



Program of the
35th International Conference on
Software Engineering
ICSE 2013

May 18-26, 2013, San Francisco, California, USA



ICSE 2013 Main Program

	Wednesday	Thursday	Friday	Location
Keynotes (8:15-10:00)	Pam Samuelson	Tony DeRose	Linda Northrop	Grand Ballroom
Break (10:00-10:30)	Grand Ballroom, Market St, Seacliff, and Bayview A Foyers			
Sessions (10:30-12:00)	Composition	Code Analysis	Reliability	Ballroom A
	Testing	Big Data	Analysis Studies	Ballroom B
	Formal Analysis	Search-Based SE	Programming Support	Ballroom C
	SEIP	SEIP	SEIP Keynote	Seacliff A/B
	NIER	NIER	SEIP	Bayview A
Lunch (12:00-13:30)	Atrium			
Sessions (13:30-15:30)	Adaptation	Debugging	Security & Privacy	Ballroom A
	Test-Case Generation	Process	Empirical Studies	Ballroom B
	Formal Specifications	Performance	Program Repair	Ballroom C
	SEIP	SEIP	Tools	Seacliff A/B
	NIER	NIER		Bayview A
	SEE	SEE	Demonstrations	Marina Room
		Demonstrations		Seacliff C/D
Break (15:30-16:00)	Grand Ballroom, Market St, Seacliff, and Bayview A Foyers			
Sessions (16:00-17:30)	Applications	Bug Prediction	Closing Plenary (Grand Ballroom)	Ballroom A
	Test-Case Selection	Product Lines		Ballroom B
	Analysis	Requirements Engineering		Ballroom C
	SEIP	SEIP		Seacliff A/B
	SEIP	SRC Presentations		Seacliff C/D
	SEE	SEE		Marina Room
	Tribute to David Notkin (18:00-18:15) Town-Hall Meetings (18:30-20:00) Posters + Reception (19:00-20:30)	Banquet (18:45-22:00) Board early! Be aboard ship by 19:00; we sail at 20:00.		

Conference Web Site: <http://2013.icse-conferences.org>

Wireless Internet
Open SSID: IEEE ICSE
User name: software
Password: 35thconf

ICSE proceedings
<http://2013.icse-conferences.org/proceedings>
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Message from the Chairs

We welcome you to ICSE 2013, the 35th International Conference on Software Engineering, May 18-26, 2013 in San Francisco, California, USA! We have worked to put together a program that has broad appeal to researchers, industrial practitioners, students, and educators in the field of software engineering.

This is the second time San Francisco has hosted this conference; ICSE 1976, the 2nd International Conference on Software Engineering, was held in San Francisco in October 1976, with Raymond Yeh serving as General Chair and C. V. Ramamoorthy serving as Program Chair. ICSE 1976 was technically the “first” ICSE, as the 1975 meeting was officially named the 1st National Conference on Software Engineering. According to the ACM Digital Library (as of March 21, 2013), ICSE 1976 had a collective citation count of 805, which was not surpassed until ICSE 1994, which had 1003 citations.

The main conference of ICSE 2013 is a three-day event with keynotes, multiple tracks, award sessions, and social events. In addition, four days of pre-conference and two days of post-conference meetings include workshops, tutorials, collocated events, a trip to visit some Silicon Valley companies, and a variety of smaller meetings.

Keynotes

The three ICSE 2013 keynote speakers are: TONY DEROSE from Pixar Research Group (USA), broadly known in both academia and industry in the field of computer graphics, with interests in how to make science, technology, math, and engineering more inspiring and relevant for middle and high school students; LINDA NORTHROP from the Software Engineering Institute at Carnegie Mellon University (USA), a highly-respected researcher with interests in architecture-centric engineering, software product lines, cyber-physical systems, advanced mobile systems, and ultra-large scale systems; and, PAMELA SAMUELSON from the University of California, Berkeley (USA) a recognized pioneer in digital copyright law, intellectual property, cyberlaw, and information policy.

Technical Research Papers

The Technical Research Paper 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. This year, the track received a record number of 461 submissions, of which five were withdrawn and 10 (2 %) were rejected without review due to scope or length issues. In the first phase of reviewing, two members of the 47-member program committee reviewed each of the remaining 446 submissions. Based on these reviews, 223 submissions (48.3 %) were promoted to the second phase of reviewing, in which each submission received a third review from a member of the program committee. The international program committee traveled to Raleigh, North Carolina, in November 2012 to attend a two-day program committee meeting to discuss the papers. Based on the reviews and discussion among the committee, the program committee selected 85 papers (18.5 %) for publication and presentation at the conference.

Software Engineering in Practice

The Software Engineering in Practice (SEIP) track provides a dedicated forum for practitioners to share ideas and solutions that address industrial challenges. 100 papers were submitted and reviewed by the SEIP program committee, leading to the acceptance of 20 papers. The SEIP program this year includes an industry tour of Silicon Valley and three special presentations in the form of panels, talks, and tutorials. A highlight this year is an invited talk given by Mary Poppendieck on the topic of “The Lean Mindset.”

SEIP has also taken advantage of the conference location to run a full-day tour of three Silicon Valley companies. Attendees will hear presentations and engage in a question-and-answer sessions at Cisco, Electric Cloud, and Intel. Special thanks to Intel’s Sarah Gregory for organizing the tour.

Software Engineering Education

The Software Engineering in Education (SEE) track presents novel ways to teach software engineering. There are three paper sessions, Teaching Introductory Courses, Advanced Software Engineering Education, and Problem-Based and Studio Learning. The papers in Teaching Introductory Courses present research into programming and basic software engineering courses. In Advanced Software Engineering Education, educators present how they teach topics such as SCRUM and Global Software Engineering and how they use Contests and Games to educate software engineers of the future. The third session discusses how software design can be taught by using Problem-Based and Studio Learning. The panel will review the impact of the SE2004 Revisions. There were 49 papers submitted with 13 acceptances, including the Panel, for a 26 % acceptance rate.

