Welcome to SIGSOFT 2012 – FSE-20

Conference at a Glance:

Sunday 11 November 2012
08:30-09:00 – Registration – Registry
09:00-17:30 – Java Pathfinder Workshop – Reynolds
11:45-13:15 – Lunch – Atrium
17:30-19:30 – Hotel Manager’s Reception\(^1\) – Atrium
21:00-22:00 – Registration – Registry

Monday 12 November 2012
07:30-09:00 – Registration – Registry
08:00-17:30 – SEES Workshop – Biltmore/Hope
09:00-17:30 – Java Pathfinder Workshop – Reynolds
08:30-17:30 – WoSQ Workshop – Cameron
11:45-13:15 – Lunch – Atrium
17:30-19:30 – Hotel Manager’s Reception – Atrium
19:30-21:00 – Registration – Registry

Tuesday 13 November 2012
07:30-17:00 – Registration – Registry
08:30-17:15 – General Session / NIER – Blowing Rock
10:30-16:00 – Research Tool Demo Session – Smith/ Cameron
11:45-13:00 – Lunch – Chimney Rock
11:45-13:00 – FSE-22 OC Meeting – Outer Banks
17:30-19:30 – Hotel Manager’s Reception – Atrium
18:30-21:00 – Conference Reception – Chimney Rock
19:30-23:00 – ICSE SC Meeting – Cape Fear

Wednesday 14 November 2012
08:00-17:00 – Registration – Registry
08:30-16:55 – General Session\(^2\) – Blowing Rock
08:30-11:30 – Research Tool Demo Session – Smith/ Cameron
12:20-13:30 – Lunch – Chimney Rock
12:20-13:30 – SIGSOFT EC Meeting – Crescent
17:30-19:30 – Hotel Manager’s Reception – Atrium
17:45-19:15 – SIGSOFT Community Meeting – Smith/ Cameron
19:30-22:00 – Conference Banquet – Chimney Rock

Thursday 15 November 2012
08:00-10:00 – Registration – Registry
08:30-17:15 – General Session – Blowing Rock
12:20-13:30 – Lunch – Chimney Rock
12:20-13:30 – ESEC SC Meeting – Outer Banks
17:30-19:30 – Hotel Manager’s Reception – Atrium
18:30-21:00 – FSE-20 Post Mortem – TBD

Friday 16 November 2012
08:00-10:00 – Registration – Registry
08:25-16:50 – SLESE Workshop – Pinehurst
08:30-18:00 – ICSE PC Meeting – Cameron/Reynolds
11:45-13:00 – Lunch – Atrium
17:30-19:30 – Hotel Manager’s Reception – Atrium

\(^1\) Free to hotel guests – visitors require advance coupon purchase

\(^2\) Hope & Biltmore are breakout rooms on Tuesday–Thursday
SIGSOFT 2012 – FSE-20 Organizing Committee

General Chair: Will Tracz, Lockheed Martin Fellow Emeritus (retired)
Program co-Chair: Martin Robillard, McGill University
Program co-Chair: Tevfik Bultan, University of California, Santa Barbara
Workshop Chair: Jonathan Aldrich, Carnegie Mellon University
Publicity Chair: William G.J. Halfond, University of Southern California
Proceedings Chair: Yu David Liu, State University of New York at Binghamton
Registration Chair: Mike Wing, CritterScape
Local Arrangements Chair: Laurie Williams, North Carolina State University
Student Volunteer Chair: Emerson Murphy-Hill, North Carolina State University
New Ideas Track Chair: Licia Capra, University College London
Research Demos Chair: Mark Grechanik, University of Illinois at Chicago
Webmaster: Greg Cooper

SIGSOFT 2012 – FSE-20 Program Committee

Jo Atlee, University of Waterloo
Luciano Baresi, Politecnico di Milano
Antonia Bertolino, ISTI-CNR
Christian Bird, Microsoft Research
Margaret Burnett, Oregon State University
Marsha Chechik, University of Toronto
Jane Cleland-Huang, DePaul University
Ivica Crnkovic, Mälardalen University
Robert DeLine, Microsoft Research, USA
Arie Van Deursen, Delft University of Technology
Danny Dig, University of Illinois at Urbana-Champaign
Sebastian Elbaum, University of Nebraska-Lincoln
Harald Gall, University of Zurich
Paul Grünbacher, Johannes Kepler University Linz
Magne Jørgensen, Simula Labs
Christine Julien, University of Texas at Austin
Natalia Juristo, Universidad Politécnica de Madrid
Sarfraz Khurshid, University of Texas at Austin
Darko Marinov, University of Illinois at Urbana-Champaign
Mira Mezini, Technische Universität Darmstadt
Ana Milanova, Rensselaer Polytechnic Institute
Alessandro Orso, Georgia Institute of Technology
Massimiliano Di Penta, University of Sannio
Grigore Rosu, University of Illinois at Urbana-Champaign
Abhik Roychoudhury, National University of Singapore
Koushik Sen, University of California, Berkeley
Mary Lou Soffa, University of Virginia
Willem Visser, University of Stellenbosch
Chao Wang, Virginia Tech
Charles Zhang, Hongkong University of Science and Technology
Andrea Zisman, City University London

