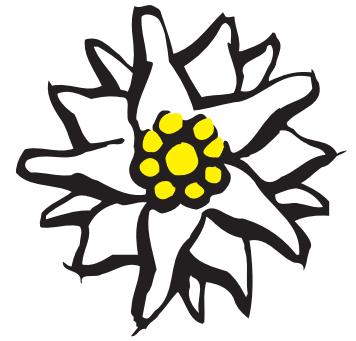# ICSE 2012

June 2-9, 2012
Zurich • Switzerland

Conference Program

34th
International Conference on
Software Engineering®
2012

www.icse2012.org

Program-at-a-Glance

Time	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00

Thu May 31
- ASE 2012 PC Meeting

Fri June 1
- ASE 2012 PC Meeting
- WRT - Workshop on Refactoring Tools

Saturday June 2
- MSR - Working Conference on Mining Software Repositories
- ICSSP - International Conference on Software and System Process
- W1 - AST: Workshop on Automation of Software Test
- W2 - MiSE: Workshop on Modelling in Software Engineering
- W3 - CHASE: Workshop on Co-operative and Human Aspects of Software Engineering
- W5 - FormSERA: Workshop on Formal Methods in Software Engineering: Rigorous and Agile Approaches
- W6 - SESENA: Workshop on Software Engineering for Sensor Network Applications

Sunday June 3
- MSR - Working Conference on Mining Software Repositories
- ICSSP - International Conference on Software and System Process
- W1 - AST: Workshop on Automation of Software Test
- W2 - MiSE: Workshop on Modelling in Software Engineering
- W7 - Greens: Workshop on Green and Sustainable Software
- W8 - HotSWUP: Workshop on Hot Topics in Software Upgrades
- W9 - SE-SmartGrid: Workshop on Software Engineering Challenges for the Smart Grid
- W10 - TOPI: Workshop on Developing Tools as Plug-ins
- W11 - WETSoM: Workshop on Emerging Trends in Software Metrics
- Matinée with Carlo Ghezzi

COFFEE (left), COFFEE (right)

Monday June 4
- SEAMS - International Symposium on Software Engineering for Adaptive and Self-Managing Systems
- DS - Doctoral Symposium
- F1 - Effective Experimental Design and Statistical Analysis of Software Engineering Data
- H1 - Technical Debt / H2 - Class to Cubicle
- H3 - Multicore SE / H4 - SOA Migration in Practice
- Model-Based Engineering at an Enterprise Scope
- W12 - SEHC: Workshop on Software Engineering in Health Care
- W13 - IWSC: Workshop on Software Clones
- W14 - PESOS: Workshop on Principles of Engineering Service-Oriented Systems
- W15 - PLEASE: Workshop on Product LinE Approaches in Software Engineering
- W16 - RSSE: Workshop on Recommendation Systems for Software Engineering
- W17 - UsARE: Workshop on Usability and Accessibility focused Requirements Engineering
- ICSE Soccer Game

COFFEE (left), COFFEE (right), LUNCH

Tuesday June 5
- SEAMS - International Symposium on Software Engineering for Adaptive and Self-Managing Systems
- NFS - New Faculty Symposium
- F4 - Domain Specific Language Design
- H5 - Ethnography / H6 - Mining SE Data
- H7 - Ecosystems / B3 - Text retriev / B4 - Symb Debug
- B1 - ML for Empir SE / B2 - SE & privacy / B6 - Release Engin
- W12 - SEHC: Workshop on Software Engineering in Health Care
- W18 - MTD: Workshop on Managing Technical Debt
- W19 - RAISE: Workshop on Realizing AI Synergies in Software Engineering
- W20 - SUITE: Workshop on Search-Driven Development: Users, Infrastructure, Tools, and Evaluation
- W21 - USER: Workshop on User evaluation for Software Engineering Researchers
- W22 - S-Cube: European Software Services and Systems Research - Results and Challenges
- ICSE Steering Committee Meeting

BREAK (left), BREAK (right), LUNCH

Wed June 6 / Thu June 7 / Fri June 8

Main Conference

Saturday June 9
- W4 - CTGDSD: Collaborative Teaching of Globally Distributed Software Development: Community Building Workshop
- W23 - EduRex: Workshop on Software Engineering Education based on Real-World Experiences
- W24 - GAS: Workshop on Games and Software Engineering: Realizing User Engagement with Game Engineering Techniqu
- W25 - SEES: Workshop on Software Engineering for Embedded Systems
- W26 - WEH: Workshop on Exception Handling
- FSE PC Meeting
- MODELS PB Meeting

Sun June 10
- FSE PC Meeting
- MODELS PB Meeting

Welcome to Zurich

Willkommen · Bienvenue · Benvenuti · Allegra · Grüezi mitenand!

We cordially welcome you to ICSE 2012, the 34th International Conference on Software Engineering, June 2-9, 2012 in Zurich, Switzerland.

The conference theme, "Sustainable Software for a Sustainable World" carries a double meaning: on the one hand, a sustainable world is only possible with massive software support, and, on the other hand, our daily life is embedded in and dependent on so many software systems that this software can only be created and maintained properly if we do this in a sustainable fashion.

The conference offers a strong technical program with broad appeal to researchers, industrial practitioners, students, and educators in the field of software engineering. The ICSE 2012 main conference consists of three keynotes, several tracks and some special invited presentations.

As a highlight for all participants, we are pleased to have three excellent *keynote speakers*: SASKIA SASSEN from Columbia University (USA), FRANK-DIETER CLESLE from SAP (Germany), and JEFF KRAMER from Imperial College London (UK).

The *technical research papers track* provides participants an opportunity to hear and discuss innovative results and evaluations in software engineering research. This track always attracts many top-quality submissions and this year continues that trend.

With the *Software Engineering in Practice (SEIP)* track, ICSE 2012 also features a full *practitioner track* to address key issues faced by software engineering professionals in industry.

The *Software Engineering Education* (*SEE*) track covers a broad range of software engineering education topics, such as curricula, software projects in SEE, and issues in teaching software engineering.

The *NIER track* provides a forum for novel ideas and emerging results. Short, crisp presentations and intensive discussions foster the exchange of ideas.

Formal and *informal demonstrations* reflect the state of software engineering tools. *Posters* showcase work in progress.

In the *SE Horizons track*, distinguished invited experts provide a look over the fence and talk about software engineering issues in neighboring fields and specific problem areas.

The *ACM Student Research Competition (SRC)* track offers *undergraduate and graduate students* a unique forum to experience the research world, and compete for prizes.

Two days of *tutorials* and *technical briefings*, five days of *workshops*, a *doctoral symposium,* a *new faculty symposium*, and several *co-located events* are be held before and after the main conference.

ICSE 2012 has been advertised as the premier software engineering conference. This is not just a slogan; it is our mission and commitment: all members of the ICSE 2012 organizing committee, the program committee and all track and workshop program sub-committees have worked hard and done their best to make ICSE 2012 a truly premier event.

We thank all members of the conference committees for their dedication and effort. We also are greatly indebted to our supporters and corporate donors for their generous support. And we hope that you, the participants of ICSE 2012, will enjoy and find useful what we have prepared for you. Welcome to ICSE 2012!

Martin Glinz, Gail Murphy, and Mauro Pezzè

Martin Glinz
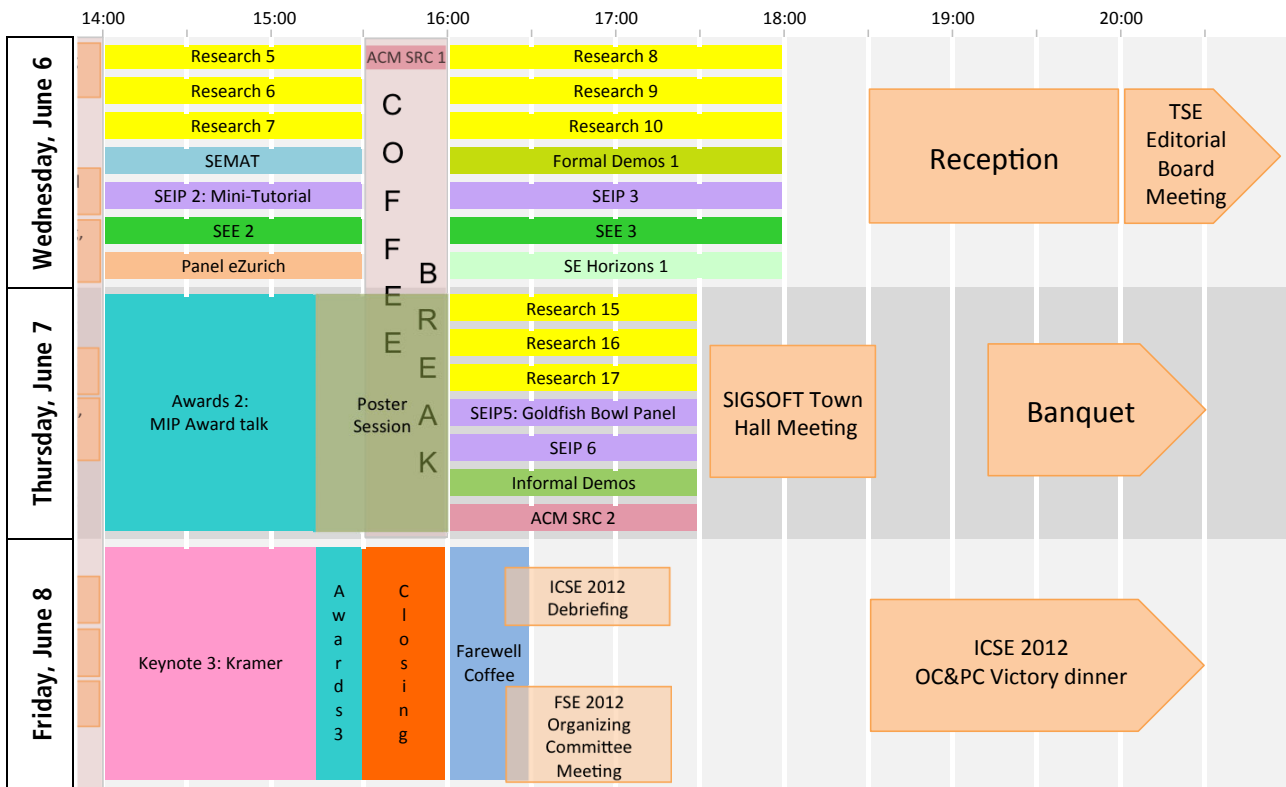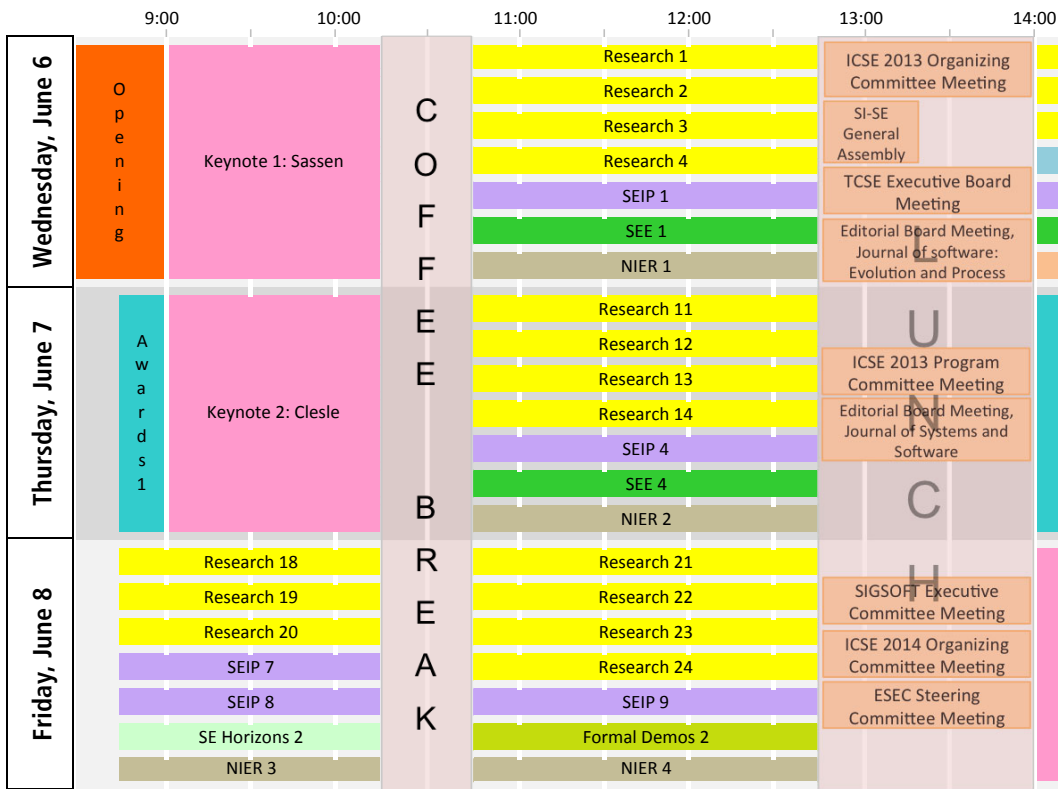University of Zurich, Switzerland
ICSE 2012 General Chair