New Ideas and Emerging Results

The New Ideas and Emerging Results (NIER) track is meant (1) to provide researchers with a forum for presenting and getting early feedback on novel research ideas and promising work that has not yet been fully evaluated; and (2) to accelerate the exposure of the community to early yet promising and potentially inspiring research efforts. The track received 162 submissions, from which 147 fit the call for papers. The paper selection process consisted of two phases. In the first phase, all conforming submissions were reviewed by three PC members. In the second phase, online discussions were used to finalize the paper selection. In the end, 31 papers (22 %) were selected as part of the program. They cover new perspectives on such topics as dependability, collaboration, modeling, and support for tomorrow's developer. All accepted papers will be presented at a poster session at the conference. Among the accepted papers, the 20 deemed most likely to yield engaging discussions will be presented in one of the four NIER sessions.

Formal Demonstrations

The objective of the ICSE 2013 Formal Demonstrations track is to excite the software engineering community about new advances in our field through compelling and interactive demonstrations that help advance research and practice. The 53 submitted proposals were reviewed by the 27-member selection committee to arrive at the 16 demonstrations presented at the conference.

ACM Student Research Competition

The ACM Student Research Competition (SRC), sponsored by Microsoft Research, offers undergraduate and graduate students a unique forum to experience the research world, present their research results to conference attendees, and compete for prizes. The winners of the competition will be invited to participate in the ACM Student Research Competition Grand Finals. The competition committee selected 16 students out of 40 applicants to participate in the SRC.

SCORE

The Student Contest on Software Engineering (SCORE) is aimed at promoting and fostering software engineering in universities worldwide. Dozens of teams from all over the world participate in a competition for students from undergraduate to master's level. Each team develops a system chosen from a list and monitored by a committee member. Finalist teams are invited to ICSE in San Francisco.

Posters

The Posters Session provides an opportunity for software engineering researchers and practitioners to show-case and discuss their most recent advances, experiences, and challenges in an informal setting. This year's poster session features the NIER track, as well as results from the SCORE and SRC contests. The works will be presented interactively, by their authors, in a dedicated session on Wednesday evening.

Teasers

This year marked the first ICSE that offers teaser videos for all submissions. Teaser videos provide a platform for authors to create a 30 second entertaining and informative snapshot highlighting their paper. These videos increase the visibility of the work both within our community and with others who might not attend ICSE.

Industry-Student Lunch

Industrial benefactors and student attendees will have a lunch to meet and better understand each other. After each lunch course, the industry members will be moved to a different table, allowing greater interaction among the groups.

Pre- and Post-Conference Events

Three days of tutorials, six days of workshops, a doctoral symposium, a new faculty symposium, and a number of colocated events flesh out the ICSE 2013 conference extravaganza.

The *Tutorials* provide a popular and efficient way to learn about new topics in software engineering. Ten tutorials will be available at ICSE 2013.

The *Workshops* serve as forums for presenting current work and discussing shared interests. This year, we have as many as 29 workshops on a diverse range of software engineering topics.

The *ICSE Doctoral Symposium* provides a supportive yet engaging setting in which PhD students can present and discuss their goals, methods, and results at an early stage in their research. This year, we received 35 submissions, out of which the committee selected 10 for long presentations (aiming to cover different research areas and stages), and 9 for poster presentations at the symposium. We anticipate lots of insightful discussions and helpful guidance.

The *New Faculty Symposium* (NFS) focuses on helping new software engineering faculty members and researchers feel more comfortable and confident in dealing with the many challenges of an academic career. NFS features advice and guidance from leading software engineering faculty based upon their personal experiences and insights into the contemporary community. Case-study discussions, small-group interactions, and question/answer sessions provide ample opportunities for attendees to probe deeper into pertinent questions and concerns.

Six *Collocated Events* are held in conjunction with ICSE 2013: the 10th Working Conference on Mining Software Repositories (MSR 2013), the 8th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS 2013), the 2013 International Conference on Software and System Process (ICSSP 2013), the 21st IEEE International Conference on Program Comprehension (ICPC 2013), the 26th Conference on Software Engineering Education and Training (CSEE&T 2013), and the 7th International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE 2013).

Innovations

A set of innovations related generally to publications are due to an incredible set of dedicated community members. These people deserve prominent thanks for their hard, and deeply collaborative, efforts. At the risk of omitting a few names, Conference Publishing (run by Dirk Beyer), our publication co-chairs, Yuriy Brun and Tien Nguyen, the Confero developers, Reid Homes and Rylan Cottrell, and our webmaster, Erik Fredericks.

Central Data Management. This year, we have established a work-flow that uses a central source of data: All data about publications, authors, and time slots were entered into a central data base, from which we could fetch, at any given time, up-to-date and synchronized information for the table of contents of the proceedings, the listing on the conference web page, the electronic program on mobile apps, the calendars at Google and for download in iCal format, and the printed conference program. Figure 1 illustrates the flow of information.

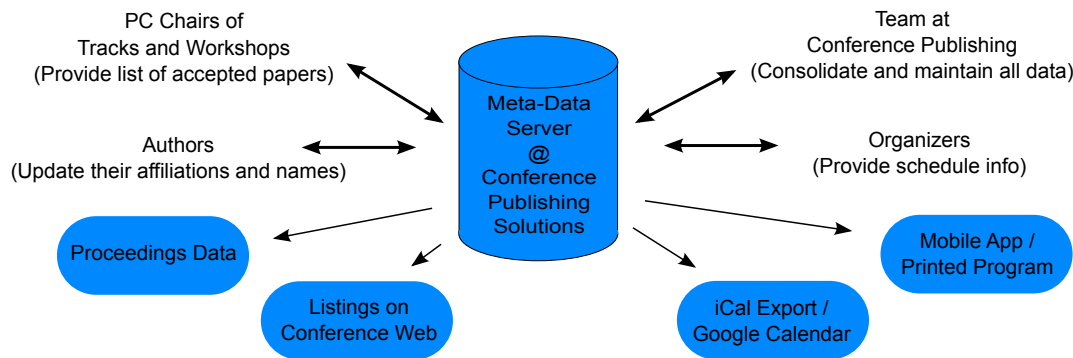


Figure 1: Central Management of Conference Data

Green(er) Conference. The conference-program mobile app ‘Confero’ was developed for ICSE 2013 and has already received attention from the software community: www.conferoapp.com. For the first time, there is a conference app available that runs on the majority of touch phones and tablets. The printed copies were produced via print-on-demand in order to reduce the number of unnecessary copies.

Preprint Availability. The IEEE has, in December 2012, revised its policy on author posting of articles. This new decision reaffirms that authors can post the accepted version of their articles. According to this policy, IEEE will make available to each author an authorized version of the accepted article. ICSE 2013 is the first conference that implements this: as a feature to the authors, ICSE provides every author with an official copy of the accepted version for posting on the personal home page.

