PADTAD 2012

The 10th Workshop on Parallel and Distributed Systems: Testing, Analysis, and Debugging – an ISSTA 2012 Workshop
Welcome to PADTAD 2012!

- PADTAD 2012 – Minneapolis, MN, USA
- PADTAD 2011 – Toronto, ON, Canada
- PADTAD 2010 – Trento, Italy
- PADTAD 2009 – Chicago, IL, USA
- PADTAD 2008 – Seattle, WA, USA
- PADTAD 2006 – Portland, MN, USA
- PADTAD 2005 – Haifa, Israel
- PADTAD 2004 – Santa Fe, NM, USA
- PADTAD 2003 – Nice, France
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University of São Paulo, Brazil

Jeremy Bradbury
University of Ontario Institute of Technology, Canada

João Lourenço
University Nova de Lisboa, Portugal

Eitan Farchi
IBM Haifa Research Laboratory, Israel
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Schedule

• 9:00 – 10:30
  Keynote – Dr. Victor Pankratius

• 11:00 – 12:30
  Session 1: Data Race Detection

• 14:00 – 15:30
  Session 2: Testing & Analysis

• 16:00 – 17:30
  Session 3: Brainstorming
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Keynote – “Improving Multicore Software Quality With Data Mining and Crowdsourcing Techniques”

• Dr. Victor Pankratius, MIT Computer Science and Artificial Intelligence Laboratory (CSAIL)
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Session 1: Data Race Detection

• On-the-fly Detection of Data Races in OpenMP Programs.

• A Static Analysis Tool Using a Three-Step Approach for Data Races in HPC Programs.
  Y. Negishi, H. Murata, G. Cong, H-F. Wen, I-H. Chung. IBM Research, Tokyo, Japan; IBM T.J. Watson Research Center, USA.

• Using Program Closure to Make an Application Programming Interface (API) Thread Safe.
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Session 2: Testing & Analysis


Session 3: Brainstorming – Possible Topics

- Dealing with nondeterministic test environments (e.g., cloud) for concurrent/distributed software
- Ensuring confidence in concurrent/distributed testing results - how many times should I run each test case? (i.e., confidence in interleaving space)
- How to reduce the cost of the testing and debugging of concurrent/distributed systems?
- Testing NoSQL databases (relaxed data consistency models)
- Regression testing of concurrency programs
- Challenges of maintaining concurrent/distributed software (e.g., regression testing)
- Curriculum for testing and debugging of concurrent/distributed software.
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KEYNOTE – Dr. Victor Pankratius
“Improving Multicore Software Quality With Data Mining and Crowdsourcing Techniques”

• Dr. Victor Pankratius, MIT Computer Science and Artificial Intelligence Laboratory (CSAIL)
Dr. Victor Pankratius

- Habilitation degree (PD) in Computer Science, Karlsruhe Institute of Technology (2012)
- Dr.rer.pol. degree with distinction, University of Karlsruhe (2007)
- Diplom degree (M.S.) in Business Computer Science best of class (2003), University of Münster
- Bachelor of Science in Information Systems (BScIS, 2002), University of Münster
PADTAD 2012 Keynote

Dr. Victor Pankratius

- Currently a visiting scientist at the Computer Science and Artificial Intelligence Laboratory (CSAIL), MIT
- Heads the Multicore Software Engineering group at the Karlsruhe Institute of Technology
- Elected chairman of the Software Engineering for Parallel Systems (SEPARS) international working group
- Previously a visiting scientist at Intel and Sun Labs/Oracle
  - Recipient of the Intel Leadership Award
Dr. Victor Pankratius

• Co-chaired the Multicore Software Engineering workshop series (co-located with ICSE, 2008-2011)
  • http://www.ipd.uni-karlsruhe.de/multicore/iwmse/

• General chair of the 1st International Conference on Multicore Software Engineering, Performance, and Tools (MSEPT’12)
  • http://www.ipd.uni-karlsruhe.de/multicore/msept/
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KEYNOTE – Dr. Victor Pankratius