Gail Murphy
University of British Columbia**,** Canada
ICSE 2012 Program Co-Chair

Mauro Pezzè
University of Lugano, Switzerland
University of Milano Bicocca, Italy
ICSE 2012 Program Co-Chair

Main Conference at-a-Glance

Morning/Midday (9:00 – 14:00)

Wednesday, June 6
- Opening
- Keynote 1: Sassen
- COFFEE BREAK
- Research 1
- Research 2
- Research 3
- Research 4
- SEIP 1
- SEE 1
- NIER 1
- ICSE 2013 Organizing Committee Meeting
- SI-SE General Assembly
- TCSE Executive Board Meeting
- Editorial Board Meeting, Journal of software: Evolution and Process

Thursday, June 7
- Awards 1
- Keynote 2: Clesle
- COFFEE BREAK
- Research 11
- Research 12
- Research 13
- Research 14
- SEIP 4
- SEE 4
- NIER 2
- ICSE 2013 Program Committee Meeting
- Editorial Board Meeting, Journal of Systems and Software
- LUNCH

Friday, June 8
- Research 18
- Research 19
- Research 20
- SEIP 7
- SEIP 8
- SE Horizons 2
- NIER 3
- Research 21
- Research 22
- Research 23
- Research 24
- SEIP 9
- Formal Demos 2
- NIER 4
- SIGSOFT Executive Committee Meeting
- ICSE 2014 Organizing Committee Meeting
- ESEC Steering Committee Meeting

Afternoon/Evening (14:00 – 20:00)

Wednesday, June 6
- Research 5
- Research 6
- Research 7
- SEMAT
- SEIP 2: Mini-Tutorial
- SEE 2
- Panel eZurich
- ACM SRC 1
- COFFEE BREAK
- Research 8
- Research 9
- Research 10
- Formal Demos 1
- SEIP 3
- SEE 3
- SE Horizons 1
- Reception
- TSE Editorial Board Meeting

Thursday, June 7
- Awards 2: MIP Award talk
- Poster Session
- COFFEE BREAK
- Research 15
- Research 16
- Research 17
- SEIP5: Goldfish Bowl Panel
- SEIP 6
- Informal Demos
- ACM SRC 2
- SIGSOFT Town Hall Meeting
- Banquet

Friday, June 8
- Keynote 3: Kramer
- Awards 3
- Closing
- Farewell Coffee
- ICSE 2012 Debriefing
- FSE 2012 Organizing Committee Meeting
- ICSE 2012 OC&PC Victory dinner

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General Information

Conference Locations

The ICSE 2012 main conference (June 6-8) will take place in the Kongresshaus in downtown Zurich, right by the lake. The Kongresshaus is located at Claridenstrasse 5, 8002 Zurich. Closest tram stops: Bürkliplatz (by the lake; lines 2, 5, 8, 9, and 11; walk 4 minutes) and Stockerstrasse (lines 6, 7, 8, and 13; walk 8 minutes).

Pre- and post-conference events (workshops, tutorials, doctoral symposium, co-located events, etc.) on June 2-5 and June 9 will be held on the Irchel Campus of the University of Zurich, Winterthurerstrasse 190, 8057 Zurich. On campus, follow the ICSE 2012 signs. Closest tram stops: Universität Irchel (lines 9 and 10; walk 5 minutes) and Milchbuck (lines 7, 9, 10, 14; walk 8 minutes).

For maps, see http://www.ifi.uzh.ch/icse2012/venue/conference-location/. For detailed directions, see http://www.ifi.uzh.ch/icse2012/accommodation-and-travel/local-travel/

Registration Opening Hours

Fri	June 1	16:30-18:00	UZH Irchel Campus
Sat	June 2	08:00-17:45	UZH Irchel Campus
Sun	June 3	08:15-17:45	UZH Irchel Campus
Mon	June 4	08:15-17:45	UZH Irchel Campus
Tue	June 5	08:15-16:00	UZH Irchel Campus
Wed	June 6	08:00-18:15	Kongresshaus
Thu	June 7	08:15-17:45	Kongresshaus
Fri	June 8	08:15-16:15	Kongresshaus
Sat	June 9	08:15-14:00	UZH Irchel Campus

Internet Access

Guest login information for the wireless networks at UZH Irchel and in the Kongresshaus is in your delegate package.

Access to Proceedings

You find the URL for downloading the electronic ICSE 2012 proceedings collection in your delegate package. The proceedings collection comprises the proceedings of ICSE 2012, of all ICSE 2012 workshops and of the co-located events ICSSP, MSR, and SEAMS. Tutorial and Technical Briefing notes are also available online, but access is restricted to persons who have registered for the respective events.

Main Conference Schedule

Wed June 6	08:30-12:45 and 14:00-18:00
Thu June 7	08:45-12:45 and 14:00-17:30
Fri June 8	08:45-12:45 and 14:00-16:00

Light continental breakfast is served 30 minutes before sessions start.

General Schedule for all Pre- and Post-Conference Events

08:15-09:00	Light Continental Breakfast
09:00-10:30	Session 1
10:30-11:00	Break
11:00-12:30	Session 2
12:30-14:00	Lunch
14:00-15:30	Session 3
15:30-16:00	Break
16:00-17:30	Session 4

Public Transport

Main conference participants receive a free public transport ticket valid Mon Jun 4 to Fri Jun 8 for unlimited travel within the city limits (zone 10). For detailed information about public transport in Zurich, see http://www.ifi.uzh.ch/icse2012/accommodation-and-travel/local-travel/

Saturday, June 2

Workshops

Co-Located Events

Program Event

Sunday, June 3, 2012, 14:00-17:30   **Y03-G-95**

Matineé with Carlo Ghezzi

https://sites.google.com/site/matineecarloghezzi/

Workshops

Saturday and Sunday, June 2-3, 2012   **Y15-G-19**

W1: AST – 7th IEEE/ACM International Workshop on Automation of Software Test

http://AST2012.org

Saturday and Sunday, June 2-3, 2012   **Y16-G-15**

W2: MiSE – 4th International Workshop on Modelling in Software Engineering

http://www.cs.colostate.edu/remodd/v1/content/miseicse

Sunday, June 3, 2012   **Y03-G-91**

W7: GREENS – First International Workshop on Green and Sustainable Software

http://greens.cs.vu.nl

Sunday, June 3, 2012   **Y27-H-35**

W8: HotSWUp 2012 – Fourth Workshop on Hot Topics in Software Upgrades

http://hotswup.org/2012

Sunday, June 3, 2012   **Y35-F-47**

W9: SE-SmartGrid – ICSE 2012 Workshop on Software Engineering Challenges for the Smart Grid

http://gridoptics.pnnl.gov/se4sg12/

Sunday, June 3, 2012   **Y13-M-12**

W10: TOPI 2012 – 2nd Workshop on Developing Tools as Plug-ins

http://topi2012.dc.uba.ar

Sunday, June 3, 2012   **Y13-L-11**

W11: WETSoM 2012 – 3rd International Workshop on Emerging Trends in Software Metrics

http://agile.diee.unica.it/wetsom2012

Co-Located Events

Saturday and Sunday, June 2-3, 2012   **Y24-G-55**

MSR 2012 – 9th Working Conference on Mining Software Repositories

http://2012.msrconf.org/

Saturday and Sunday, June 2-3, 2012   **Y03-G-85**

ICSSP 2012 – International Conference on Software and System Process

http://www.icsp-conferences.org/icssp2012/

Monday, June 4

Program Events

Doctoral Symposium

http://www.ifi.uzh.ch/icse2012/program/doctoral-symposium/

Model-Based Engineering at an Enterprise Scope

http://www.ifi.uzh.ch/icse2012/program/model-based-engineering-at-an-enterprise-scope/

Workshops

W12: SEHC – 4th International Workshop on Software Engineering in Health Care

http://www.sehc.info/sehc2012.htm

W13: IWSC – Sixth International Workshop on Software Clones

http://iwsc2012.ist.osaka-u.ac.jp

W14: PESOS – 4th International Workshop on Principles of Engineering Service-Oriented Systems

http://www.s-cube-network.eu/pesos-2012

W15: PLEASE – 3rd International Workshop on Product LinE Approaches in Software Engineering

http://please2012.haifa.il.ibm.com

W16: RSSE – 3rd International Workshop on Recommendation Systems for Software Engineering

http://www.rsse.org/rsse-2012

W17: UsARE – International Workshop on Usability and Accessibility focused Requirements Engineering

http://www.dis.uniroma1.it/~usare2012/

Tutorials

F1: Effective Experimental Design and Statistical Analysis of Software Engineering Data

H1: Strategic Management of Technical Debt

H2: Positive Transitions from the Classroom to the Cubicle

H3: Multicore Software Engineering and Auto-Tuning

H4: SOA Migration in Practice

Co-Located Events

SEAMS 2012 – 7th International Symposium on Software Engineering for Adaptive and Self-Managing Systems

http://www.seams2012.cs.uvic.ca/

Program Event

Tuesday, June 5, 2012   **Y23-G-04**

New Faculty Symposium

http://www.ifi.uzh.ch/icse2012/program/new-faculty-symposium/

Workshops

Monday and Tuesday, June 4-5, 2012   **Y13-M-12**

W12: SEHC – 4th International Workshop on Software Engineering in Health Care

http://www.sehc.info/sehc2012.htm

Tuesday, June 5, 2012   **Y16-G-15**

W18: MTD – Third International Workshop on Managing Technical Debt

http://www.sei.cmu.edu/community/td2012/

Tuesday, June 5, 2012   **Y27-H-12**

W19: RAISE – Realizing AI Synergies in Software Engineering

http://promisedata.org/raise/2012

Tuesday, June 5, 2012   **Y03-G-85**

W20: SUITE – Fourth International Workshop on Search-Driven Development: Users, Infrastructure, Tools, and Evaluation

http://resuite.org/suite/2012

Tuesday, June 5, 2012   **Y27-H-25**

W21: USER – User evaluation for Software Engineering Researchers   Tue, June 5

http://user.supertriceratops.com

Tuesday, June 5, 2012   **Y03-G-91**

W22: S-Cube – European Software Services and Systems Research - Results and Challenges

http://www.s-cube-network.eu/icse

Tutorials

Tuesday, June 5, 2012, full day   **Y27-H-35**

F4: Domain Specific Language Design

Tuesday, June 5, 2012, 9:00-12:30   **Y35-F-47**

H5: Using Ethnographic methods in Software Engineering Research

Tuesday, June 5, 2012, 14:00-17:30   **Y35-F-47**

H6: Mining Software Engineering Data

Tuesday, June 5, 2012, 9:00-12:30   **Y13-L-11**

H7: Software Ecosystems - Implications for Strategy, Business Model and Architecture

Technical Briefings

Tuesday, June 5, 2012, 9:00-10:30   **Y13-L-18**

B1: Understanding Machine Learning for Empirical Software Engineering

Tuesday, June 5, 2012, 11:00-12:30   **Y13-L-18**

B2: Software Engineering in the Age of Data Privacy

Tuesday, June 5, 2012, 14:00-15:30   **Y13-L-18**

B3: On the Use of Text Retrieval Techniques in Software Engineering

Tuesday, June 5, 2012, 16:00-17:30   **Y13-L-18**

B4: Symbolic Techniques for Software Debugging

Tuesday, June 5, 2012, 16:00-17:30   **Y13-L-11**

B6: Software Release Engineering

Wednesday, June 6

Plenary Session   08:30-10:15

Conference Opening

Session Chair: Martin Glinz

Keynote 1: Saskia Sassen

Session Chair: Mauro Pezzè

Digital Formations of the Powerful and the Powerless
Saskia Sassen (Columbia University, USA)