SIGSOFT 2012 – FSE-20 Supporters

ABB Inc.
Microsoft Research
IBM T. J. Watson Research Center
Fujitsu Labs of America
Tuesday, 13 November

8:30-10:00 Session 1.1 Welcome / Keynote
   Session Chair: Will Tracz
   Lockheed Martin Fellow Emeritus (retired)
   Program Overview / Awards
   Martin Robillard, McGill University
   Teyfik Bultan, UC, Santa Barbara
   Keynote: IBM Watson: Beyond Jeopardy!
   Adam Lally, IBM T. J. Watson Research Center

10:00-10:30 Break

10:30-11:45 Session 1.2A: Program Analysis
   Session Chair: Alessandro Orso
   Georgia Institute of Technology
   Testing Mined Specifications
   Mark Gabel, University of Texas at Dallas
   Zhendong Su, University of California, Davis
   Detecting and Analyzing Insecure Component Usage
   Taeho Kwon and Zhendong Su
   University of California, Davis
   Retargeting Android Applications to Java Bytecode
   Damien Octeau, Pennsylvania State University
   Somesh Jha, University of Wisconsin
   Patrick McDaniel, Pennsylvania State University

10:30-11:45 Session 1.2B: Research Tool Demo Session 1
   Session Chair: Brian Robinson
   ABB Corporate Research
   SelfMotion: A Declarative Language for Adaptive Service-Oriented Mobile Apps
   Gianpaolo Cugola, Carlo Ghezzi,
   Leandro Sales Pinto and Giordano Tamburrelli
   DEEPSE Group @ DEI, Politecnico di Milano, Italy
   REPERTOIRE: A Cross-System Porting Analysis Tool for Forked Software Projects
   Baishakhi Ray, Christopher Wiley and Miryang Kim
   The University of Texas at Austin
   Automating Adaptive Maintenance Changes with SrcML and LINQ
   Vinay Augustine
   ABB Corporate Research

13:00-14:15 Session 1.3A: Text Analysis
   Session Chair: Jane Cleland-Huang
   DePaul University
   Searching Connected API Subgraph via Text Phrases
   Wing-Kwan Chan, Hong Cheng
   The Chinese University of Hong Kong
   David Lo, Singapore Management University
   AUSUM: Approach for Unsupervised bug report SUMmarization
   Senthil Mani, Rose Catherine, Vibha Singhal Sinha
   Avinava Dubey
   IBM Research, India
   Automated Extraction of Security Policies from Natural-Language Software Documents
   Xusheng Xiao, North Carolina State University
   Amit Paradkar
   IBM T. J. Watson Research Center, Hawthorne
   Suresh Thummalapenta
   IBM Research, Bangalore, India
   Tao Xie, North Carolina State University, Raleigh

13:00-14:15 Session 1.3B: Research Tool Demo Session 2
   Session Chair: William G.J. Halfond
   University of Southern California
   Practical Change Impact Analysis Based on Static Program Slicing for Industrial Software Systems
   Mithun Acharya and Brian Robinson
   ABB Corporate Research
   MayPar: A May-Happen-in-Parallel Analyzer for Concurrent Objects
   Elvira Albert, Antonio Flores-Montoya and Samir Genaim
   Complutense University of Madrid
   Sando: An Extensible Local Code Search Framework
   David Shepherd, ABB, Inc.
   Kostadin Damevski, Virginia State University
   Bartosz Ropski, Autodesk, Inc. Krakow, Poland
   Thomas Fritz, University of Zurich

14:15-14:45 Break

11:45-13:00 Lunch

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3 Technical Program Sessions are in TanglePineBlowing
   Tool Demo Sessions are in SmithCameron
Tuesday, 13 November

14:45-16:00 Session 1.4A: Dynamic Analysis
Session Chair: Luciano Baresi
Politecnico di Milano

Automating Presentation Changes in Dynamic Web Applications via Collaborative Hybrid Analysis
Xiaoyin Wang, Lu Zhang, Peking University
Tao Xie, North Carolina State University
Yingfei Xiong, and Hong Mei, Peking University

