



# ICECCS 2002

The Eighth  
IEEE International Conference  
on  
Engineering of Complex Computer Systems

Greenbelt Marriott Hotel, Greenbelt, MD  
2-3 December 2002  
Tutorials on 4 December

(co-located with IEEE/NASA SEW-27, 4-6 December)

## FINAL PROGRAM



## Sunday, December 1

6:30 – 8:30pm Reception (included)

## Monday, December 2

07:00 Registration and Breakfast

08:00 Opening Remarks (Shaoying Liu)

08:30 Keynote Address (Chair: Mike Hinchey)  
*A Light-Weight Process for Capturing and Evolving Defect  
Reduction Experience*

- Victor R. Basili, Mikael Lindvall, Forrest Shull

09:30 Break

10:00 Session 1: Distributed Systems (Chair: Sten Andler)

*Validating Run-time Interactions in Distributed Java Applications*

- Sudipto Ghosh, Nishant Bawa, Sameer Goel, and Y. Raghu Reddy

*Reasoning about asynchronous behaviour in distributed systems*

- Peter Henderson

*A Framework for Performability Modeling of Messaging Services in  
Distributed Systems*

- Srinivasan Ramani, Katerina Gojseva-Popstojanova,  
and Kishor S. Trivedi

12:00 – 1:00 Lunch (included)

1:00 Keynote Address (Chair: Alexander D. Stoyen)  
*Integrating CSP and DC*

- Jifeng He

2:00 Session 2: Formal Approaches (Chair: Robert France)

*Capturing Complete and Accurate Requirements by Refinement*

- Shaoying Liu

*Mechanization of a Proof of String-Preprocessing in Boyer-Moore's  
Pattern Matching Algorithm*

- Milos Besta and Frank Stomp

*Execution of TILCO Temporal Logic Specifications*

- Pierfrancesco Bellini, Andrea Giotti, and Paolo Nesi

3:30 Break

4:00 Session 3: Design and Modeling (Chair: Luciano Baresi)

*MNEMOSYNE: Designing and Implementing Network Short-Term Memory*

- Andrew Mitchell and Giovanni Vigna

*Composability For Software Components: An Approach Based on the Whole-Part Theory*

- Franck Barbier

*Using Role-Based Modeling Language (RBML) as Precise Characterizations of Model Families*

- Dae-Kyoo Kim, Robert France, Sudipto Ghosh, and Eunjee Song

*Using Aspects to Design a Secure System*

- Geri Georg, Indrakshi Ray, and Robert France

6:30 – 8:30 Conference Dinner (included)

## Tuesday, December 3

08:00 Keynote Address (Chair: Shaoying Liu)  
*Complexity is the enemy of dependability*  
*- can diversity provide a defence?*  
 Bev Littlewood

09:00 Break

09:30 Session 4: Testing (Chair: Jeff Offutt)

*Interclass Testing of Object Oriented Software*

- Vincenzo Martena, Alessandro Orso, and Mauro Pezzè

*A Perturbation-based Testing Strategy*

- Branson Murrill, Larry Morell, and Erica Olimpiew

*A Framework for Specification-Based Class Testing*

- Ling Liu, Huaikou Miao, and Xuede Zhan

*Mars Polar Lander Fault Identification Using Model-based Testing*

- Mark Blackburn, Robert Busser, Aaron Nauman, Robert Knickerbocker, and Richard Kasuda

*Efficient reachability testing of asynchronous message-passing programs*

- U Lei and K. C. Tai

12:00 – 1:00 Lunch (included)

1:00 Session 5: Analysis (Chair: Mei-Hwa Chen)

*An Empirical Comparison of Modularity of Procedural and Object-Oriented Software*

- Lisa K. Ferrett and Jeff Offutt

*Fault Detection Effectiveness of Spathic Test Data*

- Jane Huffman Hayes and Pifu Zhang

*Syntactic Fault Patterns in OO Programs*

- Roger T. Alexander, Jeff Offutt, and James M. Bieman

*Model checking UML specifications of real-time software*

- Vieri Del Bianco, Luigi Lavazza, and Marco Mauri

3:00 Break

3:30 Session 6 : Software Evolution and Product Lines  
(Chair: Pierfrancesco Bellini)

*An Agile Evolutionary Model for Software Development at ABB*

- Aldo Dagnino

*Managing Software Evolution with a Formalized Abstraction Hierarchy*

- Timo Aaltonen and Tommi Mikkonen

*OptoNet - A Case Study in Using Rigorous Analysis Techniques to Justify a Revised Product Assurance Strategy*

- Leesa Murray, Alena Griffiths, and Paul Strooper

*Multiple View Meta-Modeling of Software Product Lines*

- Hassan Gomaa and Michael Shin

5:30 – 6:00 PC meeting