Parallel Sessions   10:45-12:45

Technical Research Papers

Research Session 1: Fault Handling

Session Chair: Mark Harman

A Systematic Study of Automated Program Repair: Fixing 55 out of 105 Bugs for $8 Each
Claire Le Goues, Michael Dewey-Vogt, Stephanie Forrest, and Westley Weimer (University of Virginia, USA; University of New Mexico, USA)

Where Should the Bugs Be Fixed? - More Accurate Information Retrieval-Based Bug Localization Based on Bug Reports
Jian Zhou, Hongyu Zhang, and David Lo (Tsinghua University, China; Singapore Management University, Singapore)

Developer Prioritization in Bug Repositories
Jifeng Xuan, He Jiang, Zhilei Ren, and Weiqin Zou (Dalian University of Technology, China)

WhoseFault: Automatic Developer-to-Fault Assignment through Fault Localization
Francisco Servant and James A. Jones (UC Irvine, USA)

Research Session 2: Code Generation and Recovery

Session Chair: Jane Cleland-Huang

Recovering Traceability Links between an API and Its Learning Resources
Barthélémy Dagenais and Martin P. Robillard (McGill University, Canada)

Generating Range Fixes for Software Configuration
Yingfei Xiong, Arnaud Hubaux, Steven She, and Krzysztof Czarnecki (University of Waterloo, Canada; University of Namur, Belgium)

Graph-Based Pattern-Oriented, Context-Sensitive Source Code Completion
Anh Tuan Nguyen, Tung Thanh Nguyen, Hoan Anh Nguyen, Ahmed Tamrawi, Hung Viet Nguyen, Jafar Al-Kofahi, and Tien N. Nguyen (Iowa State University, USA)

Automatic Input Rectification
Fan Long, Vijay Ganesh, Michael Carbin, Stelios Sidiroglou, and Martin Rinard (MIT, USA)

Research Session 3: Empirical Studies of Development

Session Chair: Natalia Juristo

Overcoming the Challenges in Cost Estimation for Distributed Software Projects
Narayan Ramasubbu and Rajesh Krishna Balan (Singapore Management University, Singapore)

Characterizing Logging Practices in Open-Source Software
Ding Yuan, Soyeon Park, and Yuanyuan Zhou (University of Illinois at Urbana-Champaign, USA; UC San Diego, USA)

The Impacts of Software Process Improvement on Developers: A Systematic Review
Mathieu Lavallée and Pierre N. Robillard (École Polytechnique de Montréal, Canada)

Combining Functional and Imperative Programming for Multicore Software: An Empirical Study Evaluating Scala and Java
Victor Pankratius, Felix Schmidt, and Gilda Garretón (KIT, Germany; Oracle Labs, USA)

Research Session 4: Performance Analysis

Session Chair: Willem Visser

Uncovering Performance Problems in Java Applications with Reference Propagation Profiling
Dacong Yan, Guoqing Xu, and Atanas Rountev (Ohio State University, USA; UC Irvine, USA)

Performance Debugging in the Large via Mining Millions of Stack Traces
Shi Han, Yingnong Dang, Song Ge, Dongmei Zhang, and Tao Xie (Microsoft Research, China; North Carolina State University, USA)

Automatically Finding Performance Problems with Feedback-Directed Learning Software Testing
Mark Grechanik, Chen Fu, and Qing Xie (Accenture Technology Labs, USA; University of Illinois at Chicago, USA)

Predicting Performance via Automated Feature-Interaction Detection
Norbert Siegmund, Sergiy S. Kolesnikov, Christian Kästner, Sven Apel, Don Batory, Marko Rosenmüller, and Gunter Saake (University of Magdeburg, Germany; University of Passau, Germany; Philipps University of Marburg, Germany; University of Texas at Austin, USA)

Software Engineering in Practice Track

Wednesday, June 6, 2012, 10:45-12:45   K-1-K

SEIP Session 1: Services and Analytics

Session Chair: Wolfram Schulte

Invited Talk:
Towards a Federated Cloud Ecosystem
Clovis Chapman (Dell, Ireland)

Specification Patterns from Research to Industry: A Case Study in Service-Based Applications
Domenico Bianculli, Carlo Ghezzi, Cesare Pautasso, and Patrick Senti (University of Lugano, Switzerland; Politecnico di Milano, Italy; Credit Suisse AG, Switzerland)

Methodology for Migration of Long Running Process Instances in a Global Large Scale BPM Environment in Credit Suisse's SOA Landscape
Tarmo Ploom, Stefan Scheit, and Axel Glaser (Credit Suisse, Switzerland)

Information Needs for Software Development Analytics
Raymond P. L. Buse and Thomas Zimmermann (University of Virginia, USA; Microsoft Research, USA)

Software Engineering Education Track

Wednesday, June 6, 2012, 10:45-11:15   K-2-SZ5

SEE Track Opening Remarks
Jochen Ludewig and Hausi Müller

Wednesday, June 6, 2012, 11:15-12:45   K-2-SZ5

SEE Session 1: The Role of Software Projects in Software Engineering Education

Session Chair: Kurt Schneider

Teaching Software Engineering and Software Project Management: An Integrated and Practical Approach
Gabriele Bavota, Andrea De Lucia, Fausto Fasano, Rocco Oliveto, and Carlo Zottoli (University of Salerno, Italy; University of Molise, Italy)

Teaching Collaborative Software Development: A Case Study
Terhi Kilamo, Imed Hammouda, and Mohamed Amine Chatti (Tampere University of Technology, Finland; RWTH Aachen University, Germany)

Using Continuous Integration of Code and Content to Teach Software Engineering with Limited Resources
Jörn Guy Süß and William Billingsley (University of Queensland, Australia)

New Ideas and Emerging Results Track

Wednesday, June 6, 2012, 10:45-12:45   K-0-GBC

NIER Session 1: NIER in Support of Software Engineers

Session Chair: Lee Osterweil
Panel Members: Andrea Arcuri, Ivica Crnkovic

Automatically Detecting Developer Activities and Problems in Software Development Work
Tobias Roehm and Walid Maalej (TU Munich, Germany)

Software Process Improvement Through the Identification and Removal of Project-Level Knowledge Flow Obstacles
Susan M. Mitchell and Carolyn B. Seaman (University of Maryland in Baltimore County, USA)

Symbiotic General-Purpose and Domain-Specific Languages
Colin Atkinson, Ralph Gerbig, and Bastian Kennel (University of Mannheim, Germany)

Evaluating the Specificity of Text Retrieval Queries to Support Software Engineering Tasks
Sonia Haiduc, Gabriele Bavota, Rocco Oliveto, Andrian Marcus, and Andrea De Lucia (Wayne State University, USA; University of Salerno, Italy; University of Molise, Italy)

Co-adapting Human Collaborations and Software Architectures
Christoph Dorn and Richard N. Taylor (UC Irvine, USA)

Release Engineering Practices and Pitfalls
Hyrum K. Wright and Dewayne E. Perry (University of Texas at Austin, USA)

Augmented Intelligence - The New AI - Unleashing Human Capabilities in Knowledge Work
James M. Corrigan (Stony Brook University, USA)

Parallel Sessions   14:00-15:30
Technical Research Papers

Wednesday, June 6, 2012, 14:00-15:30   K-0-GA

Research Session 5: Defect Prediction

Session Chair: Sung Kim

Sound Empirical Evidence in Software Testing
Gordon Fraser and Andrea Arcuri (Saarland University, Germany; Simula Research Laboratory, Norway)

Privacy and Utility for Defect Prediction: Experiments with MORPH
Fayola Peters and Tim Menzies (West Virginia University, USA)

Bug Prediction Based on Fine-Grained Module Histories
Hideaki Hata, Osamu Mizuno, and Tohru Kikuno (Osaka University, Japan; Kyoto Institute of Technology, Japan)

Wednesday, June 6

Research Session 6: Refactoring

Session Chair: Luciano Baresi

Reconciling Manual and Automatic Refactoring
Xi Ge, Quinton L. DuBose, and Emerson Murphy-Hill (North Carolina State University, USA)

WitchDoctor: IDE Support for Real-Time Auto-Completion of Refactorings
Stephen R. Foster, William G. Griswold, and Sorin Lerner (UC San Diego, USA)

Use, Disuse, and Misuse of Automated Refactorings
Mohsen Vakilian, Nicholas Chen, Stas Negara, Balaji Ambresh Rajkumar, Brian P. Bailey, and Ralph E. Johnson (University of Illinois at Urbana-Champaign, USA)

Research Session 7: Human Aspects of Development

Session Chair: Holger Giese

Test Confessions: A Study of Testing Practices for Plug-In Systems
Michaela Greiler, Arie van Deursen, and Margaret-Anne Storey (TU Delft, Netherlands; University of Victoria, Canada)

How Do Professional Developers Comprehend Software? **(ACM SIGSOFT Distinguished Paper)**
Tobias Roehm, Rebecca Tiarks, Rainer Koschke, and Walid Maalej (TU Munich, Germany; University of Bremen, Germany)

Asking and Answering Questions About Unfamiliar APIs: An Exploratory Study
Ekwa Duala-Ekoko and Martin P. Robillard (McGill University, Canada)

Invited Session on Semat

Refounding Software Engineering: The Semat Initiative

Session Chair: Mira Kajko-Mattsson (KTH Royal Institute of Technology, Sweden)

Introduction to Semat
Ivar Jacobson (IJI, Sweden)

The Semat Kernel and its Elements
Ian Spence (IJI, UK)

The Semat Language
Michael Striewe (University of Duisburg-Essen, Germany)

Evaluation of the Semat Kernel and Language
Brian Elvesæter (SINTEF, Norway)

Identifying Semat Differentiators
Paul McMahon (PEM Systems, USA)

The Three Year Vision of Semat
Ivar Jacobson (IJI, Sweden)

Panel debate
Panelists: Presenters plus Shihong Huang (Florida Atlantic University, USA), Arne Berre (SINTEF, Norway), Michael Goedicke (University of Duisburg-Essen, Germany), Bruce MacIsaac (IBM, USA), Ed Seymour (Fujitsu, UK)

Software Engineering in Practice Track

SEIP Session 2: Mini-Tutorial

Session Chair: Mike Whalen

Software Analytics in Practice: Mini Tutorial
Dongmei Zhang and Tao Xie (Microsoft Research, China; North Carolina State University, USA)

Software Engineering Education Track

SEE Session 2: Aspects of Teaching Software Engineering

Session Chair: Martin Naedele

Stages in Teaching Software Testing
Tony Cowling (University of Sheffield, UK)

Integrating Tools and Frameworks in Undergraduate Software Engineering Curriculum
Christopher Fuhrman, Roger Champagne, and Alain April (University of Québec, Canada)

What Scope Is There for Adopting Evidence-Informed Teaching in SE?
David Budgen, Sarah Drummond, Pearl Brereton, and Nikki Holland (Durham University, UK; Keele University, UK)

Panel

Software for a Sustainable City: The eZurich Initiative

Moderator: Abraham Bernstein (University of Zurich, Switzerland)

Panelists:
Dr. Thomas Flatt, CEO Abraxas, Switzerland
Dr. Andrej Vckovski, CEO Netcetera, Switzerland
David Nüscheler, VP, CTO Customer Experience Management Division, Adobe, Switzerland

Poster Session 1   15:30-16:00

ACM Student Research Competition

Session Chair: Laurie Williams

The participants of the ACM Student Research Competition will be present at their posters during the afternoon break.

