial best practices
- Impacts of software business, human factors, programming languages, and tool environments on program debugging
- Integrating debugging with other software development and maintenance activities
- Social aspects of program debugging
- Software risk analysis and cost estimation for fault localization, bug fixing, and their social interactions
- Transitioning from research to practice
- Pedagogical models for effectively teaching program debugging

Important Dates

- July 28, 2017 **Submission deadline (extended)**
- August 13, 2017 Notification to authors
- August 28, 2017 Camera-ready copies
- October 23, 2017 IWPD Workshop

Submissions

Submit original papers (not published or submitted elsewhere) with a maximum of 8 pages. Include the title of the paper, the name and affiliation of each author, a 150-word abstract, and up to 6 keywords. Both research papers and industry experience reports are welcome. All submissions must be written in English, follow the IEEE conference proceedings format, and be uploaded through the workshop submission site at <https://easychair.org/conferences/?conf=iwpd2017>. Each submission will be reviewed by three PC members. Paper selection is based on originality, technical contribution, presentation, and relevance to IWPD.

Panelist Solicitation

There will be a panel discussion on “Advancing Automatic Debugging” at the workshop. Qualified panelists are solicited to report and discuss their ideas of building fundamental theories for automatic debugging, and boosting its practicality in the real world. They will also share their opinions on the future research directions in this area. Prospective panelists should contact the Program Chairs.

Proceedings

At least one author of each accepted paper (including panelists’ position statements) must register with the full fee and present at the workshop in order for the paper to be included in the ISSRE 2017 Supplemental Proceedings. Papers will also be submitted to the IEEE Xplore database and indexed by all the abstracting and indexing partners (such as the EI Compendex).

Steering Committee

- W. Eric Wong (chair) University of Texas at Dallas, USA
- T. H. Tse (chair) The University of Hong Kong, Hong Kong
- Hira Agrawal Applied Communication Sciences, USA
- W.K.Chan City University of Hong Kong
- James A. Jones University of California, Irvine, USA
- Franz Wotawa Graz University of Technology, Austria

Program Committee Chairs

- Wolfgang Mayer University of South Australia, Australia
- Bo Jiang Beihang University, Beijing, China