Advance Program

ISSTA’2000 – 3rd FMSP

International Symposium on Software Testing and Analysis
Workshop on Formal Methods in Software Practice

Portland, Oregon, 22-25 August 2000

Tuesday, 22 August 2000

8:30 - 10:00 ISSTA Session I: ISSTA Opening and Keynote Address

- Welcome: Debra J. Richardson, General Chair (University of California, Irvine)
- Opening Remarks: Mary Jean Harrold, ISSTA Program Chair (Georgia Institute of Technology)
- Analysis is necessary, but far from sufficient: Experiences building and deploying successful tools for developers and testers
  Invited Speaker: Jon Pincus (Software Design Engineer, PPRC, Microsoft Research)

10:30 - 12:00 ISSTA Session II: Static Analysis
Chair: Frank Tip (IBM TJ Watson Research Center)

- Formal Analysis of Network Simulations
  Karthikeyan Bhargavan, Carl A. Gunter, Moonjoo Kim, Insup Lee, Davor Obradovic, Oleg Sokolsky, and Mahesh Viswanathan (University of Pennsylvania)
- A Relational Method for Finding Bugs in Code
  Daniel Jackson and Mandana Vaziri (Massachusetts Institute of Technology)
- Putting Static Analysis to Work for Verification: A Case Study
  Tal Lev-Ami (Tel-Aviv University, Israel), Thomas Reps (University of Wisconsin), Moody Sagiv (Tel-Aviv University, Israel), Reinhard Wilhelm (University of Saarlandes)

1:30 - 3:20 ISSTA Session III: Testing Object-Oriented Software and Components
Chair: Thomas Ball (Microsoft Research)

- Automated Testing of Classes
  Ugo Buy (University of Illinois, Chicago), Alessandro Orso and Mauro Pezze’ (Politecnico di Milano, Italia)
- OMEN: A Strategy for Testing Object-Oriented Software
  Amie L. Souter and Lori L. Pollock (University of Delaware)
- UML-Based Integration Testing
  Jean Hartmann and Claudio Imoberdorf (Siemens Corporate Research), Michael Meisinger (Technical University, Munich, Germany)
- On Subdomain, Testing, Profiles, and Components
  Dick Hamlet (Portland State University)

4:00 - 5:20 ISSTA Session IV: Real Time and Process
Chair: Pascale Thevenod-Fosse (LAAS-CNRS, France)

- Requirements-based Monitors for Real-Time Systems
  Dennis K. Peters (Memorial University of Newfoundland) David L. Parnas (McMaster University)
- Classification Schemes to Aid in the Analysis of Real-Time Systems
  Paul Z. Kolano (Lockheed Martin), Richard A. Kemmerer (University of California, Santa Barbara)
- Verifying Properties of Process Definitions
  Jamieson M. Cobleigh; Lori A. Clarke; and Leon J. Osterweil (University of Massachusetts, Amherst)

7:00 ISSTA Reception
Advance Program

Wednesday, 23 August 2000

8:30 - 10:20 ISSTA Session V: Empirical Studies
Chair: Antonia Bertolino (CNR Italia)

- Prioritizing Test Cases for Regression Testing
  Sebastian Elbaum (University of Nebraska, Lincoln) Alexey G. Malishevsky and Gregg Rothermel (Oregon State University)
- Which Pointer Analysis Should I Use?
  Michael Hind (IBM TJ Watson Research Center), Anthony Pioli (Register.com)
- Comparison of Delivered Reliability of Branch, Data Flow and Operational Testing: A case study
  Phyllis G. Frankl and Deng Yueting (Polytechnic University)
- Minimizing Failure-Inducing Input
  Ralf Hildebrandt and Andreas Zeller (University of Passau, Germany)

10:45 - 12:00 ISSTA Session VI: State of the Art and Future Directions Report
Chair: Mary Lou Soffa (University of Pittsburgh)

- Finite State Verification: A New Approach for Validating Software Systems
  Invited Speaker: Lori Clarke (Professor, Computer Science Department, University of Massachusetts, Amherst)

1:30 - 3:10 ISSTA Session VII: Testing
Chair: Istvan Forgacs (Balthazar Ltd., Hungary)

- A Framework for Testing Database Applications
  David Chays, Saikat Dan, and Phyllis G. Frankl (Polytechnic University), Filippos Vokolos (Lucent Technologies), Elaine J. Weyuker (AT&T Labs)
- jRapture: A Capture/Replay Tool for Observation-Based Testing
  John Steven, Pravir Chandra, and Andy Podgurski (Case Western Reserve University)
- Testability, Fault Size and the Domain-to-Range Ratio: An Eternal Triangle
  Martin R. Woodward (University of Liverpool), Ziahoor A. Al-Khanjari (Sultan Qaboos University, Sultanate of Oman)
- Black-Box Test Reduction Using Input-Output Analysis
  Patrick J. Schroeder and Bogdan Korel (Illinois Institute of Technology)