Timely Detection of Coordination Requirements to Support Collaboration among Software Developer
Kelly Blincoe (Drexel University, USA)

Improving Failure-Inducing Changes Identification Using Coverage Analysis
Kai Yu (Beihang University, China)

A Study on Improving Static Analysis Tools: Why Are We Not Using Them?
Brittany Johnson (North Carolina State University, USA)

Winbook: A Social Networking Based Framework for Collaborative Requirements Elicitation and WinWin Negotiations
Nupul Kukreja (University of Southern California, USA)

Using Automatic Static Analysis to Identify Technical Debt
Antonio Vetrò (Politecnico di Torino, Italy; Fraunhofer CESE, USA)

Coupled Evolution of Model-Driven Spreadsheets
Jorge Mendes (University of Minho, Portugal)

Managing Evolution of Software Product Line
Cheng Thao (University of Wisconsin-Milwaukee, USA)

Enabling Dynamic Metamodels through Constraint-Driven Modeling
Andreas Demuth (JKU Linz, Austria)

Assisting End-User Development in Browser-Based Mashup Tools
Soudip Roy Chowdhury (University of Trento, Italy)

Hot Clones: Combining Search-Driven Development, Clone Management, and Code Provenance
Niko Schwarz (University of Bern, Switzerland)

Capturing and Exploiting Fine-Grained IDE Interactions
Zhongxian Gu (UC Davis, USA)

Restructuring Unit Tests with TestSurgeon
Pablo Estefó (University of Chile, Chile)

A Requirements-Based Approach for the Design of Adaptive Systems
Vítor E. Silva Souza (University of Trento, Italy)

Petri Nets State Space Analysis in the Cloud
Matteo Camilli (University of Milan, Italy)

Mining Java Class Identifier Naming Conventions
Simon Butler (Open University, UK)

Online Sharin g and Integration of Results from Mining Software Repositories
Iman Keivanloo (Concordia University, Canada)

Parallel Sessions   16:00-18:00
Technical Research Papers

Research Session 8: Bug Detection

Session Chair: Alessandro Orso

Automated Repair of HTML Generation Errors in PHP Applications Using String Constraint Solving
Hesam Samimi, Max Schäfer, Shay Artzi, Todd Millstein, Frank Tip, and Laurie Hendren (UC Los Angeles, USA; IBM Research, USA; McGill University, Canada)

Leveraging Test Generation and Specification Mining for Automated Bug Detection without False Positives
Michael Pradel and Thomas R. Gross (ETH Zurich, Switzerland)

Axis: Automatically Fixing Atomicity Violations through Solving Control Constraints
Peng Liu and Charles Zhang (Hong Kong University of Science and Technology, China)

CBCD: Cloned Buggy Code Detector
Jingyue Li and Michael D. Ernst (DNV Research and Innovation, Norway; University of Washington, USA)

Research Session 9: Multiversion Software

Session Chair: Alessandro Garcia

Crosscutting Revision Control System
Sagi Ifrah and David H. Lorenz (Open University, Israel)

Where Does This Code Come from and Where Does It Go? - Integrated Code History Tracker for Open Source Systems -
Katsuro Inoue, Yusuke Sasaki, Pei Xia, and Yuki Manabe (Osaka University, Japan)

Improving Early Detection of Software Merge Conflicts
Mário Luís Guimarães and António Rito Silva (Technical University of Lisbon, Portugal)

A History-Based Matching Approach to Identification of Framework Evolution
Sichen Meng, Xiaoyin Wang, Lu Zhang, and Hong Mei (Key Laboratory of High Confidence Software Technologies, China; Peking University, China)

Research Session 10: Similarity and Classification

Session Chair: Massimiliano Di Penta

Detecting Similar Software Applications
Collin McMillan, Mark Grechanik, and Denys Poshyvanyk (College of William and Mary, USA; Accenture Technology Labs, USA; University of Illinois at Chicago, USA)

Wednesday, June 6

Content Classification of Development Emails
Alberto Bacchelli, Tommaso Dal Sasso, Marco D'Ambros, and Michele Lanza (University of Lugano, Switzerland)

Identifying Linux Bug Fixing Patches
Yuan Tian, Julia Lawall, and David Lo (Singapore Management University, Singapore; INRIA/LIP6, France)

Active Refinement of Clone Anomaly Reports
Lucia, David Lo, Lingxiao Jiang, and Aditya Budi (Singapore Management University, Singapore)

Formal Research Demonstrations Track

Wednesday, June 6, 2012, 16:00-18:00   K-1-KM

Formal Demos Session 1

Session Chair: Shing-Chi Cheung and Michele Lanza

Facilitating Communication Between Engineers with CARES
Anja Guzzi and Andrew Begel (TU Delft, Netherlands; Microsoft Research, USA)

Interactive Refinement of Combinatorial Test Plans
Itai Segall and Rachel Tzoref-Brill (IBM Research, Israel)

TraceLab: An Experimental Workbench for Equipping Researchers to Innovate, Synthesize, and Comparatively Evaluate Traceability Solutions
Ed Keenan, Adam Czauderna, Greg Leach, Jane Cleland-Huang, Yonghee Shin, Evan Moritz, Malcom Gethers, Denys Poshyvanyk, Jonathan Maletic, Jane Huffman Hayes, Alex Dekhtyar, Daria Manukian, Shervin Hossein, and Derek Hearn (DePaul University, USA; College of William and Mary, USA; Kent State University, USA; University of Kentucky, USA; CalPoly, USA)

Specification Engineering and Modular Verification Using a Web-Integrated Verifying Compiler
Charles T. Cook, Heather Harton, Hampton Smith, and Murali Sitaraman (Clemson University, USA)

Writing Dynamic Service Orchestrations with DSOL
Leandro Sales Pinto, Gianpaolo Cugola, and Carlo Ghezzi (Politecnico di Milano, Italy)

MASH: A Tool for End-User Plug-In Composition
Leonardo Mariani and Fabrizio Pastore (University of Milano-Bicocca, Italy)

Detection and Renaming Tool for Cross-Language Program Entities in Dynamic Web Applications
Hung Viet Nguyen, Hoan Anh Nguyen, Tung Thanh Nguyen, and Tien N. Nguyen (Iowa State University, USA)

MDSheet: A Framework for Model-Driven Spreadsheet Engineering
Jácome Cunha, João Paulo Fernandes, Jorge Mendes, and João Saraiva (University of Minho, Portugal; University of Porto, Portugal)

Software Engineering in Practice Track

Wednesday, June 6, 2012, 16:00-18:00   K-1-K

SEIP Session 3: Invited industrial experts

Session Chair: Mike Whalen

Software as an Engineering Material: How the Affordances of Programming Have Changed and what to Do about It
Keith Braithwaite (Zühlke Engineering, UK)

Software Architecture - What Does It Mean in Industry?
Eberhard Wolff (adesso, Germany)

How Software Engineering Can Benefit from Traditional Industries - A Practical Experience Report
Tom Sprenger (AdNovum Informatik, Switzerland)

Software Engineering Education Track

Wednesday, June 6, 2012, 16:00-18:00   K-2-SZ5

SEE Session 3: Software Engineering Education in Industry

Session Chair: Grace Lewis

FOCUS: An Adaptation of a SWEBOK-Based Curriculum for Industry Requirements
Ganesh Samarthyam, Girish Suryanarayana, Arbind Kumar Gupta, and Raghu Nambiar (Siemens, India)

Fishbowl Panel:
Do we need to Change Software Engineering Curricula for the Challenges of an Instrumented and Interconnected World?
Moderator: Hausi Müller

Software Engineering Horizons Track

Wednesday, June 6, 2012, 16:00-18:00   K-0-GBC

SE Horizons Session 1: Perspectives on Programming and Services

Session Chair: Harald Gall

In this track, distinguished invited experts talk about Software Engineering issues in neighbouring fields and specific problem areas.

Functional and Object-Oriented Programming – Conflict without a Cause?
Martin Odersky (EPFL, Switzerland)

Service Engineering and SE
Schahram Dustdar (Technical University of Vienna, Austria)

Social Event

Wednesday, June 6, 2012, 18:30

Reception at the Zunfthaus zur Meisen

Plenary Session   08:30-10:15

Thursday, June 7, 2012, 08:45-09:00   K-1-K

Awards Session 1

Session Chair: Hausi Müller

IEEE TCSE Awards
Presented by TCSE Chair: Hausi Müller

IEEE Software Best Practice Paper Award
Presented by SEIP Co-Chairs: Wolfgang Emmerich and Mike Whalen

Thursday, June 7, 2012, 09:00-10:15   K-1-K

Keynote 2: Frank-Dieter Clesle

Session Chair: Wilhelm Schäfer

Supporting Sustainability with Software – An Industrial Perspective
Frank-Dieter Clesle (SAP, Germany)

Parallel Sessions   10:45-12:45

Technical Research Papers

Thursday, June 7, 2012, 10:45-12:45   K-0-GA

Research Session 11: Analysis for Evolution

Session Chair: Jacky Estubier

Automated Analysis of CSS Rules to Support Style Maintenance
Ali Mesbah and Shabnam Mirshokraie (University of British Columbia, Canada)

Graph-Based Analysis and Prediction for Software Evolution
Pamela Bhattacharya, Marios Iliofotou, Iulian Neamtiu, and Michalis Faloutsos (UC Riverside, USA)

Integrated Impact Analysis for Managing Software Changes
Malcom Gethers, Bogdan Dit, Huzefa Kagdi, and Denys Poshyvanyk (College of William and Mary, USA; Wichita State University, USA)

Detecting and Visualizing Inter-worksheet Smells in Spreadsheets
Felienne Hermans, Martin Pinzger, and Arie van Deursen (TU Delft, Netherlands)

Thursday, June 7, 2012, 10:45-12:45   K-1-SZ3

Research Session 12: Debugging

Session Chair: Antonio Carzaniga

An Empirical Study about the Effectiveness of Debugging When Random Test Cases are Used
Mariano Ceccato, Alessandro Marchetto, Leonardo Mariani, Cu D. Nguyen, and Paolo Tonella (Fondazione Bruno Kessler, Italy; University of Milano-Bicocca, Italy)

Reducing Confounding Bias in Predicate-Level Statistical Debugging Metrics
Ross Gore and Paul F. Reynolds, Jr. (University of Virginia, USA)

BugRedux: Reproducing Field Failures for In-house Debugging
Wei Jin and Alessandro Orso (Georgia Tech, USA)

Object-Centric Debugging
Jorge Ressia, Alexandre Bergel, and Oscar Nierstrasz (University of Bern, Switzerland; University of Chile, Chile)

Thursday, June 7, 2012, 10:45-12:45   K-1-VO

Research Session 13: Human Aspects of Process

Session Chair: Emerson Murphy-Hill

Disengagement in Pair Programming: Does it Matter?
Laura Plonka, Helen Sharp, and Janet van der Linden (Open University, UK)

Ambient Awareness of Build Status in Collocated Software Teams
John Downs, Beryl Plimmer, and John G. Hosking (University of Melbourne, Australia; University of Auckland, New Zealand; Australian National University, Australia)

What Make Long Term Contributors: Willingness and Opportunity in OSS Community
Minghui Zhou and Audris Mockus (Peking University, China; Key Laboratory of High Confidence Software Technologies, China; Avaya Labs Research, USA)

Development of Auxiliary Functions: Should You Be Agile? An Empirical Assessment of Pair Programming and Test-First Programming
Otávio Augusto Lazzarini Lemos, Fabiano Cutigi Ferrari, Fábio Fagundes Silveira, and Alessandro Garcia (UNIFESP, Brazil; UFSCar, Brazil; PUC-Rio, Brazil)

Thursday, June 7, 2012, 10:45-12:45   K-1-KM

Research Session 14: Models

Session Chair: Betty Cheng

Maintaining Invariant Traceability through Bidirectional Transformations
Yijun Yu, Yu Lin, Zhenjiang Hu, Soichiro Hidaka, Hiroyuki Kato, and Lionel Montrieux (Open University, UK; University of Illinois at Urbana-Champaign, USA; National Institute of Informatics, Japan)

Slicing MATLAB Simulink Models
Robert Reicherdt and Sabine Glesner (TU Berlin, Germany)

Partial Evaluation of Model Transformations
Ali Razavi and Kostas Kontogiannis (University of Waterloo, Canada; National Technical University of Athens, Greece)

Thursday, June 7

Partial Models: Towards Modeling and Reasoning with Uncertainty (ACM SIGSOFT Distinguished Paper)
Michalis Famelis, Rick Salay, and Marsha Chechik (University of Toronto, Canada)

Software Engineering in Practice Track

Thursday, June 7, 2012, 10:45-12:45   K-1-K

SEIP Session 4: Formal Methods

Session Chair: Mike Whalen

Invited Talk:
Ten Years of Automated Code Analysis at Microsoft
Wolfram Schulte (Microsoft Research, USA)

Large-Scale Formal Verification in Practice: A Process Perspective
June Andronick, Ross Jeffery, Gerwin Klein, Rafal Kolanski, Mark Staples, He Zhang, and Liming Zhu (NICTA, Australia; UNSW, Australia)

Constructing Parser for Industrial Software Specifications Containing Formal and Natural Language Description
Futoshi Iwama, Taiga Nakamura, and Hironori Takeuchi (IBM Research, Japan)

Formal Correctness, Safety, Dependability, and Performance Analysis of a Satellite
Marie-Aude Esteve, Joost-Pieter Katoen, Viet Yen Nguyen, Bart Postma, and Yuri Yushtein (European Space Agency, Netherlands; RWTH Aachen University, Germany; University of Twente, Netherlands)

