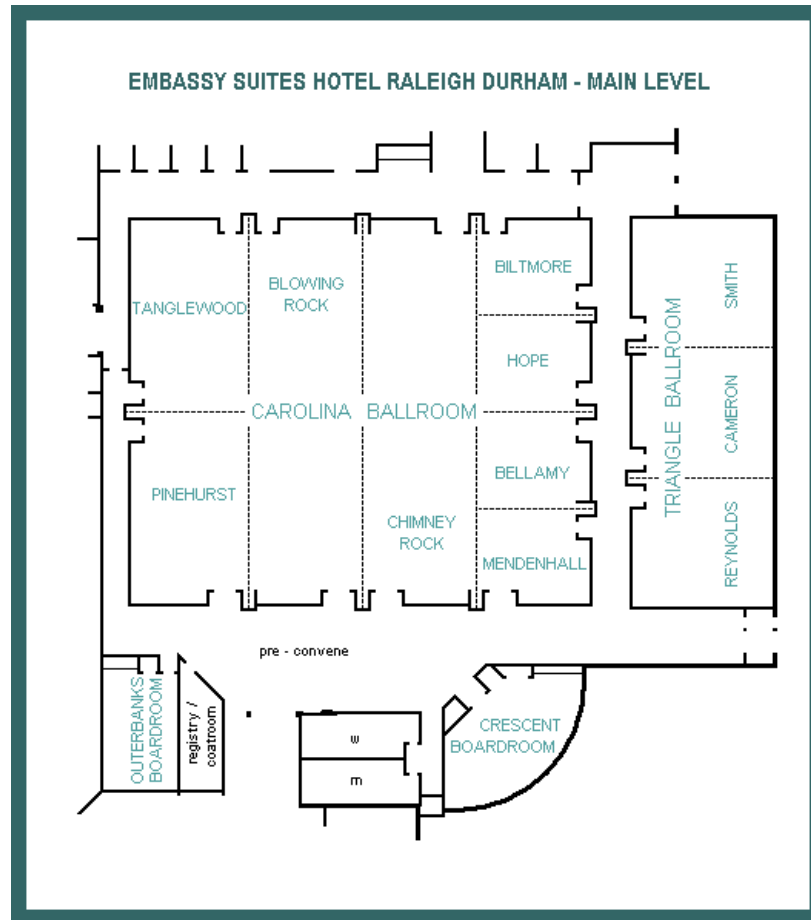


Welcome to SIGSOFT 2012 – FSE-20



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 Reception¹ – *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 Session² – *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 November³

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
Tevfik 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
Miryung Kim

The University of Texas at Austin

Automating Adaptive Maintenance Changes with SrcML and LINQ

Vinay Augustine
ABB Corporate Research

11:45-13:00 Lunch

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

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, National University of Defense Technology, Changsha, China
Jiangchuan Liu, Simon Fraser University

Mining the Execution History of a Software System to Infer the Best Time for its Adaptation

Kyle Canavera, Naeem Esfahani and Sam Malek,
George Mason 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 Salehi,
Luca Cavallaro, Inah Omoronyia,
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
Ayşe Tosun Misirli, University of Oulu, Finland
Gul Calikli, Bogazici University, Turkey
Ayşe 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 Session 1.5: NIER Papers

Session Chair: *Licia Capra*
University College London

Dealing with Uncertainty in Early Software Architecture

Naeem Esfahani, Kaveh Razavi and Sam Malek
George Mason University

Software Change Contracts

Dawei Qi, Jooyong Yi and Abhik Roychoudhury
National University of Singapore

Semantic Fault Diagnosis: Automatic Natural-Language Fault Descriptions

Nicholas DiGiuseppe and James A. Jones
University of California, Irvine

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

Toward Measuring Program Comprehension with Functional Magnetic Resonance Imaging

Janet Siegmund, University of Magdeburg
André Brechmann, Leibniz Inst. for Neurobiology
Magdeburg, Germany
Sven Apel, University of Passau, Germany
Christian Kaestner
Philipps University Marburg, Germany
Jörg Liebig, University of Passau, Germany
Thomas Leich
Metop 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

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

Scalable Test Data Generation from Multidimensional Models

Emina Torlak, U.C. Berkeley

8:30-09:45 Session 2.1B: Research Tool Demo Session 4
Session Chair: *Miryung Kim*
University of Texas at Austin

ReImInfer: Method Purity Inference for Java

Wei Huang and Ana Milanova,
Rensselaer Polytechnic Institute

TouchDevelop — App Development on Mobile Devices

Nikolai Tillmann, Michal Moskal,
Jonathan de Halleux, Manuel Fahndrich and
Sebastian Burckhardt
Microsoft Research

UMLtoCSP (UOST): A Tool for Efficient Verification of UML/OCL Class Diagrams Through Model Slicing

Asadullah Shaikh, Maersk-McKinney Moller Institute University of Southern Denmark and Kulliyyah of Information and Communication Technology (KICT) International Islamic University (Malaysia)
Uffe Wiil, Maersk-McKinney Moller Institute University of Southern Denmark

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

15:15-16:55 Session 2.4: Modularity
Session Chair: *Danny Dig*
University of Illinois at Urbana-Champaign

Do Crosscutting Concerns Cause Modularity Problems?

Robert Walker, Shreya Rawal and Jonathan Sillito,
University of Calgary, Calgary, Canada

A Field Study of Refactoring Challenges and Benefits

Miryung Kim, University of Texas at Austin
Thomas Zimmermann and Nachiappan Nagappan,
Microsoft Research, Redmond

How Do Software Engineers Understand Code Changes? An Exploratory Study in Industry

Yida Tao,
Hong Kong University of Science and Technology
Yingnong Dang,

Microsoft Research Asia, Beijing
Tao Xie, North Carolina State University
Dongmei Zhang, Microsoft Research Asia, Beijing
Sunghun Kim,
Hong Kong University of Science and Technology

Variability Points and Design Pattern Usage in Architectural Tactics

Mehdi Mirakhorli, DePaul University, Chicago
Patrick Maeder, Johannes Kepler University
Jane Cleland-Huang, DePaul University

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 Khurshid*
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

Green: Reducing, Reusing and Recycling Constraints in Program Analysis

Willem Visser, Jaco Geldenhuys, Stellenbosch University, South Africa
Matt Dwyer, University of Nebraska -Lincoln

Automated Concolic Testing of Smartphone Apps

Saswat Anand, Mayur Naik, Georgia Tech
Hongseok Yang, University of Oxford
Mary Jean Harrold, Georgia Institute of Technology

Rubicon: Bounded Verification of Web Applications

Joseph Near and Daniel Jackson
Massachusetts Institute of Technology

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 Khurshid, 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*