3:45 - 5:00 ISSTA Session VIII: State of the Art and Future Directions Report
Chair: Michal Young (University of Oregon)

- Testing Component-Based Software
  Invited Speaker: Craig H. Wittenberg (Development Manager, Component Applications Group, Microsoft Research)

7:00 Out in Portland
Advance Program

Thursday, 24 August 2000

8:30 - 10:00 ISSTA Session IX / FMSP Session I: FMSP Opening and Keynote Address

- Welcome: Debra J. Richardson, General Chair
- Opening Remarks: Mats Heimdahl: FMSP Program Chair (University of Minnesota)
- Invited Speaker: David Dill (Associate Professor, Computer Science Department, Stanford University)

10:30 - 12:00 ISSTA Session X: Concurrency Analysis (FMSP Attendees welcome)
Chair: Joanne Atlee (University of Waterloo, Canada)

- Slicing Concurrent Programs
  Mangala Gowri Nanda (IBM Research Laboratory, India), S. Ramesh (Indian Institute of Technology, Bombay, India)
- Improving the Precision of INCA by Preventing Spurious Cycles
  Stephen F. Siegel and George S. Avrunin (University of Massachusetts, Amherst)
- A Thread-Aware Debugger with an Open Interface
  Daniel Schulz and Frank Mueller (Humboldt University, Berlin, Germany)

12:00 -12:15 ISSTA Closing

- Symposium Wrap-up
  Program Chair: Mary Jean Harrold (Georgia Institute of Technology)
  General Chair: Debra J. Richardson (University of California, Irvine)

1:30 - 3:00 FMSP Session II: Research Reports
Chair: Mats Heimdahl (University of Minnesota)

- Using Predicate Abstraction to Model Check Object-Oriented Programs
  Willem Visser, Seung Joon Park and John Penix (NASA AMES Research Center)
- Specification, Validation, and Synthesis of Email Agents
  Robert J. Hall (AT&T Labs Research)
- Using TAME to Prove Invariants of Automata Models: Case Studies
  Myla Archer and Constance Heitmeyer (Naval Research Laboratory), Elvinia Riccobene (Universita di Catania, Espana)

3:30 - 5:00 FMSP Session III: Research Reports
Chair: Marsha Chechik (University of Toronto, Canada)

- Government, Industry, and Academia: Teaming to Design High Confidence Information Security Applications
  W. Martin, P. White, M. VanFleet, and A. Goldberg (Department of Defense)
- Active Network Nodes Using PVS
  Cindy Kong and Perry Alexander (University of Kansas)
- Fault Origin Adjudication
  Karthikeyan Bhargavan, Carl A. Gunter, and Davor Obradovic (University of Pennsylvania)

6:00 - 8:00 FMSP Speakers Corner

- Pizza Feast
  Open floor to present new and wild ideas
Advance Program

Friday, 25 August 2000

8:30 - 10:00 FMSP Session IV: Invited Talk
Chair: Perry Alexander (University of Kansas)

- Software Synthesis and Applications
  Invited Speaker: Douglas R. Smith (Kestrel Institute)

10:30 - 12:00 FMSP Session V: Formal Languages and Language Design
Chair: John Penix (NASA Ames Research Center)

- Completeness in Formal Specification Language Design for Process-Control Systems
  Nancy Leveson (Massachusetts Institute of Technology)
- Documenting Design Refinement
  Ernst-Ruediger Olderog (University of Oldenburg), A.P. Ravn (Aalborg University)
- DSD: A Schema Language for XML
  Nils Klarlund (AT&T Labs Research), Anders Moller and Michael I. Schwartzbach (University of Aarhus)

12:00 -12:30 FMSP Closing

- Workshop Summary and Wrap-up
  Program Chair: Mats Heimdahl (University of Minnesota)

Registration and Hotel Information

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** Portland Marriott Downtown**

Group rates for the conference:
- Single or Double Room: $115.00
- Triple or Quad Room: $125.00

Reservations should be made before July 28 by calling:
Marriott reservations: 1-800-228-9290 or
Portland Marriott Downtown: 1-503-226-7600

and identifying “ACM” as the organization and
“ISSTA” or “FMSP” as the conference.

Group rates are available three days prior/post to conference dates, subject to availability.

* Registration before 28 July 2000 qualifies as early registration.

** Non-member registration includes one-year ACM SIGSoft membership.