Thursday, June 7, 2012, 10:45-12:45   K-2-SZ5

Software Engineering Education Track

SEE Session 4: Teaching Distributed Software Engineering

Session Chair: Richard LeBlanc

Ten Tips to Succeed in Global Software Engineering Education
Ivica Crnković, Ivana Bosnić, and Mario Žagar (Mälardalen University, Sweden; University of Zagreb, Croatia)

Collaboration Patterns in Distributed Software Development Projects
Igor Čavrak, Marin Orlić, and Ivica Crnković (University of Zagreb, Croatia; Mälardalen University, Sweden)

Improving PSP Education by Pairing: An Empirical Study
Guoping Rong, He Zhang, Mingjuan Xie, and Dong Shao (Nanjing University, China; NICTA, Australia; UNSW, Australia)

Five Days of Empirical Software Engineering: The PASED Experience
Massimiliano Di Penta, Giuliano Antoniol, Daniel M. Germán, Yann-Gaël Guéhéneuc, and Bram Adams (University of Sannio, Italy; École Polytechnique de Montréal, Canada; University of Victoria, Canada)

Thursday, June 7, 2012, 12:30-12:45   K-2-SZ5

Closing Remarks

Jochen Ludewig and Hausi Müller

New Ideas and Emerging Results Track

Thursday, June 7, 2012, 10:45-12:45   K-0-GBC

NIER Session 2: NIER for Mining Product and Process Data

Session Chair: Anthony Finkelstein
Panel Members: Yves Le Traon, Michele Lanza

On How Often Code Is Cloned across Repositories
Niko Schwarz, Mircea Lungu, and Romain Robbes (University of Bern, Switzerland; University of Chile, Chile)

Mining Input Sanitization Patterns for Predicting SQL Injection and Cross Site Scripting Vulnerabilities
Lwin Khin Shar and Hee Beng Kuan Tan (Nanyang Technological University, Singapore)

Inferring Developer Expertise through Defect Analysis
Tung Thanh Nguyen, Tien N. Nguyen, Evelyn Duesterwald, Tim Klinger, and Peter Santhanam (Iowa State University, USA; IBM Research, USA)

Green Mining: Investigating Power Consumption Across Versions
Abram Hindle (University of Alberta, Canada)

Multi-label Software Behavior Learning
Yang Feng and Zhenyu Chen (Nanjing University, China)

Trends in Object-Oriented Software Evolution: Investigating Network Properties
Alexander Chatzigeorgiou and George Melas (University of Macedonia, Greece)

Exploring Techniques for Rationale Extraction from Existing Documents
Benjamin Rogers, James Gung, Yechen Qiao, and Janet E. Burge (Miami University, USA)

Plenary Session   14:00-15:15

Thursday, June 7, 2012, 14:00-15:15   K-1-K

Awards Session 2

Session Chairs: Jeff Magee and David Rosenblum

ICSE 2012 Distinguished Paper Awards
Presented by ICSE 2012 Program Co-Chairs: Gail Murphy and Mauro Pezzè

ACM SIGSOFT Awards
Presented by SIGSOFT Chair: David Rosenblum

Most Influential Paper of ICSE 2002
Presented by MIP Award Chair: Jeff Magee

Receipients: Jonathan Aldrich, Craig Chambers, and David Notkin for their ICSE 2002 paper "ArchJava: Connecting Software Architecture to Implementation"

Connecting Architecture to Implementation: The Next Ten Years
Jonathan Aldrich, Craig Chambers, and David Notkin (CMU, USA; Google, USA; University of Washington, USA

Poster Session 2   15:15-16:00

Thursday, June 7, 2012, 15:15-16:00   K-1-Foyer

Posters

Session Chairs: Martin Pinzger and Gabriele Taentzer

Authors are present at their posters. The session overlaps with the afternoon break. Presenters of informal demonstrations (see the Informal Demonstrations session below) may also have a poster. The ACM SRC posters (for details, see Poster Session 1 on Wednesday above) are also on display.

Augmenting Test Suites Automatically
Konstantin Rubinov and Jochen Wuttke (University of Lugano, Switzerland; University of Washington, USA)

Using the GPGPU for Scaling Up Mining Software Repositories
Rina Nagano, Hiroki Nakamura, Yasutaka Kamei, Bram Adams, Kenji Hisazumi, Naoyasu Ubayashi, and Akira Fukuda (Kyushu University, Japan; École Polytechnique de Montréal, Canada)

FastFix: Monitoring Control for Remote Software Maintenance
Dennis Pagano, Miguel A. Juan, Alessandra Bagnato, Tobias Roehm, Bernd Brügge, and Walid Maalej (TU Munich, Germany; S2 Grupo, Spain; TXT e-solutions, Italy)

Modeling Cloud Performance with Kriging
Alessio Gambi and Giovanni Toffetti (University of Lugano, Switzerland)

SOA Adoption in the Italian Industry
Maurizio Leotta, Filippo Ricca, Marina Ribaudo, Gianna Reggio, Egidio Astesiano, and Tullio Vernazza (Università di Genova, Italy)

A Bidirectional Model-Driven Spreadsheet Environment
Jácome Cunha, João Paulo Fernandes, Jorge Mendes, and João Saraiva (University of Minho, Portugal)

A Self-Healing Technique for Java Applications
Antonio Carzaniga, Alessandra Gorla, Andrea Mattavelli, and Nicolò Perino (University of Lugano, Switzerland)

When Open Source Turns Cold on Innovation - The Challenges of Navigating Licensing Complexities in New Research Domains
Christopher Forbes, Iman Keivanloo, and Juergen Rilling (Concordia University, Canada)

Parallel Sessions   16:00-17:30
Technical Research Papers

Thursday, June 7, 2012, 16:00-17:30   K-0-GA

Research Session 15: Concurrency and Exceptions

Session Chair: Darko Marinov

Static Detection of Resource Contention Problems in Server-Side Scripts
Yunhui Zheng and Xiangyu Zhang (Purdue University, USA)

Amplifying Tests to Validate Exception Handling Code **(ACM SIGSOFT Distinguished Paper)**
Pingyu Zhang and Sebastian Elbaum (University of Nebraska-Lincoln, USA)

MagicFuzzer: Scalable Deadlock Detection for Large-Scale Applications
Yan Cai and W. K. Chan (City University of Hong Kong, China)

Thursday, June 7, 2012, 16:00-17:30   K-1-SZ3

Research Session 16: Software Architecture

Session Chair: Andrea Zisman

Does Organizing Security Patterns Focus Architectural Choices?
Koen Yskout, Riccardo Scandariato, and Wouter Joosen (KU Leuven, Belgium)

Enhancing Architecture-Implementation Conformance with Change Management and Support for Behavioral Mapping
Yongjie Zheng and Richard N. Taylor (UC Irvine, USA)

A Tactic-Centric Approach for Automating Traceability of Quality Concerns **(ACM SIGSOFT Distinguished Paper)**
Mehdi Mirakhorli, Yonghee Shin, Jane Cleland-Huang, and Murat Cinar (DePaul University, USA)

Thursday, June 7, 2012, 16:00-17:30   K-1-VO

Research Session 17: Formal Verification

Session Chair: Jo Atlee

Build Code Analysis with Symbolic Evaluation
Ahmed Tamrawi, Hoan Anh Nguyen, Hung Viet Nguyen, and Tien N. Nguyen (Iowa State University, USA)

An Automated Approach to Generating Efficient Constraint Solvers
Dharini Balasubramaniam, Christopher Jefferson, Lars Kotthoff, Ian Miguel, and Peter Nightingale (University of St. Andrews, UK)

Thursday, June 7

Simulation-Based Abstractions for Software Product-Line Model Checking
Maxime Cordy, Andreas Classen, Gilles Perrouin, Pierre-Yves Schobbens, Patrick Heymans, and Axel Legay (University of Namur, Belgium; INRIA, France; LIFL–CNRS, France; IRISA, France; Aalborg University, Denmark; University of Liège, Belgium)

Software Engineering in Practice Track

Thursday, June 7, 2012, 16:00-17:30   **K-1-KM**

SEIP Session 5: Goldfish Bowl Panel

Session Chair: Mike Whalen

Goldfish Bowl Panel: Software Development Analytics
Tim Menzies and Thomas Zimmermann (West Virginia University, USA; Microsoft Research, USA)

Thursday, June 7, 2012, 16:00-17:30   **K-1-K**

SEIP Session 6: Re-Engineering

Session Chair: Wolfgang Emmerich

Making Sense of Healthcare Benefits
Jonathan Bnayahu, Maayan Goldstein, Mordechai Nisenson, and Yahalomit Simionovici (IBM Research, Israel)

On the Proactive and Interactive Visualization for Feature Evolution Comprehension: An Industrial Investigation
Renato Novais, Camila Nunes, Caio Lima, Elder Cirilo, Francisco Dantas, Alessandro Garcia, and Manoel Mendonça (Federal University of Bahia, Brazil; Federal Institute of Bahia, Brazil; PUC-Rio, Brazil)

Extending Static Analysis by Mining Project-Specific Rules
Boya Sun, Gang Shu, Andy Podgurski, and Brian Robinson (Case Western Reserve University, USA; ABB Research, USA)

ACM Student Research Competition

Thursday, June 7, 2012, 16:00-17:30   **K-2-SZ5**

ACM SRC Presentation Session

Session Chair: Laurie Williams

The finalists in the ACM Student Research Competition will present their research. Finalists will be selected after the ACM SRC Poster session during the Wednesday afternoon break.

Informal Demonstrations

Thursday, June 7, 2012, 16:00-17:30   **K-0-GBC**

Informal Demos Session

Session Chair: Martin Pinzger and Gabriele Taentzer

Language Modularity with the MPS Language Workbench
Markus Voelter and Vaclav Pech (itemis, Germany; voelter ingenieurbuero fuer softwaretechnologie, Germany; JetBrains, USA)

Mining Application Repository to Recommend XML Configuration Snippets
Sheng Huang, Yi Qi Lu, Yanghua Xiao, and Wei Wang (Fudan University, China)

Locating Features in Dynamically Configured Avionics Software
Maxime Ouellet, Ettore Merlo, Neset Sozen, and Martin Gagnon (École Polytechnique de Montréal, Canada; CMC Electronics, Canada)

Detecting Metadata Bugs on the Fly
Myoungkyu Song and Eli Tilevich (Virginia Tech, USA)

Blaze
Jan-Peter Krämer, Joachim Kurz, Thorsten Karrer, and Jan Borchers (RWTH Aachen University, Germany)

ConTexter Feedback System
Tristan Wehrmaker, Stefan Gärtner, and Kurt Schneider (Leibniz Universität Hannover, Germany)

xMapper: An Architecture-Implementation Mapping Tool
Yongjie Zheng and Richard N. Taylor (UC Irvine, USA)

ConcernReCS: Finding Code Smells in Software Aspectization
Péricles Alves, Diogo Santana, and Eduardo Figueiredo (UFMG, Brazil)

Egidio: A Non-Invasive Approach for Synthesizing Organizational Models
Saulius Astromskis, Andrea Janes, and Alireza Rezaei Mahdiraji (Free University of Bolzano, Italy)

SDiC: Context-Based Retrieval in Eclipse
Bruno Antunes, Joel Cordeiro, and Paulo Gomes (University of Coimbra, Portugal)

An Integrated Bug Processing Framework
Xiangyu Zhang, Mengxiang Lin, and Kai Yu (Beihang University, China)

Repository for Model Driven Development (ReMoDD)
Robert B. France, James M. Bieman, Sai Pradeep Mandalaparty, Betty H. C. Cheng, and Adam C. Jensen (Colorado State University, USA; Michigan State University, USA)

Social Event

Thursday, June 7, 2012, 19:15

ICSE 2012 Conference Banquet at the Kongresshaus

Parallel Sessions 08:45-10:15

Technical Research Papers

Friday, June 8, 2012, 08:45-10:15   **K-0-GA**

Research Session 18: Invariant Generation

Session Chair: Leonardo Mariani

Using Dynamic Analysis to Discover Polynomial and Array Invariants **(ACM SIGSOFT Distinguished Paper)**
ThanhVu Nguyen, Deepak Kapur, Westley Weimer, and Stephanie Forrest (University of New Mexico, USA; University of Virginia, USA)

Metadata Invariants: Checking and Inferring Metadata Coding Conventions
Myoungkyu Song and Eli Tilevich (Virginia Tech, USA)

Generating Obstacle Conditions for Requirements Completeness
Dalal Alrajeh, Jeff Kramer, Axel van Lamsweerde, Alessandra Russo, and Sebastian Uchitel (Imperial College London, UK; Université Catholique de Louvain, Belgium)