Strict Adherence to Author Lists. ICSE has continued to increase the care we take in authorship. ICSE 2013 has had the advantage of the meta-data above to be perhaps even more careful than before. Changes to an author list from an accepted paper to a published paper were prohibited. (Spelling mistakes and other minor typographical changes were allowed.) Minor changes to titles of submitted papers were allowed, but significant modifications were allowed only if the reviews suggested title changes and the relevant co-chairs approved the change. The core reason for this strict approach is our intent to disallow after-the-fact conflicts of interest; adding an author may cause this, for instance.

Social Media. In the spirit of “networking, networking, networking,” with the ICSE community, we are actively using social networking media. As of the Advance Registration time frame, the ICSE Twitter account has tweeted almost 1000 times and is followed by over 1250 accounts. Our Facebook page is liked 573 times.

Conclusion

A conference like ICSE 2013 is successful or not based on the experience of the participants: Did you learn about new, cool ideas? Might it change your own work? Did you meet new (and old) friends, colleagues, and collaborators? Did you talk to people about possible career changes? Did you mentor or get mentored or both? We certainly hope so!

The corporate benefactors of ICSE 2013, identified in this preface and displayed on our web page, deserve special appreciation for helping make ICSE 2013 possible. We could not do it without you, and we will never forget your commitment to ICSE 2013.

The only thing harder than remembering to name each of the multitude of people who have contributed to the production—and it is indeed a production—of ICSE 2013 is to convey our gratitude to them for the extraordinary dedication, diligence, creativity, and plain-old hard work each has provided to the team and to the community. As with the benefactors, we identify to the best of our ability these members of the organizing committee, of the program committee, and of the many other sub-committees needed to make ICSE 2013 a reality.

At the same time, a few people indeed deserve special thanks. Two students, Nicole Ignaciuk (Duisburg-Essen) and Erik Fredericks (Michigan State) have been awesome aides-de-camp especially for the PC co-chairs, but also in ways both visible and invisible. Erik's yeoman's effort on the web site also deserves special notice and appreciation. Frances Paulisch did the impossible—she eclipsed her previous self as Publicity Chair. For example, as of this writing, we are steaming ahead towards very strong registration numbers, and our room reservations at the Hyatt Regency San Francisco are setting ICSE records. Tom Zimmermann took on the job of finance chair with incredible energy and insights. He picked up bits and chunks of extra work along the way, and in essence became the Associate General Chair for ICSE 2013. Thanks to all of you, with fondness and with gratitude.

We also set up a small trusted group as a SWAT team to help, as needed, with ICSE 2013. In addition to the three Conference chairs and Tom Zimmermann, finance chair, Joanne Atlee, Bill Griswold, and Gail Murphy offered their help gracefully and generously, for which they deserve many kudos.

Our co-sponsors, the IEEE Computer Society and the Technical Committee on Software Engineering, and ACM and ACM SIGSOFT, have been a core part of the ICSE teams for decades, and the continued support is deeply appreciated and valuable. Brookes Little, our liaison with the IEEE Computer Society has been with the team from the beginning, getting us to find the hotel and sign the contract in early January 2010. Debra Venedam is our ACM liaison and has helped in several important ways even as the IEEE CS was the lead society on ICSE 2013. The collaborative work of IEEE CS and ACM is crucial to the success of any ICSE.

We hope you enjoy the conference!



David Notkin*
University of Washington
USA
ICSE 2013 General Chair



Betty H. C. Cheng
Michigan State University
USA
ICSE 2013 Program Co-chair



Klaus Pohl
University of Duisburg-Essen
Germany
ICSE 2013 Program Co-chair

* After a courageous battle against cancer, David Notkin passed away one month before the conference.

Saturday, May 18

AST'13

2013 8th International Workshop on Automation of Software Test (AST)
Sat, May 18, 08:30 – 18:00, Bayview B

MiSE'13

2013 5th International Workshop on Modeling in Software Engineering (MiSE)
Sat, May 18, 08:30 – 18:00, Seacliff B

GAS'13

2013 3rd International Workshop on Games and Software Engineering: Engineering Computer Games to Enable Positive, Progressive Change (GAS)
Sat, May 18, 08:30 – 18:00, Bayview A

SE-CSE'13

2013 5th International Workshop on Software Engineering for Computational Science and Engineering (SE-CSE)
Sat, May 18, 08:30 – 18:00, Garden B

SE4SG'13

2013 2nd International Workshop on Software Engineering Challenges for the Smart Grid (SE4SG)
Sat, May 18, 08:30 – 18:00, Boardroom A

ICSSP'13

2013 International Conference on Software and Systems Process (ICSSP)
Sat, May 18, 09:00 – 17:30, Regency A/B

MSR'13

2013 10th Working Conference on Mining Software Repositories (MSR)
Sat, May 18, 08:30 – 18:00, Grand Ballroom B

Workshop on Text Retrieval and/or Natural Language Analysis

Sat, May 18, 08:30 – 18:00, Garden A

Morning Break

Sat, May 18, 10:30 – 11:00, Market St. Foyer and Seacliff Foyer

ICSE Lunch

Sat, May 18, 12:30 – 14:00, Atrium

ICSSP Lunch

Sat, May 18, 12:30 – 14:00, Grand Ballroom C

Afternoon Break

Sat, May 18, 15:30 – 16:30, Market St. Foyer and Seacliff Foyer

Sunday, May 19

ASSURE'13

2013 1st International Workshop on Assurance Cases for Software-Intensive Systems (ASSURE)
Sun, May 19, 08:30 – 18:00, Seacliff A

LIVE'13

2013 1st International Workshop on Live Programming (LIVE)
Sun, May 19, 08:30 – 18:00, Seacliff C

AST'13

2013 8th International Workshop on Automation of Software Test (AST)
Sun, May 19, 08:30 – 18:00, Bayview B

MiSE'13

2013 5th International Workshop on Modeling in Software Engineering (MiSE)
Sun, May 19, 08:30 – 18:00, Seacliff B

IWSC'13

2013 7th International Workshop on Software Clones (IWSC)
Sun, May 19, 08:30 – 18:00, Seacliff D

TEFSE'13

2013 7th International Workshop on Traceability in Emerging Forms of Software Engineering (TEFSE)
Sun, May 19, 09:00 – 17:30, Bayview A

