



Advance Program

ISSTA'2000 – 3rd FMSP



Sponsored by ACM SIGSOFT

**International Symposium on
Software Testing and Analysis**

**Workshop on Formal Methods
in Software Practice**

Portland, Oregon, 22-25 August 2000

<http://www.ics.uci.edu/issta-fmsp.html>

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 (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 Vazir (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), Mooly 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 Yuetang (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 (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 Research)
- **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), Zuhoor 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 Wittenberg (Microsoft Research)

7:00 ISSTA Outing

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 (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

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)

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 Information

Registration	early*	late
ISSTA		
ACM SIGSoft member	\$350	\$400
non-member **	\$425	\$475
student	\$150	\$175
FMSP		
ACM SIGSoft member	\$225	\$275
non-member **	\$300	\$350
student	\$100	\$125
ISSTA and FMSP		
ACM SIGSoft member	\$525	\$575
non-member **	\$600	\$650
student	\$200	\$225

* Registration before 15 July 2000 qualifies as early registration.

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

Web-based registration available soon at <http://www.ics.uci.edu/issta-fmsp/register>.