Friday, June 8, 2012, 08:45-10:15   **K-2-SZ5**

Research Session 19: Regression Testing

Session Chair: Adam Porter

make test-zesti: A Symbolic Execution Solution for Improving Regression Testing
Paul Marinescu and Cristian Cadar (Imperial College London, UK)

BALLERINA: Automatic Generation and Clustering of Efficient Random Unit Tests for Multithreaded Code
Adrian Nistor, Qingzhou Luo, Michael Pradel, Thomas R. Gross, and Darko Marinov (University of Illinois at Urbana-Champaign, USA; ETH Zurich, Switzerland)

On-demand Test Suite Reduction
Dan Hao, Lu Zhang, Xingxia Wu, Hong Mei, and Gregg Rothermel (Peking University, China; Key Laboratory of High Confidence Software Technologies, China; University of Nebraska, USA)

Friday, June 8, 2012, 08:45-10:15   **K-1-VO**

Research Session 20: Software Vulnerability

Session Chair: Mira Mezini

Automated Detection of Client-State Manipulation Vulnerabilities **(ACM SIGSOFT Distinguished Paper)**
Anders Møller and Mathias Schwarz (Aarhus University, Denmark)

Understanding Integer Overflow in C/C++ **(ACM SIGSOFT Distinguished Paper)**
Will Dietz, Peng Li, John Regehr, and Vikram Adve (University of Illinois at Urbana-Champaign, USA; University of Utah, USA)

A Large Scale Exploratory Analysis of Software Vulnerability Life Cycles
Muhammad Shahzad, Muhammad Zubair Shafiq, and Alex X. Liu (Michigan State University, USA)

Software Engineering in Practice Track

Friday, June 8, 2012, 08:45-10:15   **K-1-KM**

SEIP Session 7: Debugging

Session Chair: Wolfgang Emmerich

Debugger Canvas: Industrial Experience with the Code Bubbles Paradigm
Robert DeLine, Andrew Bragdon, Kael Rowan, Jens Jacobsen, and Steven P. Reiss (Microsoft Research, USA; Brown University, USA)

Characterizing and Predicting Which Bugs Get Reopened **(SEIP Track Best Paper)**
Thomas Zimmermann, Nachiappan Nagappan, Philip J. Guo, and Brendan Murphy (Microsoft Research, USA; Stanford University, USA; Microsoft Research, UK)

ReBucket: A Method for Clustering Duplicate Crash Reports Based on Call Stack Similarity
Yingnong Dang, Rongxin Wu, Hongyu Zhang, Dongmei Zhang, and Peter Nobel (Microsoft Research Asia, China; Tsinghua University, China; Microsoft, USA)

Friday, June 8, 2012, 08:45-10:15   **K-1-SZ3**

SEIP Session 8: Case Studies

Session Chair: Helen Sharp

Understanding the Impact of Pair Programming on Developers Attention: A Case Study on a Large Industrial Experimentation
Alberto Sillitti, Giancarlo Succi, and Jelena Vlasenko (Free University of Bolzano, Italy)

How Much Does Unused Code Matter for Maintenance?
Sebastian Eder, Maximilian Junker, Elmar Jürgens, Benedikt Hauptmann, Rudolf Vaas, and Karl-Heinz Prommer (TU Munich, Germany; Munich Re, Germany)

Using Knowledge Elicitation to Improve Web Effort Estimation: Lessons from Six Industrial Case Studies
Emilia Mendes (Zayed University, United Arab Emirates)

Software Engineering Horizons Track

Friday, June 8, 2012, 08:45-10:15   **K-1-K**

SE Horizons Session 2: Perspectives on Neighbouring Fields

Session Chair: Paola Inverardi

In this track, distinguished invited experts talk about Software Engineering issues in neighbouring fields and specific problem areas.

Friday, June 8

Software Engineers are People Too: Applying Human Centered Approaches to Improve Software Development
Brad Myers (Carnegie Mellon University, USA)

YARP: A Component-Based System for (Humanoid) Robotics
Giorgio Metta (Istituto Italiano di Tecnologia, Italy)

New Ideas and Emerging Results Track

NIER Session 3: NIER to Leverage Social Aspects

Session Chair: Bashar Nuseibeh
Panel Members: Charles Consel, Arie van Deursen

Continuous Social Screencasting to Facilitate Software Tool Discovery
Emerson Murphy-Hill (North Carolina State University, USA)

UDesignIt: Towards Social Media for Community-Driven Design
Phil Greenwood, Awais Rashid, and James Walkerdine (Lancaster University, UK)

Influencing the Adoption of Software Engineering Methods Using Social Software
Leif Singer and Kurt Schneider (Leibniz Universität Hannover, Germany)

Toward Actionable, Broadly Accessible Contests in Software Engineering
Jane Cleland-Huang, Yonghee Shin, Ed Keenan, Adam Czauderna, Greg Leach, Evan Moritz, Malcom Gethers, Denys Poshyvanyk, Jane Huffman Hayes, and Wenbin Li (DePaul University, USA; College of William and Mary, USA; University of Kentucky, USA)

CodeTimeline: Storytelling with Versioning Data
Adrian Kuhn and Mirko Stocker (University of British Columbia, Canada; University of Applied Sciences Rapperswil, Switzerland)

Parallel Sessions   10:45-12:45

Technical Research Papers

Research Session 21: API Learning

Session Chair: Laurie Williams

Synthesizing API Usage Examples
Raymond P. L. Buse and Westley Weimer (University of Virginia, USA)

Semi-automatically Extracting FAQs to Improve Accessibility of Software Development Knowledge
Stefan Henß, Martin Monperrus, and Mira Mezini (TU Darmstadt, Germany; University of Lille, France; INRIA, France)

Temporal Analysis of API Usage Concepts
Gias Uddin, Barthélémy Dagenais, and Martin P. Robillard (McGill University, Canada)

Inferring Method Specifications from Natural Language API Descriptions
Rahul Pandita, Xusheng Xiao, Hao Zhong, Tao Xie, Stephen Oney, and Amit Paradkar (North Carolina State University, USA; Chinese Academy of Sciences, China; CMU, USA; IBM Research, USA)

Research Session 22: Code Recommenders

Session Chair: Atanas Rountev

Automatic Parameter Recommendation for Practical API Usage
Cheng Zhang, Juyuan Yang, Yi Zhang, Jing Fan, Xin Zhang, Jianjun Zhao, and Peizhao Ou (Shanghai Jiao Tong University, China)

On the Naturalness of Software
Abram Hindle, Earl T. Barr, Zhendong Su, Mark Gabel, and Premkumar Devanbu (UC Davis, USA; University of Texas at Dallas, USA)

Recommending Source Code for Use in Rapid Software Prototypes
Collin McMillan, Negar Hariri, Denys Poshyvanyk, Jane Cleland-Huang, and Bamshad Mobasher (College of William and Mary, USA; DePaul University, USA)

Active Code Completion
Cyrus Omar, YoungSeok Yoon, Thomas D. LaToza, and Brad A. Myers (CMU, USA)

Research Session 23: Test Automation

Session Chair: Lori Pollock

Automated Oracle Creation Support, or: How I Learned to Stop Worrying About Fault Propagation and Love Mutation Testing
Matt Staats, Gregory Gay, and Mats Heimdahl (KAIST, South Korea; University of Minnesota, USA)

Automating Test Automation
Suresh Thummalapenta, Saurabh Sinha, Nimit Singhania, and Satish Chandra (IBM Research, India; IBM Research, USA)

Stride: Search-Based Deterministic Replay in Polynomial Time via Bounded Linkage
Jinguo Zhou, Xiao Xiao, and Charles Zhang (Hong Kong University of Science and Technology, China)

iTree: Efficiently Discovering High-Coverage Configurations Using Interaction Trees
Charles Song, Adam Porter, and Jeffrey S. Foster (University of Maryland, USA)

Research Session 24: Validation of Specification

Session Chair: Laura Dillon

Inferring Class Level Specifications for Distributed Systems
Sandeep Kumar, Siau-Cheng Khoo, Abhik Roychoudhury, and David Lo (National University of Singapore, Singapore; Singapore Management University, Singapore)

Statically Checking API Protocol Conformance with Mined Multi-Object Specifications
Michael Pradel, Ciera Jaspan, Jonathan Aldrich, and Thomas Gross (ETH Zurich, Switzerland; CMU, USA)

Behavioral Validation of JFSL Specifications Through Model Synthesis
Carlo Ghezzi and Andrea Mocci (Politecnico di Milano, Italy)

Verifying Client-Side Input Validation Functions Using String Analysis
Muath Alkhalaf, Tevfik Bultan, and Jose L. Gallegos (UC Santa Barbara, USA)

Software Engineering in Practice Track

SEIP Session 9: Testing

Session Chair: Jochen Ludewig

Invited Talk:
Large-Scale Test Automation in the Cloud
John Penix (Google, USA)

Efficient Reuse of Domain-Specific Test Knowledge: An Industrial Case in the Smart Card Domain
Nicolas Devos, Christophe Ponsard, Jean-Christophe Deprez, Renaud Bauvin, Benedicte Moriau, and Guy Anckaerts (CETIC, Belgium; STMicroelectronics, Belgium)

The Quamoco Product Quality Modelling and Assessment Approach
Stefan Wagner, Klaus Lochmann, Lars Heinemann, Michael Kläs, Adam Trendowicz, Reinhold Plösch, Andreas Seidl, Andreas Goeb, and Jonathan Streit (University of Stuttgart, Germany; TU Munich, Germany; Fraunhofer IESE, Germany; JKU Linz, Austria; Capgemini, Germany; SAP, Germany; itestra, Germany)

Industrial Application of Concolic Testing Approach: A Case Study on libexif by Using CREST-BV and KLEE
Yunho Kim, Moonzoo Kim, Youngjoo Kim, and Yoonkyu Jang (KAIST, South Korea; Samsung Electronics, South Korea)

Formal Research Demonstrations Track

Formal Demos Session 2

Session Chair: Shing-Chi Cheung and Michele Lanza

WorkItemExplorer: Visualizing Software Development Tasks Using an Interactive Exploration Environment
Christoph Treude, Patrick Gorman, Lars Grammel, and Margaret-Anne Storey (University of Victoria, Canada)

Runtime Monitoring of Component Changes with Spy@Runtime
Carlo Ghezzi, Andrea Mocci, and Mario Sangiorgio (Politecnico di Milano, Italy; MIT, USA)

GraPacc: A Graph-Based Pattern-Oriented, Context-Sensitive Code Completion Tool
Anh Nguyen, Hoan Anh Nguyen, Tung Thanh Nguyen, and Tien Nguyen (Iowa State University, USA)

Code Bubbles: A Practical Working-Set Programming Environment
Steven P. Reiss, Jared N. Bott, and Joseph J. LaViola, Jr. (Brown University, USA; University of Central Florida, USA)

EVOSS: A Tool for Managing the Evolution of Free and Open Source Software Systems
Davide Di Ruscio, Patrizio Pelliccione, and Alfonso Pierantonio (University of L'Aquila, Italy)

Supporting Extract Class Refactoring in Eclipse: The ARIES Project
Gabriele Bavota, Andrea De Lucia, Andrian Marcus, Rocco Oliveto, and Fabio Palomba (University of Salerno, Italy; Wayne State University, USA; University of Molise, Italy)

EXSYST: Search-Based GUI Testing
Florian Gross, Gordon Fraser, and Andreas Zeller (Saarland University, Germany)

JavaMOP: Efficient Parametric Runtime Monitoring Framework
Dongyun Jin, Patrick O'Neil Meredith, Choonghwan Lee, and Grigore Ro u (University of Illinois at Urbana-Champaign, USA)

New Ideas and Emerging Results Track

NIER Session 4: NIER for Verification and Evolution

Session Chair: Mary Lou Soffa
Panel Members: Sebastian Elbaum, Cristian Cadar

Analyzing Multi-agent Systems with Probabilistic Model Checking Approach
Songzheng Song, Jianye Hao, Yang Liu, Jun Sun, Ho-Fung Leung, and Jin Song Dong (National University of Singapore, Singapore; Chinese University of Hong Kong, China; University of Technology and Design, Singapore)

Brace: An Assertion Framework for Debugging Cyber-Physical Systems
Kevin Boos, Chien-Liang Fok, Christine Julien, and Miryung Kim (University of Texas at Austin, USA)