MSR'13

2013 10th Working Conference on Mining Software Repositories (MSR)
Sun, May 19, 08:30 – 18:00, Grand Ballroom B

ICSSP'13

2013 International Conference on Software and Systems Process (ICSSP)
Sun, May 19, 09:00 – 17:30, Regency A/B

CSEE&T'13

2013 26th International Conference on Software Engineering Education and Training (CSEE&T)
Sun, May 19, 09:45 – 17:30, Garden A/B and Hospitality Room

Morning Break

Sun, May 19, 10:30 – 11:00, Market St. Foyer and Seacliff Foyer

Sunday, May 19

ICSE Lunch

Sun, May 19, 12:30 – 14:00, Atrium

CSEE&T Lunch

Sun, May 19, 12:30 – 14:00, Grand Ballroom C

ICSSP Lunch

Sun, May 19, 12:30 – 14:00, Pacific Concourse

TEFSE Lunch

Sun, May 19, 12:30 – 14:00, Pacific Concourse

Afternoon Break

Sun, May 19, 15:30 – 16:30, Market St. Foyer and Seacliff Foyer

CSEE&T Steering Committee Meeting

May 19, 20:30 – 22:30, Boardroom C



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Monday, May 20

CESI'13

2013 1st International Workshop on Conducting Empirical Studies in Industry (CESI)
Mon, May 20, 08:30 – 18:00, Seacliff A

MTD'13

2013 4th International Workshop on Managing Technical Debt (MTD)
Mon, May 20, 08:30 – 18:00, Regency B

CMSBSE'13

2013 1st International Workshop on Combining Modelling and Search-Based Software Engineering (CMSBSE)
Mon, May 20, 08:30 – 18:00, Regency A

PLEASE'13

2013 4th International Workshop on Product Line Approaches in Software Engineering (PLEASE)
Mon, May 20, 08:30 – 18:00, Pacific Concourse L

GREENS'13

2013 2nd International Workshop on Green and Sustainable Software (GREENS)
Mon, May 20, 08:30 – 18:00, Pacific Concourse M

RELENG'13

2013 1st International Workshop on Release Engineering (RELENG)
Mon, May 20, 08:30 – 18:00, Seacliff C

SEHC'13

2013 5th International Workshop on Software Engineering in Health Care (SEHC)
Mon, May 20, 08:30 – 18:00, Marina Room

ICSE Tutorial

Mon, May 20, 08:30 – 12:30, Pacific Concourse I

ICSE Tutorial

Mon, May 20, 08:30 – 12:30, Pacific Concourse J

Build Your Own Model Checker in One Month

Jin Song Dong, Jun Sun, and Yang Liu (National University of Singapore, Singapore; Singapore University of Technology and Design, Singapore; Nanyang Technological University, Singapore)

Data Science for Software Engineering

Tim Menzies, Ekrem Kocaguneli, Fayola Peters, Burak Turhan, and Leandro L. Minku (West Virginia University, USA; University of Oulu, Finland; University of Birmingham, UK)

ICSE Tutorial

Mon, May 20, 08:30 – 12:30, Pacific Concourse H

Automated Testing of GUI Applications: Models, Tools, and Controlling Flakiness

Atif M. Memon and Myra B. Cohen (University of Maryland, USA; University of Nebraska-Lincoln, USA)

CSEE&T'13

2013 26th International Conference on Software Engineering Education and Training (CSEE&T)
Mon, May 20, 09:00 – 17:30, Garden A/B and Hospitality Room

SEAMS'13

2013 8th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)
Mon, May 20, 09:00 – 17:30, Seacliff D

Monday, May 20

ICPC'13

2013 21st International Conference on Program Comprehension (ICPC)

Mon, May 20, 08:45 – 18:00, Bayview A/B

Morning Break

Mon, May 20, 10:30 – 11:00, Market St., Seacliff, Garden, and Bayview A Foyers

ICSE Lunch

Mon, May 20, 12:30 – 14:00, Atrium

ICPC Lunch

Mon, May 20, 12:30 – 14:00, Grand Ballroom B

CSEE&T Lunch

Mon, May 20, 12:30 – 14:00, Grand Ballroom C

ICSE Tutorial

Mon, May 20, 14:00–18:00, Pacific Concourse H

Developing Verified Programs with Dafny

K. Rustan M. Leino (Microsoft Research, USA)

ICSE Tutorial

Mon, May 20, 14:00–18:00, Pacific Concourse J

Software Analytics: Achievements and Challenges

Dongmei Zhang and Tao Xie (Microsoft Research, China; North Carolina State University, USA)

Afternoon Break

Mon, May 20, 15:30 – 16:30, Market St., Seacliff, Garden, and Bayview A Foyers

Tuesday, May 21

Doctoral Symposium

Tue, May 21, 08:30 – 18:00, Seaciff B, Chairs: Gregor Engels and Paola Inverardi

A Study of Variability Spaces in Open Source Software

Sarah Nadi (University of Waterloo, Canada)

Implementing Database Access Control Policy from Unconstrained Natural Language Text

John Slankas (North Carolina State University, USA)

Increasing Anomaly Handling Efficiency in Large Organizations using Applied Machine Learning

Leif Jonsson (Ericsson, Sweden; Linköping University, Sweden)

Analyzing the Change-Proneess of Service-Oriented Systems from an Industrial Perspective

Daniele Romano (TU Delft, Netherlands)

Supporting Maintenance Tasks on Transformational Code Generation Environments

Victor Guana (University of Alberta, Canada)

An Approach to Documenting and Evolving Architectural Design Decisions

Meiru Che (University of Texas at Austin, USA)

An Observable and Controllable Testing Framework for Modern Systems

Tingting Yu (University of Nebraska-Lincoln, USA)

Toward a Software Product Line for Affective-Driven Self-Adaptive Systems

Javier Gonzalez-Sanchez (Arizona State University, USA)

Normalizing Source Code Vocabulary to Support Program Comprehension and Software Quality

Latifa Guerrouj (Polytechnique Montréal, Canada)

Integrating Systematic Exploration, Analysis, and Maintenance in Software Development

Kivanç Muşlu (University of Washington, USA)

Fostering Software Quality Assessment

Martin Brandtner (University of Zurich, Switzerland)

A Framework for Self-Healing Software Systems

Nicolò Perino (University of Lugano, Switzerland)