T-Morph: Revealing Buggy Behaviors of Sensor Network Applications via Rule Mining and Visualization
Yangfan Zhou, Xinyu Chen, Shenzhen Research Institute, The Chinese Univ. of Hong Kong, The Chinese University of Hong Kong
Michael Lyu, The Chinese University of Hong Kong
Jiangchuan Liu, Simon Fraser University

14:45-16:00 Session 1.4B: Research Tool Demo Session 3
Session Chair: Denys Poshyvanyk
College of William and Mary

SecuriTAS: a Tool for Engineering Adaptive Security
Liliana Pasquale, Claudio Menghi, Mazeiar Salehie, Luca Cavallaro, Inah Omonorynia, University of Limerick, Ireland
Bashar Nuseibeh, University of Limerick, Ireland, The Open University, UK

Dione: An Integrated Measurement and Defect Prediction
Bora Caglayan, Bogazici University, Turkey
Ayse Tosun Misiuri, University of Oulu, Finland
Gul Calikli, Bogazici University, Turkey
Ayse Bener, Ryerson University, Toronto, CA
Turgay Aytac, Prescience Inc., USA
Burak Turhan, University of Oulu, Finland

16:00-16:15 Break

16:15-17:15 NIER Papers (continued)

Toward Measuring Program Comprehension with Functional Magnetic Resonance Imaging
Janet Siegmund, University of Magdeburg
Andre Brechmann, Leibniz Inst. for Neurobiology Magdeburg, Germany
Sven Apel, University of Passau, Germany
Christian Kaestner
Philips University Marburg, Germany
Jörg Liebig, University of Passau, Germany
Thomas Leich
Metrop Research Institute Magdeburg, Germany
Gunter Saake, University of Magdeburg, Germany

Toward Semantic Search via SMT Solver
Kathryn Stolee and Sebastian Elbaum
University of Nebraska – Lincoln

Inference and Checking of Pluggable Types
Ana Milanova and Wei Huang,
Rensselaer Polytechnic Institute

Scalable Malware Clustering through Coarse-Grained Behavior Modeling
Mahinthan Chandramohan, Hee Beng Kuan Tan and Shar Lwin Khin
Nanyang Technological University, Singapore

Has This Bug Been Reported?
Kaiping Liu, Hee Beng Kuan Tan, Mahinthan Chandramohan
Nanyang Technological University

Concept-Based Failure Clustering
Nicholas DiGiuseppe and James A. Jones
University of California, Irvine

Seeing the Forest and the Trees: Focusing Team Interaction on Value and Effort Drivers
Matthias Book, Simon Grapenthin and Volker Gruhn
University of Duisburg-Essen, Germany

From Pixels to Bytes: Evolutionary Scenario Based Design With Video
Han Xu
Technische Universität München Munich, Germany
Oliver Creighton, Naoufel Boulila
Siemens Corporate Technology, Munich, Germany
Bernd Bruegge, Technische Universität München

Service Selection for Happy Users: Making User-Intuitive Quality Abstractions
Dionysis Athanasopoulos, Apostolos Zarras and Panos Vassiliadis
University of Ioannina Greece

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Sven Apel, University of Passau, Germany
Christian Kaestner
Philips University Marburg, Germany
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16:00-16:15 Break
**Wednesday, 14 November**

**8:30-10:10 Session 2.1A: Test Suites**
Session Chair: Willem Visser
Stellenbosch University, South Africa

- **Understanding Myths and Realities of Test-Suite Evolution**
  Leandro Sales Pinto, Politecnico di Milano
  Saurabh Sinha, IBM Research, India
  Alessandro Orso, Georgia Institute of Technology

- **Test Input Generation Using Dynamic Programming**
  Razieh Nokhbeh Zaeem and Sarfraz Khurshid
  The University of Texas at Austin

- **CarFast: Achieving Higher Statement Coverage Faster**
  Sangmin Park, Georgia Institute of Technology
  Ishtiaque Hussain, Christoph Csallner
  University of Texas at Arlington
  Kunal Taneja, Accenture Technology Labs and North Carolina State University
  B.M. Mainul Hossain
  University of Illinois at Chicago
  Mark Grechanik, University of Illinois and Accenture Technology Lab, Chicago
  Chen Fu and Qing Xie
  Accenture Technology Labs San Jose, CA

**10:10-10:40 Break**

**10:40-12:20 Session 2.2A: Decision Support**
Session Chair: Paul Grünbacher
Johannes Kepler University Linz

- **Improving Software Developers’ Fluency by Recommending Development Environment Commands**
  Emerson Murphy-Hill, NC State University
  Rahul Jiresal and Gail Murphy
  University of British Columbia, Vancouver, Canada

- **History Slicing: Assisting Code-Evolution Tasks**
  Francisco Servant and James A. Jones
  University of California, Irvine