Friday, June 8

Augmenting Test Suites Effectiveness by Increasing Output Diversity
Nadia Alshahwan and Mark Harman (University College London, UK)

Improving IDE Recommendations by Considering Global Implications of Existing Recommendations
Kıvanç Mu lu, Yuriy Brun, Reid Holmes, Michael D. Ernst, and David Notkin (University of Washington, USA; University of Waterloo, Canada)

Towards Flexible Evolution of Dynamically Adaptive Systems
Gilles Perrouin, Brice Morin, Franck Chauvel, Franck Fleurey, Jacques Klein, Yves Le Traon, Olivier Barais, and Jean-Marc Jezequel (University of Namur, Belgium; SINTEF, Norway; University of Luxembourg, Luxembourg; IRISA, France)

Towards Business Processes Orchestrating the Physical Enterprise with Wireless Sensor Networks
Fabio Casati, Florian Daniel, Guenadi Dantchev, Joakim Eriksson, Niclas Finne, Stamatis Karnouskos, Patricio Moreno Montero, Luca Mottola, Felix Jonathan Oppermann, Gian Pietro Picco, Antonio Quartulli, Kay Römer, Patrik Spiess, Stefano Tranquillini, and Thiemo Voigt (University of Trento, Italy; SAP AG, Germany; Swedish Institute of Computer Science, Sweden; Acciona Infraestructuras S.A., Spain; University of Lübeck, Germany)

Engineering and Verifying Requirements for Programmable Self-Assembling Nanomachines
Robyn Lutz, Jack Lutz, James Lathrop, Titus Klinge, Eric Henderson, Divita Mathur, and Dalia Abo Sheasha (Iowa State University, USA; California Institute of Technology, USA)

Plenary Session   14:00-16:00

Friday, June 8, 2012, 14:00-15:15   K-1-K

Keynote 3: Jeff Kramer
Session Chair: Gail Murphy

Whither Software Architecture?
Jeff Kramer (Imperial College London, UK)

Friday, June 8, 2012, 15:15-15:30   K-1-K

Awards Session 3
Session Chair: Anne Koziolek

IEEE Computer Society Harlan D. Mills Award
Presented by the Harlan Mills Award Committee Chair: Dieter Rombach
Receipient: Lionel Briand "For practical and fundamental contributions to Model-based Software Testing and Verification"

ACM Student Research Competition Winners
Presented by Laurie Williams and Tom Zimmermann

Friday, June 8, 2012, 15:30-16:00   K-1-K

Conference Closing
Session Chair: Martin Glinz

Thanks · Invitation to ICSE 2013 · ICSE 2014 Preview · Farewell

After the closing ceremony, a farewell coffee will be served.

Workshops

W4: CTGDSD – Collaborative Teaching of Globally Distributed Software Development: Community Building Workshop 2

http://www.cpathi18n.org/dsd/ctgdsd2/index.php

W23: EduRex – First International Workshop on Software Engineering Education based on Real-World Experiences

https://sites.google.com/site/edurex2012/home

W24: GAS – 2nd International Workshop on Games and Software Engineering: Realizing User Engagement with Game Engineering Techniques

http://2012.gasworkshop.org

W25: SEES – 2nd International Workshop on Software Engineering for Embedded Systems

http://www.ssrg.nicta.com.au/sees12/

W26: WEH – 5th International Workshop on Exception Handling

http://www.les.inf.puc-rio.br/opus/weh2012/

Community Meetings

Monday, June 4, 2012, 17:45-19:00 **Irchel**

ICSE 2012 Soccer Game

Contacts: Hausi Müller and Wilhelm Schäfer

Tuesday, June 5, 2012, 17:40-21:00 **Y23-G-04**

ICSE Steering Committee Meeting

Wednesday, June 6, 2012, 12:45-14:00 **K-1-SZ2**

ICSE 2013 Organizing Committee Meeting

Wednesday, June 6, 2012, 12:45-13:15 **K-0-TZ**

SI-SE General Assembly

Wednesday, June 6, 2012, 12:45-14:00 **K-1-Foyer2**

TCSE Executive Board Meeting

Wednesday, June 6, 2012, 12:45-14:00 **K-1-SZ4**

Editorial Board Meeting, Journal of Software: Evolution and Process

Wednesday, June 6, 2012, 20:00 **K-1-SZ2**

TSE Editorial Board Meeting

Thursday, June 7, 2012, 12:45-14:00 **K-1-SZ4**

ICSE 2013 Program Committee Meeting

Thursday, June 7, 2012, 12:45-14:00 **K-0-TZ**

Editorial Board meeting, Journal of Systems and Software

Thursday, June 7, 2012, 17:40-18:30 **K-1-KM**

SIGSOFT Town Hall Meeting

Friday, June 8, 2012, 12:45-14:00 **K-0-TZ**

SIGSOFT Executive Committee Meeting

Friday, June 8, 2012, 12:45-14:00 **K-1-SZ2**

ICSE 2014 Organizing Committee Meeting

Friday, June 8, 2012, 12:45-14:00 **K-1-SZ3/4**

ESEC Steering Committee Meeting

Friday, June 8, 2012, 16:20-17:20 **K-1-SZ2**

ICSE 2012 Debriefing

Friday, June 8, 2012, 16:20-17:20 **K-1-SZ4**

FSE 2012 Organizing Committee Meeting

Saturday, June 9, 2012, 09:00-17:30 **Y23-G-04**

FSE PC Meeting

Saturday, June 9, 2012, 09:00-17:30 **Y13-L-18**

MODELS Program Board Meeting

Sunday, June 10, 2012, 09:00-17:00 **Y23-G-04**

FSE PC Meeting

Sunday, June 10, 2012, 09:00-12:00 **Y13-L-18**

MODELS Program Board Meeting

Wednesday, June 6, 2012, 18:30   Zunfthaus Meisen

Reception

Participants are invited to a reception in a famous old guild hall in the heart of the city, the Zunfthaus zur Meisen (Münsterhof 20, 8001 Zurich). The location is in easy walking distance from the Kongresshaus. Student volunteers will guide participants from the Kongresshaus to the Zunfthaus zur Meisen.

Don't forget to bring your ticket – no admission without ticket.

Thursday, June 7, 2012, 19:15   Kongresshaus

ICSE 2012 Conference Banquet

The ICSE 2012 conference banquet takes place on Thursday June 7 in the Kongresshaus. Don't forget to bring your ticket.

Friday, June 8, 2012, 18:30

ICSE 2012 Victory Dinner
(participation by invitation only)

For members of the ICSE 2012 Organization Committee, the Technical Program Committee, and special guests.

Workshop and Co-Located Event Dinners

All two-day workshops as well as the co-located events MSR, SEAMS, and ICSSP include a dinner in the evening of the first day of the respective events. Workshop 22 (S-Cube) also includes a dinner.

Keynotes

Keynote 1:

Wednesday June 6, 2012, 9:00-10:15

Saskia Sassen (Columbia University, USA)

Digital Formations of the Powerful and the Powerless

Abstract

This talk compares two kinds of socio-technical formations: electronic financial networks and local social activist movements that are globally networked. Both cut across the duality global/national and each has altered the economic and political landscapes for respectively financial elites and social activists. Using these two cases helps illuminate the very diverse ways in which the growth of electronic networks partially transforms existing politico-economic orderings. They are extreme cases, one marked by hypermobility and the other by physical immobility. But they show us that each is only partly so: financial electronic networks are subject to particular types of embeddedness and local activist organizations can benefit from novel electronic potentials for global operation. I show how financial electronic networks and electronic activism reveal two parallel developments associated with particular technical properties of the new ICTs, but also reveal a third, radically divergent outcome, one I interpret as signaling the weight of the specific social logics of users in each case.

About the Speaker

Saskia Sassen is the Robert S. Lynd Professor of Sociology and Co-Chair, The Committee on Global Thought, Columbia University, USA.

Her recent books are Territory, Authority, Rights: From Medieval to Global Assemblages (Princeton University Press 2008), A Sociology of Globalization (W.W.Norton 2007), and the 4th fully updated edition of Cities in a World Economy (Sage 2011). The Global City came out in a new fully updated edition in 2001. She is currently working on When Territory Exits Existing Frameworks (Under contract with Harvard University Press). Her books are translated into twenty-one languages. For UNESCO she organized a five-year project on sustainable human settlement with a network of researchers and activists in over 30 countries. She contributes regularly to www.OpenDemocracy.net and www.HuffingtonPost.com.

She has received several honors and awards, most recently a doctor honoris causa from each Delft University (Netherlands), DePaul University (USA), and Université de Poitiers (France). She serves on several editorial boards and is an advisor to several international bodies. She is a Member of the Council on Foreign Relations, a member of the National Academy of Sciences Panel on Cities, and chaired the Information Technology and International Cooperation Committee of the Social Science Research Council (USA).

Keynote 2:

Thursday June 7, 2012, 9:00-10:15

Frank-Dieter Clesle (SAP, Germany)

Supporting Sustainability with Software – An Industrial Perspective

Abstract

Supporting sustainability with software is often summed up in the expression 'Green IT' and directly relates to the reduction of CO_2 emissions and energy used by IT. The amount of CO_2 used in the IT industry covers 2% of the overall CO_2 emissions. "Green by IT" describes the influence of appropriate software to the remaining 98% of the industry. We estimate that the effect of our sustainability related software on our customers' CO_2 footprint could be 10.000 times higher than our own.

The so called triple bottom line defines sustainability as covering economic, ecological, and social aspects and the dependencies between. Based on this definition of sustainability, software could not only focus on green house gas reduction. Other topics like: consumers' protection, sustainable supply, reduction of emission (air, water, waste), recycling, human recourse management and intelligent energy usage must be as well focus areas supported by software. At last software industry should not only focus on delivering tools for life cycle assessment (LCA), we should use it and provide a LCA for our software self.

The industrial question is how to increase short and long term profitability by holistically managing economic, social and environmental risks and opportunities supported by software.

About the Speaker

Frank-Dieter Clesle is Vice President On-Demand Content as a Service Infrastructure, a part of SAP's sustainability solutions located at SAP Sustainability Lab in Markdorf, Germany. Before joining SAP, he was Executive Vice President Corporate Portfolio Management at TechniData, the leading provider of Environment Health and Safety solutions, until TechniData was acquired by SAP in 2010.

He is a co-author of the book Umweltkonforme Produktgestaltung (environmentally compliant product design) published 2008 by Publicis (in German) and contributed to the book EcoDesign: Von der Theorie in die Praxis (EcoDesign: from theory to practice) published 2008 by Springer (in German).

Frank-Dieter Clesle is a member of various sustainability-related working groups in European industrial associations.

Keynote 3

Jeff Kramer (Imperial College London, UK)

Whither Software Architecture?

Abstract

Since its early beginnings in the 1980s, much has been achieved in the research field of software architecture. Among other aspects, this research has produced foundational work on the specification, analysis and component configuration of software architectures, including the development of associated software tools. However, adoption of the research by industry has been largely methodological rather than based on precise specifications in architecture description languages (ADLs) or rigorously underpinned by formal models of behaviour and non-functional attributes.

Why is this? Why were the actual formalisms and tools not more widely adopted? Can we draw any lessons from this? In this talk, I hope to explore this further, drawing on my personal experience as a researcher in distributed software architectures.

I particularly hope to tickle the fancy of the younger members of our community, indicating the excitement of research, the benefits of belonging to a vibrant research community such as ours, and the benefits of being an active contributor. For the more mature researchers, there will be some nostalgic memories combined with some inevitable stepping on toes.