Building High Assurance Secure Applications using Security Patterns for Capability-Based Platforms

Paul Rimba (NICTA, Australia; UNSW, Australia)

Systematically Selecting a Software Module during Opportunistic Reuse

Naveen Kulkarni (IIIT Hyderabad, India)

Informing Development Decisions: From Data to Information

Olga Baysal (University of Waterloo, Canada)

Understanding and Simulating Software Evolution

Zhongpeng Lin (UC Santa Cruz, USA)

An Ontology Toolkit for Problem Domain Concept Location in Program Comprehension

Nuno Ramos Carvalho (University of Minho, Portugal)

Measuring the Forensic-Ability of Audit Logs for Nonrepudiation

Jason King (North Carolina State University, USA)

SNIPR: Complementing Code Search with Code Retargeting Capabilities

Huascar Sanchez (UC Santa Cruz, USA)

New Faculty Symposium

Tue, May 21, 08:30 – 18:00, Seacliff A

Chairs: Joanne Atlee and André van der Hoek

DAPSE'13

**2013 1st International Workshop on Data Analysis
Patterns in Software Engineering (DAPSE)**

Tue, May 21, 08:30 – 18:00, Regency B

TOPI'13

**2013 3rd International Workshop on Developing
Tools as Plug-Ins (TOPI)**

Tue, May 21, 08:30 – 18:00, Pacific Concourse K

SEHC'13

**2013 5th International Workshop on Software
Engineering in Health Care (SEHC)**

Tue, May 21, 08:30 – 18:00, Marina Room

TwinPeaks'13

**2013 2nd International Workshop on the Twin Peaks
of Requirements and Architecture (TwinPeaks)**

**Tue, May 21, 08:30 – 18:00, Pacific Concourse
L/M**

SESENA'13

**2013 4th International Workshop on Software
Engineering for Sensor Network Applications
(SESENA)**

Tue, May 21, 08:30 – 18:00, Pacific Concourse J

WETSoM'13

**2013 4th International Workshop on Emerging
Trends in Software Metrics (WETSoM)**

Tue, May 21, 08:30 – 18:00, Regency A

ICSE Tutorial

Tue, May 21, 08:30 – 12:30, Pacific Concourse H

ICSE Tutorial

Tue, May 21, 08:30 – 12:30, Pacific Concourse I

A Hands-On Java PathFinder Tutorial

Peter Mehlitz, Neha Rungta, and Willem Visser (NASA
Ames Research Center, USA; Stellenbosch University, South Africa)

Software Metrics: Pitfalls and Best Practices

Eric Bouwers, Arie van Deursen, and Joost
Visser (Software Improvement Group, Netherlands; TU
Delft, Netherlands; Radboud University Nijmegen, Netherlands)

CSEE&T'13

**2013 26th International Conference on Software
Engineering Education and Training (CSEE&T)**

**Tue, May 21, 09:00 – 17:30, Garden A/B and
Hospitality**

SEAMS'13

**2013 8th International Symposium on Software
Engineering for Adaptive and Self-Managing
Systems (SEAMS)**

Tue, May 21, 09:00 – 17:40, Seacliff D

ICPC'13

**2013 21st International Conference on Program
Comprehension (ICPC)**

Tue, May 21, 09:00 – 18:15, Bayview A/B

Morning Break

Tue, May 21, 10:30 – 11:00, Market St., Garden, and Bayview A Foyers

ICSE Lunch

Tue, May 21, 12:30 – 14:00, Atrium

ICPC Lunch

Tue, May 21, 12:30 – 14:00, Grand Ballroom B

CSEE&T Lunch

Tue, May 21, 12:30 – 14:00, Grand Ballroom C

DS/NFS Lunch

Tue, May 21, 12:30 – 14:00, Seacliff C

SEAMS Steering Committee Meeting

Tue, May 21, 12:30 – 14:00, Boardroom A

ICSE Tutorial

Tue, May 21, 14:00 – 18:00, Pacific Concourse H

Specifying Effective Non-functional Requirements

John Terzakis (Intel, USA)

Afternoon Break

Tue, May 21, 15:30 – 16:30, Market St., Garden, and Bayview A Foyers

ICSE Steering Committee Meeting

Tue, May 21, 18:30 – 22:30, Seacliff B

Wednesday, May 22

Welcome Message

Wed, May 22, 08:15 – 08:30, Grand Ballroom, Chairs: Betty H. C. Cheng and Klaus Pohl

Keynote

Wed, May 22, 08:30 – 10:00, Grand Ballroom, Chair: Betty H. C. Cheng

Are Software Patents Bad? (Keynote)

Pamela Samuelson (UC Berkeley, USA)

Pamela Samuelson is recognized as a pioneer in digital copyright law, intellectual property, cyberlaw and information policy. She has written and spoken extensively about the challenges that new information technologies are posing for public policy and traditional legal regimes. Since 1996, she has held a joint appointment with the Berkeley Law School and the School of Information. She is the director of the Berkeley Center for Law and Technology, serves on the board of directors of the Electronic Frontier Foundation and the Electronic Privacy Information Center, and on advisory boards for the Public Knowledge, and the Berkeley Center for New Media. She is also an advisor for the Samuelson Law, Technology, and Public Policy Clinic. Since 2002, she has also been an honorary professor at the University of Amsterdam.

Morning Break, Sponsored by Google

Wed, May 22, 10:00 – 10:30, Grand Ballroom, Market St., Seaciff, and Bayview A Foyers

Technical Research

Composition

Wed, May 22, 10:30 – 12:00, Grand Ballroom A
Chair: Sebastian Uchitel

Automatic Synthesis of Modular Connectors via Composition of Protocol Mediation Patterns

Paola Inverardi and Massimo Tivoli (University of L'Aquila, Italy)

Robust Reconfigurations of Component Assemblies

Fabienne Boyer, Olivier Gruber, and Damien Pous (Université Joseph Fourier, France; CNRS, France)

Drag-and-Drop Refactoring: Intuitive and Efficient Program Transformation

Yun Young Lee, Nicholas Chen, and Ralph E. Johnson (University of Illinois at Urbana-Champaign, USA)

Technical Research

Testing

Wed, May 22, 10:30 – 12:00, Grand Ballroom B
Chair: Willem Visser

Observable Modified Condition/Decision Coverage

Michael Whalen, Gregory Gay, Dongjiang You, Mats P. E. Heimdahl, and Matt Staats (University of Minnesota, USA; KAIST, South Korea)