- **Who is going to Mentor Newcomers in Open Source Projects?**
  Gerardo Canfora, Massimiliano Di Penta
  University of Sannio, Italy
  Rocco Oliveto, University of Molise, Italy
  Sebastiano Panichella, University of Sannio, Italy

- **Assessing the Value of Branches with What-if Analysis**
  Christian Bird and Thomas Zimmermann
  Microsoft Research

**10:40-11:30 Session 2.2B: Research Demos Session 5**

- **FaultTracer: A Change Impact and Regression Fault Analysis Tool for Evolving Java Programs**
  Lingming Zhang, Miryung Kim and Sarfraz Khurshid
  University of Texas at Austin

- **Efficiently Scripting Change-Resilient Tests**
  Suresh Thummalapenta, Nimit Singhania, Pranavadatta Devaki, Saurabh Sinha
  IBM Research – India
  Satish Chandra, IBM T. J. Watson Research Center
  Achin Das and Srinivas Mangipudi
  IBM Global Business Services

**12:20-13:30 Lunch**

**13:30-14:45 Session 2.3: Concurrency**
Session Chair: Chao Wang, Virginia Tech

- **DTAM: Dynamic Taint Analysis of Multi-threaded Programs for Relevancy**
  Malay Ganai, NEC Labs America
  Dongyoon Lee, University of Michigan
  Aarti Gupta, NEC Labs America

- **Predicting Null-Pointer Dereferences in Concurrent Programs**
  Azadeh Farzan, University of Toronto
  Madhusudan Parthasarathy, University of Illinois
  Niloofar Razavi, University of Toronto
  Francesco Sorrentino, University of Illinois

- **Asynchronous Programs with Prioritized Task-Buffers**
  Michael Emmi,
  LIAFA, Université Paris Diderot, France
  Akash Lal, Microsoft Research, Bangalore
  Shaz Qadeer, Microsoft Research, Redmond

**14:45-15:15 Break**
Thursday, 15 November

8:30-10:10  Session 3.1: Empirical Studies
Session Chair: Massimiliano Di Penta
University of Sannio

A Case Study of Cross-System Porting in Forked Projects
Baishakhi Ray and Miryung Kim,
The University of Texas at Austin

How do developers use parallel libraries?
Semih Okur and Danny Dig,
University of Illinois at Urbana-Champaign

Seeking the Ground Truth: A Retroactive Study on the Evolution and Migration of Software Libraries
Bradley Cossette and Robert Walker
University of Calgary, Calgary, Alberta, Canada

How Do Developers React to API Deprecation? The Case of a Smalltalk Ecosystem
Romain Robbes, University of Chile
Mircea Lungu, University of Bern
David Röthlisberger, University of Chile

10:10-10:40 Break

10:40-12:20  Session 3.2: Verification
Session Chair: Sarfraz Khursid
University of Texas at Austin

Conditional Model Checking: A Technique to Pass Information between Verifiers
Dirk Beyer, University of Passau, Germany
Thomas A. Henzinger, IST Austria
M. Erkan Keremoglu, Simon Fraser University
Philipp Wendler, University of Passau, Germany

12:20-13:30 Lunch

13:30-14:45  Session 3.3: Bug Prediction
Session Chair: Christian Bird
Microsoft Research

Recalling the “Imprecision” of Cross-Project Defect Prediction
Foyzur Rahman, Daryl Posnett and Premkumar Devanbu
University of California Davis

An Industrial Study on the Risk of Software Changes
Emad Shihab, Ahmed E. Hassan,
Queen’s University, Canada
Bram Adams
École Polytechnique de, Montréal, Canada
Zhen Ming Jiang
Research In Motion, Waterloo, Ontario, Canada

Multi-layered Approach for Recovering Links between Bug Reports and Fixes
Anh Nguyen, Tung Nguyen, Hoan Nguyen and Tien Nguyen
Iowa State University

14:45-15:15 Break

15:15-17:15  Session 3.4: Keynotes/Awards/Closing
Session Chair: Will Tracz

Doctoral Dissertation Award:
Inferring Programmer Intent and Related Errors from Software
Mark Gabel, University of Texas at Dallas

Research Award Presentation:
Program Analysis: Then and Now
Lori A. Clarke, U. Mass. Amherst

Impact Award Presentation:
The Korat Approach to Systematic Testing
Chandrasekhar Boyapati, Google
Sarfraz Khursid, University of Texas at Austin
Darko Marinov
University of Illinois at Urbana-Champaign

Future FSEs
- ESEC / FSE 2013: Luciano Baresi
- FSE 22/ SIGSOFT 2014: S.C. Cheung,
  Alessandro Orso, and Margaret-Anne Storey