For both young and old, there will be some thoughts for research opportunities as the need for self-managing adaptive software systems becomes more urgent.
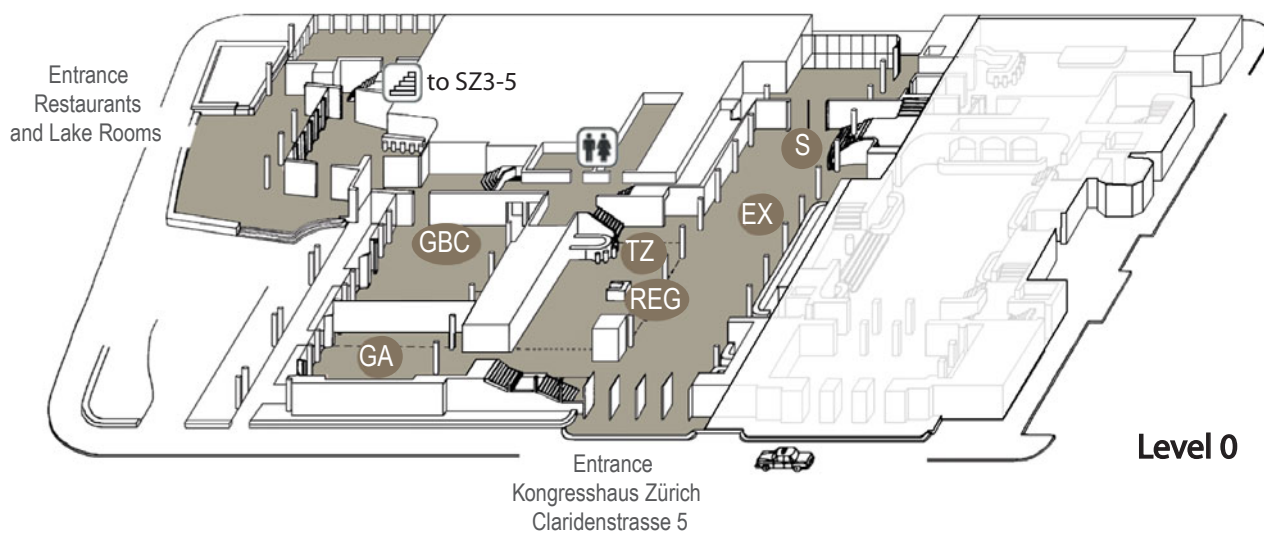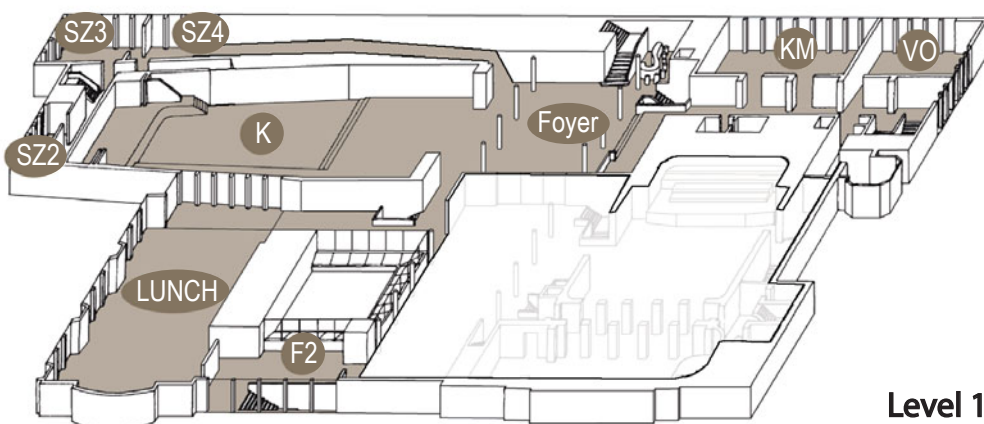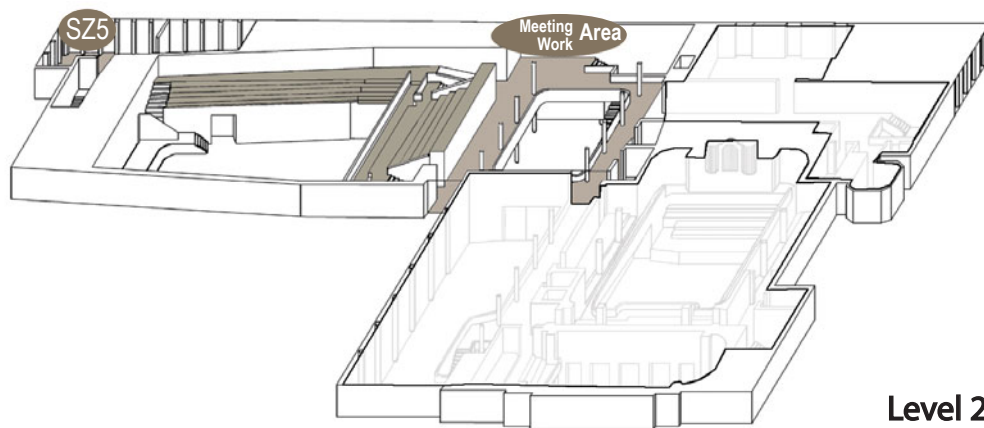
About the Speaker

Jeff Kramer is the Senior Dean at Imperial College London. He was Head of the Department of Computing from 1999 to 2004 and Dean of the Faculty of Engineering from 2006 to 2009.

His research work is primarily concerned with software engineering, focusing on software architecture, behaviour analysis, the use of models in requirements elaboration and architectural approaches to adaptive software systems. He was a principal investigator of research projects that developed the CONIC and DARWIN architectural environments for distributed programming and of associated research into software architectures and their analysis.

Jeff was Program Co-chair of ICSE '99, Chair of the ICSE Steering Committee from 2000 to 2002, and General Co-chair of ICSE 2010 in Cape Town. He was Editor in Chief of IEEE TSE from 2006 to 2009, received the Most Influential Paper Award at ICSE 2003, and was awarded the 2005 ACM SIGSOFT Outstanding Research Award and the 2011 ACM SIGSOFT Distinguished Service Award. He is co-author of books on Concurrency and on Distributed Systems and Computer Networks, and the author of over 200 journal and conference publications. Jeff is a Fellow of the Royal Academy of Engineering, a Chartered Engineer, Fellow of the IET, Fellow of the ACM, Fellow of the BCS and Fellow of the City and Guilds of London Institute.

Location: Kongresshaus

Level 2

Level 1

Level 0

Entrance
Restaurants
and Lake Rooms

to SZ3-5

Entrance
Kongresshaus Zürich
Claridenstrasse 5

Level 0

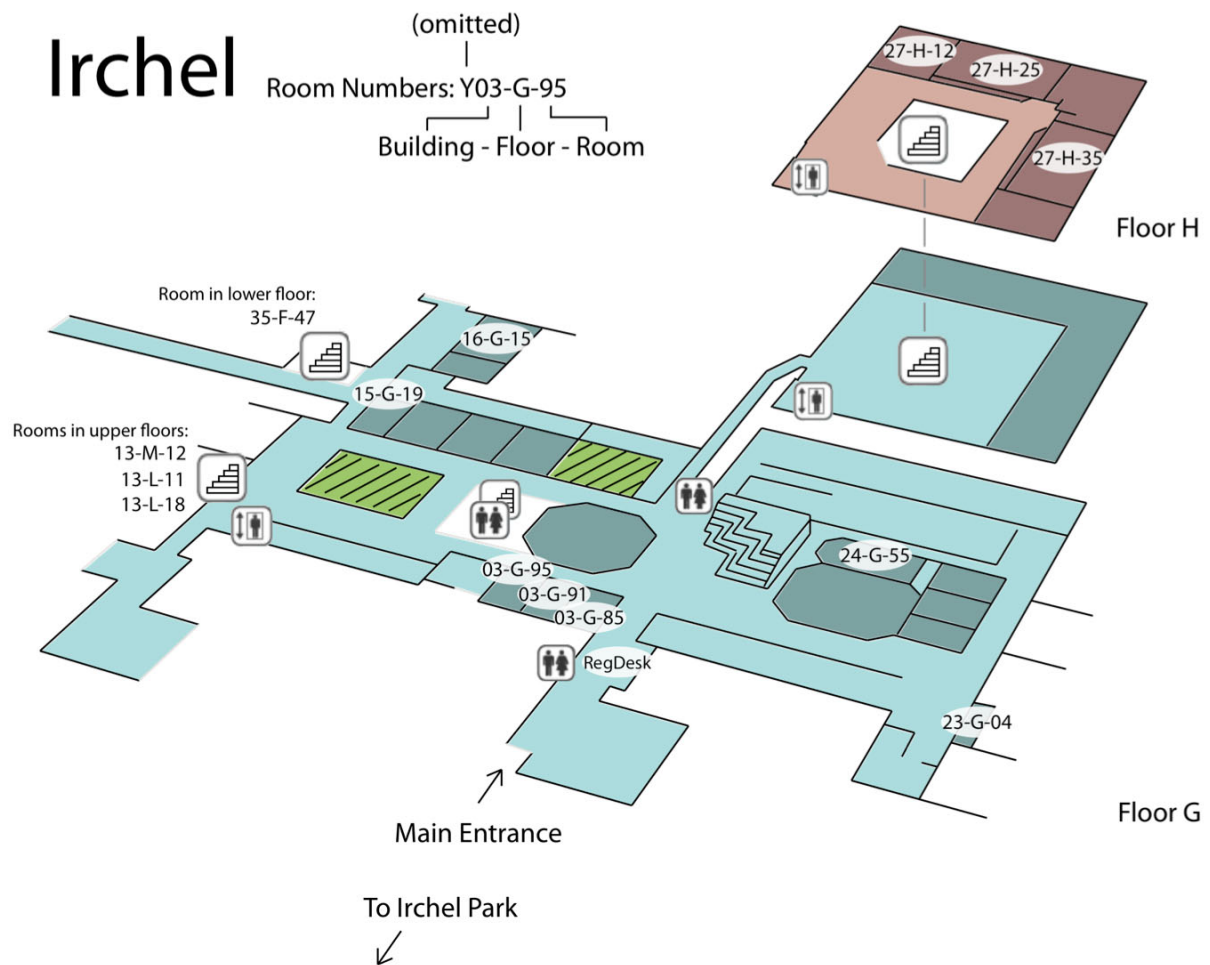|	
REG	Registration desk
K-0-GA	Gartensaal A (session room)
K-0-GBC	Gartensaal B/C (session room)
K-0-TZ	Tagungszentrum (meeting room)
EX	Exhibition
S	Main stairs to level 1

Level 1

K-1-K	Kongresssaal (plenary room)
K-1-KM	Kammermusiksaal (session room)
K-1-VO	Vortragssaal (session room)
K-1-SZ2	Seezimmer 2 (meeting room)
K-1-SZ3	Seezimmer 3 (session room)
K-1-SZ4	Seezimmer 4 (meeting / session room)

Foyer	Coffee break area, posters
Lunch	Panoramasaal (lunch area)
K-1-F2	Foyer 2 (breakout area)

Level 2

K-2-SZ5	Seezimmer 5 (session room)

Irchel

(omitted)
Room Numbers: Y03-G-95
Building - Floor - Room

27-H-12
27-H-25
27-H-35

Floor H

Room in lower floor:
35-F-47

16-G-15

15-G-19

Rooms in upper floors:
13-M-12
13-L-11
13-L-18

24-G-55

03-G-95
03-G-91
03-G-85

RegDesk

23-G-04

Floor G

Main Entrance

To Irchel Park

36th International Conference on Software Engineering

ICSE 2014

Hyderabad, India · June 1-7, 2014

http://2014.icse-conferences.org

36th
International Conference on
Software Engineering
Hyderabad 2014

Mark your calendar

The 36th International Conference on Software Engineering, ICSE 2014, will be held June 1-7, 2014 in Hyderabad, India. India is home to some of the largest software companies in the world and Hyderabad is one of the main centers for software development in India.

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Holger Giese, Hasso-Plattner Inst., Germany

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Jane Cleland-Huang, DePaul U., USA
Erik Simmons, Intel, USA

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Laurie Williams, North Carolina State U., USA

Doctoral Symposium
Gregor Engels, U. Paderborn, Germany
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Mark your calendars for the 35th International Conference on Software Engineering (ICSE) from May 17-27, 2013 in San Francisco at the Hyatt Regency Hotel. Share leading-edge software engineering ideas with the foremost people in the field, all in the heart of the Embarcadero district and near the San Francisco Bay.

ICSE provides a premier environment where researchers, practitioners, and educators present, discuss, and debate the most recent innovations, trends, experiences, and challenges in the field of software engineering. Outstanding keynotes are also a long-standing ICSE tradition.

Opportunities for professional engagement include workshops, tutorials, demonstrations, posters, exhibits, paper tracks on research and education, and software engineering in practice.

ICSE 2013 provides high-value at reasonable cost. The conference hotel rate is under $200 (single/double, plus tax, with free guest room wireless); many alternatives are available. Public transportation is first-rate, with the BART Embarcadero Station 50 meters from the hotel, offering inexpensive transportation to the San Francisco and Oakland airports. Fisherman's Wharf, the Golden Gate Bridge, and other classics such as a ride on the cable cars are in easy reach.

http://2013.icse-conferences.org/

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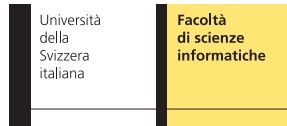
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