Creating a Shared Understanding of Testing Culture on a Social Coding Site

Raphael Pham, Leif Singer, Olga Liskin, Fernando Figueira Filho, and Kurt Schneider (Leibniz Universität Hannover, Germany; UFRN, Brazil)

Billions and Billions of Constraints: Whitebox Fuzz Testing in Production

Ella Bounimova, Patrice Godefroid, and David Molnar (Microsoft Research, USA)

Technical Research

Formal Analysis

Wed, May 22, 10:30 – 12:00, Grand Ballroom C

Chair: Robyn Lutz

Detecting Spurious Counterexamples Efficiently in Abstract Model Checking

Cong Tian and Zhenhua Duan (Xidian University, China)

Segmented Symbolic Analysis

Wei Le (Rochester Institute of Technology, USA)

Explicating Symbolic Execution (xSymExe): An Evidence-Based Verification Framework

John Hatcliff, Robby, Patrice Chalin, and Jason Belt (Kansas State University, USA)

Software Engineering in Practice

Wed, May 22, 10:30 – 12:00, Seaciff A/B

Chair: Steven Fraser

Technical Debt: Past, Present, and Future (Panel)

Steven Fraser, Judith Bishop, Barry Boehm, Pradeep Kathail, Philippe Kruchten, Ipek Ozkaya, and Alexandra Szynkarski (Cisco Systems, USA; Microsoft Research, USA; University of Southern California, USA; University of British Columbia, Canada; SEI, USA; CAST, USA)

New Ideas and Emerging Results

Dependability Perspectives

Wed, May 22, 10:30 – 12:00, Bayview A

Chair: Paolo Tonella

Eliminative Induction: A Basis for Arguing System Confidence

John B. Goodenough, Charles B. Weinstock, and Ari Z. Klein (SEI, USA)

Exploring the Internal State of User Interfaces by Combining Computer Vision Techniques with Grammatical Inference

Paul Givens, Aleksandar Chakarov, Sriram Sankaranarayanan, and Tom Yeh (University of Colorado at Boulder, USA)

Semantic Smells and Errors in Access Control Models: A Case Study in PHP

François Gauthier and Ettore Merlo (Polytechnique Montréal, Canada)

Practical Semantic Test Simplification

Sai Zhang (University of Washington, USA)

Understanding Regression Failures through Test-Passing and Test-Failing Code Changes

Roykrong Sukkerd, Ivan Beschastnikh, Jochen Wuttke, Sai Zhang, and Yuriy Brun (University of Washington, USA; University of Massachusetts, USA)

Lunch, Sponsored by Intel

Wed, May 22, 12:00 – 13:30, Atrium

ICSE 2014 Program Board Meeting

Wed, May 22, 12:00 – 13:30, Bayview B

BoF: National Software-Engineering Centers

Wed, May 22, 12:00 – 13:30, Regency A

IEEE TCSE EC

Wed, May 22, 12:00 – 13:30, Boardroom A

Technical Research

Adaptation

Wed, May 22, 13:30 – 15:30, Grand Ballroom A
Chair: Valerie Issarny

Managing Non-functional Uncertainty via Model-Driven Adaptivity

Carlo Ghezzi, Leandro Sales Pinto, Paola Spoletini, and Giordano Tamburrelli (Politecnico di Milano, Italy; Università dell'Insubria, Italy)

GuideArch: Guiding the Exploration of Architectural Solution Space under Uncertainty

Naeem Esfahani, Sam Malek, and Kaveh Razavi (George Mason University, USA)

Coupling Software Architecture and Human Architecture for Collaboration-Aware System Adaptation

Christoph Dorn and Richard N. Taylor (TU Vienna, Austria; UC Irvine, USA)

Learning Revised Models for Planning in Adaptive Systems

Daniel Sykes, Domenico Corapi, Jeff Magee, Jeff Kramer, Alessandra Russo, and Katsumi Inoue (Imperial College London, UK; National Institute of Informatics, Japan)

Technical Research

Test-Case Generation

Wed, May 22, 13:30 – 15:30, Grand Ballroom B
Chair: Lionel Briand

Feedback-Directed Unit Test Generation for C/C++ using Concolic Execution

Pranav Garg, Franjo Ivancic, Gogul Balakrishnan, Naoto Maeda, and Aarti Gupta (University of Illinois at Urbana-Champaign, USA; NEC Labs, USA; NEC, Japan)

A Learning-Based Method for Combining Testing Techniques

Domenico Cotroneo, Roberto Pietrantuono, and Stefano Russo (Università di Napoli Federico II, Italy; Lab CINI-ITEM Carlo Savy, Italy)

Human Performance Regression Testing

Amanda Swearngin, Myra B. Cohen, Bonnie E. John, and Rachel K. E. Bellamy (University of Nebraska-Lincoln, USA; IBM Research, USA)

Guided Test Generation for Web Applications

Suresh Thummalapenta, K. Vasanta Lakshmi, Saurabh Sinha, Nishant Sinha, and Satish Chandra (IBM Research, India; Indian Institute of Science, India; IBM Research, USA)

Technical Research

Formal Specification

Wed, May 22, 13:30 – 15:30, Grand Ballroom C
Chair: Matt Dwyer

Aluminum: Principled Scenario Exploration through Minimality

Tim Nelson, Salman Saghaei, Daniel J. Dougherty, Kathi Fisler, and Shriram Krishnamurthi (Worcester Polytechnic Institute, USA; Brown University, USA)

Counter Play-Out: Executing Unrealizable Scenario-Based Specifications

Shahar Maoz and Yaniv Sa'ar (Tel Aviv University, Israel; Weizmann Institute of Science, Israel)

Unifying FSM-Inference Algorithms through Declarative Specification

Ivan Beschastnikh, Yuriy Brun, Jenny Abrahamson, Michael D. Ernst, and Arvind Krishnamurthy (University of Washington, USA; University of Massachusetts, USA)

What Good Are Strong Specifications?

