Software today is inherently large and complex, in fact more so than ever before. Consequently, debugging when failure is observed is also becoming much more difficult and time-consuming. Manual debugging is quickly losing its viability as a practical option, and yet at the same time, techniques that aim for automatic fault localization are still not accurately and consistently able to pinpoint the locations of faults to a desired degree. Distinguishing executions that fail due to different causative faults, reliably recording and replaying failed executions, and fixing bugs without introducing new faults are but some of the debugging-related problems faced by developers today. Furthermore, formal verification techniques suffer from complexity and scalability issues, static techniques can often be imprecise, and the heavy performance overhead of dynamic techniques can prohibit their application. While studies are being conducted to resolve these problems, researchers often make unrealistic assumptions, and subject software may not be representative of large scale industrial applications. Such concerns can induce in practitioners a lack of faith with regard to what research proposals can offer and deliver.

This workshop brings to light the latest challenges and advances in research topics associated with program debugging, with a special emphasis on methodology, techniques, and environment. Also accepted are experience reports that describe industrial and/or empirical studies related to these three aspects. IWPD aims to provide a forum and serve as a platform for researchers and practitioners to exchange ideas, present new advancements, and identify further challenges in the context 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
- Apply debugging to multi-core and multi-threaded programs
- Impacts of program languages and environments on debugging
- Impact 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**

- September 10, 2012: Submission deadline
- October 1, 2012: Notification of authors
- October 10, 2012: Camera-ready

**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=iwpd2012](https://www.easychair.org/conferences/?conf=iwpd2012). 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**

The workshop has a special panel with a focus on “Program Debugging: Transitioning from Research to Practice”. Qualified panelists are solicited to report their experience of applying research methodologies and techniques to debug large complicated real-life software systems and the challenges which they had to overcome. Interested parties should send a position statement of up to two pages to the Program Chairs, who will make the final decision on the invitees to the panel.

**Proceedings & 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 for the paper to be included in the ISSRE 2012 Supplemental Proceedings. Papers will also be submitted for inclusion into the IEEE Xplore and to all of the A&I (abstracting and indexing) partners (such as the EI Compendex). Authors of selected papers will be invited to submit an extended version to a special issue of the *Journal of Systems and Software*.

**Steering Committee**

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

**Program Committee Chairs**

- Hira Agrawal Telcordia Technologies, USA
- Zhenyu Chen Nanjing University, China