As software today is larger and more complex than ever before, it is not surprising that the debugging process is also much more difficult and costly. While manual debugging is quickly becoming impractical, techniques that claim to automatically locate a fault have not matured to the desired level of accuracy and consistency. Among the obstacles that developers must face during the debugging process are the ambiguity of distinguishing executions in the presence of multiple causative faults, the difficulty in reliably recording and replaying failed executions, and the uncertainty that bug fixes will not introduce even more faults into the software. Furthermore, many existing approaches suffer from critical shortcomings that limit their applicability, such as the complexity and lack of scalability of formal verification, the imprecision of static analysis, and the high performance cost of dynamic techniques. Studies are underway to resolve these problems, but researchers often rely on unrealistic assumptions or use subject programs that do not accurately reflect large-scale industrial software. Practitioners question whether such research proposals can add much value to their work.

The goal of this workshop is to highlight the most pressing challenges and innovative solutions associated with program debugging, especially with respect to methodologies, techniques, and environments. Experience reports from the industry or empirical studies on these three aspects are also welcome. IWPD will 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:

- Automation of program debugging
- Challenges and emerging techniques in program debugging for large scale real-life applications
- Static and dynamic analyses for software fault localization and bug-fixing
- Applying debugging to multi-core and multi-threaded programs
- Impacts of programming languages and environments on debugging and testing
- Impacts of program debugging and test case prioritization on regression testing
- Software risk analysis and fault proneness prediction
- Software testing, verification, and validation for debugging
- Online monitoring and record/replay for program debugging
- Reducing the cost of program debugging
- Empirical studies and benchmarking
- Experience reports and industrial best practices
- Tool support
- Transitioning from research to practice
- Integrating debugging with other software development activities
- Approaches to teaching program debugging

**Important Dates**

- August 30, 2013: Submission deadline
- September 16, 2013: Notification to authors
- October 1, 2013: Camera-ready copies

**Submissions**

Submit original papers (not published or submitted elsewhere) with a maximum of 6 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 the submissions must be written in English, follow the IEEE conference proceedings format, and be uploaded through the workshop submission site at [https://www.easychair.org/conferences/?conf=iwpd2013](https://www.easychair.org/conferences/?conf=iwpd2013). Each submission will be reviewed by three PC members. Paper selection is based on the originality, technical contribution, presentation, and relevance to IWPD.

**Panelist Solicitation**

There will be a special panel on “Program Debugging: Transitioning from Research to Practice” at the workshop. Qualified panelists are solicited to report their experience of applying research methodologies and techniques to debug large and complex real-life software systems and the challenges that they had to overcome. Interested parties should send a one-page position statement to the Program Chairs, who will make the final decision on the panelists to be invited.

**Proceedings and Journal Special Issue**

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 to be included in the ISSRE 2013 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). Authors of selected papers will be invited to submit an extended version to a journal special issue.

**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, Hong Kong
- James A. Jones University of California, Irvine, USA
- Franz Wotawa Graz University of Technology, Austria

**Program Committee Chairs**

- Raul Santelices Notre Dame University, USA
- Zhenyu Zhang Chinese Academy of Sciences, China