Nadia Polikarpova, Carlo A. Furia, Yu Pei, Yi Wei, and Bertrand Meyer (ETH Zurich, Switzerland; ITMO National Research University, Russia)

Software Engineering in Practice

Agile and Distributed Practices

Wed, May 22, 13:30 – 15:30, Seacliff A/B
Chair: Romain Robbes

Scaling Agile Methods to Regulated Environments: An Industry Case Study

Brian Fitzgerald, Klaas-Jan Stol, Ryan O'Sullivan, and Donal O'Brien (Lero, Ireland; University of Limerick, Ireland; QUMAS, Ireland)

Agility at Scale: Economic Governance, Measured Improvement, and Disciplined Delivery

Alan W. Brown, Scott Ambler, and Walker Royce (University of Surrey, UK; Ambler and Associates, Canada; IBM, USA)

Distributed Development Considered Harmful?

Ekrem Kocaguneli, Thomas Zimmermann, Christian Bird, Nachiappan Nagappan, and Tim Menzies (West Virginia University, USA; Microsoft Research, USA)

Software Engineering in Education
Problem-Based and Studio Learning
Wed, May 22, 13:30 – 15:30, Marina Room
Chair: Janet Burge

Authentic Assessment in Software Engineering Education Based on PBL Principles: A Case Study in the Telecom Market

Simone C. dos Santos and Felipe S. F. Soares (UFPE, Brazil; Recife Center of Advanced Studies and Systems, Brazil)

Studios in Software Engineering Education: Towards an Evaluable Model

Christopher N. Bull, Jon Whittle, and Leon Cruickshank (Lancaster University, UK)

Enabling a Classroom Design Studio with a Collaborative Sketch Design Tool

Dastyni Loksa, Nicolas Mangano, Thomas D. LaToza, and André van der Hoek (UC Irvine, USA)

A Framework to Evaluate Software Engineering Student Contests: Evaluation and Integration with Academic Programs

Amir Zeid (American University of Kuwait, Kuwait)

New Ideas and Emerging Results
Supporting Tomorrow's Developer
Wed, May 22, 13:30 – 15:30, Bayview A
Chair: Walter Tichy

Temporal Code Completion and Navigation

Yun Young Lee, Sam Harwell, Sarfraz Khurshid, and Darko Marinov (University of Illinois at Urbana-Champaign, USA; University of Texas at Austin, USA)

Situational Awareness: Personalizing Issue Tracking Systems

Olga Baysal, Reid Holmes, and Michael W. Godfrey (University of Waterloo, Canada)

GROPG: A Graphical On-Phone Debugger

Tuan Anh Nguyen, Christoph Csallner, and Nikolai Tillmann (University of Texas at Arlington, USA; Microsoft Research, USA)

Why Did This Code Change?

Sarah Rastkar and Gail C. Murphy (University of British Columbia, Canada)

Deciphering the Story of Software Development through Frequent Pattern Mining

Nicolas Bettenburg and Andrew Begel (Queen's University, Canada; Microsoft Research, USA)

ACM Student Research Competition — Posters
Wed, May 22, 15:30 – 16:00, Market St. Foyer

Supporting Incremental Programming with Ghosts

Oscar Callaú (University of Chile, Chile)

Novice Understanding of Program Analysis Tool Notifications

Brittany Johnson (North Carolina State University, USA)

Energy Aware Self-Adaptation in Mobile Systems

Luca Ardito (Politecnico di Torino, Italy)

ConfDiagnoser: An Automated Configuration Error Diagnosis Tool for Java Software

Sai Zhang (University of Washington, USA)

Reproducing and Debugging Field Failures in House

Wei Jin (Georgia Tech, USA)

Fault Comprehension for Concurrent Programs

Sangmin Park (Georgia Tech, USA)

A Proposal for the Improvement of Project's Cost Predictability using EVM and Historical Data of Cost

Adler Diniz de Souza (UFRJ, Brazil)

Studying the Effect of Co-change Dispersion on Software Quality

Ehsan Kouroshfar (George Mason University, USA)

A Roadmap for Software Maintainability Measurement

Juliana Saraiva (UFPE, Brazil)

Reasoning with Qualitative Preferences to Develop Optimal Component-Based Systems

Zachary J. Oster (Iowa State University, USA)

From Models to Code and Back: Correct-by-Construction Code from UML and ALF

Federico Ciccozzi (Mälardalen University, Sweden)

Mitigating the Obsolescence of Specification Models of Service-Based Systems

Romina Torres (Federico Santa María Technical University, Chile)

Decision Theoretic Requirements Prioritization: A Two-Step Approach for Sliding towards Value Realization

Nupul Kukreja (University of Southern California, USA)

Changeset Based Developer Communication to Detect Software Failures

Braden Simpson (University of Victoria, Canada)

Identifying Failure Inducing Developer Pairs within Developer Networks

Jordan Ell (University of Victoria, Canada)

On Identifying User Complaints of iOS Apps

Hammad Khalid (Queen's University, Canada)

SCORE Posters

Wed, May 22, 15:30 – 16:00, Market St. Foyer

TySON - Truck Spot Occupancy Navigator

Marcel Hahn, Alexander Jahl, Tobias Röttger and Kassem Tohme (University of Kassel, Germany)

Travel n Study

Branimir Lochert, Alessandro Sisto, Milan Čop, Daniele Rogora, Katarina Sekula, Javier Hualpa (University of Zagreb, Croatia, and Politecnico di Milano, Italy)

pTrack: A Software System of Integrating Daily Footprints on Multiple Social Network Systems

Dan Han, Jiangwei Yu, Xingkai Li and Haiming Wang (University of Alberta, Canada)

Afternoon Break, Sponsored by Google

Wed, May 22, 15:30 – 16:00, Grand Ballroom, Market St., Seaciff, and Bayview A Foyers

Technical Research

Apps

Wed, May 22, 16:00 – 17:30, Grand Ballroom A

Chair: Schahram Dustdar

RERAN: Timing- and Touch-Sensitive Record and Replay for Android

Lorenzo Gomez, Iulian Neamtiu, Tanzirul Azim, and Todd Millstein (UC Los Angeles, USA; UC Riverside, USA)

Inferring Likely Mappings between APIs

Amruta Gokhale, Vinod Ganapathy, and Yogesh Padmanaban (Rutgers University, USA)

Estimating Mobile Application Energy Consumption using Program Analysis

Shuai Hao, Ding Li, William G. J. Halfond, and Ramesh Govindan (University of Southern California, USA)

Technical Research

Test-Case Selection

Wed, May 22, 16:00 – 17:30, Grand Ballroom B

Chair: Mauro Pezzè

Comparing Multi-point Stride Coverage and Dataflow Coverage

Mohammad Mahdi Hassan and James H. Andrews (University of Western Ontario, Canada)



**ACM SIGSOFT Distinguished Paper
Interaction-Based Test-Suite Minimization**

Dale Blue, Itai Segall, Rachel Tzoref-Brill, and Aviad Zlotnick (IBM, USA; IBM Research, Israel)

Bridging the Gap between the Total and Additional Test-Case Prioritization Strategies

Lingming Zhang, Dan Hao, Lu Zhang, Gregg Rothermel, and Hong Mei (Peking University, China; University of Texas at Austin, USA; University of Nebraska-Lincoln, USA)

Technical Research

Analysis

Wed, May 22, 16:00 – 17:30, Grand Ballroom C
Chair: Frank Tip

Comparative Causality: Explaining the Differences between Executions

William N. Sumner and Xiangyu Zhang (Purdue University, USA)

Automatic Testing of Sequential and Concurrent Substitutability

Michael Pradel and Thomas R. Gross (ETH Zurich, Switzerland)



ACM SIGSOFT Distinguished Paper Data Clone Detection and Visualization in Spreadsheets

Felienne Hermans, Ben Sedee, Martin Pinzger, and Arie van Deursen (TU Delft, Netherlands)

Software Engineering in Practice

Software Architecture

Wed, May 22, 16:00 – 17:30, Seacliff A/B
Chair: Xavier Franch

Measuring Architecture Quality by Structure Plus History Analysis

Robert Schwanke, Lu Xiao, and Yuanfang Cai (Siemens, USA; Drexel University, USA)

Obtaining Ground-Truth Software Architectures

Joshua Garcia, Ivo Krka, Chris Mattmann, and Nenad Medvidovic (University of Southern California, USA; Jet Propulsion Laboratory, USA)

MIDAS: A Design Quality Assessment Method for Industrial Software

Ganesh Samarthyan, Girish Suryanarayana, Tushar Sharma, and Shrinath Gupta (Siemens, India)

Software Engineering in Practice

Metrics and Evaluation

Wed, May 22, 16:00 – 17:30, Seacliff C/D
Chair: Carlos Castro-Herrera

Evaluating Usefulness of Software Metrics: An Industrial Experience Report

Eric Bouwers, Arie van Deursen, and Joost Visser (Software Improvement Group, Netherlands; TU Delft, Netherlands; Radboud University Nijmegen, Netherlands)

Reducing Human Effort and Improving Quality in Peer Code Reviews using Automatic Static Analysis and Reviewer Recommendation

Vipin Balachandran (VMware, India)

Estimating Software-Intensive Projects in the Absence of Historical Data

Aldo Dagnino (ABB Research, USA)

Software Engineering in Education

Teaching Introductory Software Engineering

Wed, May 22, 16:00 – 18:00, Marina Room
Chair: Laurie Williams

An Evaluation of Interactive Test-Driven Labs with WebIDE in CS0

David S. Janzen, John Clements, and Michael Hilton (Cal Poly, USA)

POPT: A Problem-Oriented Programming and Testing Approach for Novice Students

Vicente Lustosa Neto, Roberta Coelho, Larissa Leite, Dalton S. Guerrero, and Andrea P. Mendonça (UFRN, Brazil; UFCG, Brazil; IFAM, Brazil)

Teaching Developer Skills in the First Software Engineering Course

Václav Rajlich (Wayne State University, USA)

Teaching and Learning Programming and Software Engineering via Interactive Gaming

Nikolai Tillmann, Jonathan de Halleux, Tao Xie, Sumit Gulwani, and Judith Bishop (Microsoft Research, USA; North Carolina State University, USA)

Tribute to David Notkin

Wed, May 22, 18:00 – 18:15, Grand Ballroom, Chair: William Griswold

ACM SIGSOFT / IEEE TCSE Town-Hall Meeting

Wed, May 22, 18:30 – 20:00, Bayview A

Chairs: Will Tracz and Hausi Müller

New Ideas and Emerging Results
Posters and Reception
Wed, May 22, 19:00 – 20:30, Hospitality Room

On Extracting Unit Tests from Interactive Live Programming Sessions

Adrian Kuhn (University of British Columbia, Canada)

Towards Automated Testing and Fixing of Re-engineered Feature Models

Christopher Henard, Mike Papadakis, Gilles Perrouin, Jacques Klein, and Yves Le Traon (University of Luxembourg, Luxembourg; University of Namur, Belgium)

Computational Alignment of Goals and Scenarios for Complex Systems

Dalal Alrajeh, Alessandra Russo, James Lockerbie, Neil Maiden, Alistair Mavin, and Mark Novak (Imperial College London, UK; City University London, UK; Rolls Royce, UK; Aero Engine Controls, UK)

Service Networks for Development Communities

Damian A. Tamburri, Patricia Lago, and Hans van Vliet (VU University Amsterdam, Netherlands)

Formal Specifications Better Than Function Points for Code Sizing

Mark Staples, Rafal Kolanski, Gerwin Klein, Corey Lewis, June Andronick, Toby Murray, Ross Jeffery, and Len Bass (NICTA, Australia)

Using Mutation Analysis for a Model-Clone Detector Comparison Framework

Matthew Stephan, Manar H. Alalfi, Andrew Stevenson, and James R. Cordy (Queen's University, Canada)

On the Relationships between Domain-Based Coupling and Code Clones: An Exploratory Study

Md Saidur Rahman, Amir Aryani, Chanchal K. Roy, and Fabrizio Perin (University of Saskatchewan, Canada; Australian National University, Australia; University of Bern, Switzerland)

Quantitative Program Slicing: Separating Statements by Relevance

Raul Santelices, Yiji Zhang, Siyuan Jiang, Haipeng Cai, and Ying-Jie Zhang (University of Notre Dame, USA; Tsinghua University, China)

Example-Driven Modeling: Model = Abstractions + Examples

Kacper Bąk, Dina Zayan, Krzysztof Czarnecki, Michał Antkiewicz, Zinovy Diskin, Andrzej Wąsowski, and Derek Rayside (University of Waterloo, Canada; IT University of Copenhagen, Denmark)

Towards Recognizing and Rewarding Efficient Developer Work Patterns

Will Snipes, Vinay Augustine, Anil R. Nair, and Emerson Murphy-Hill (ABB Research, USA; ABB Research, India; North Carolina State University, USA)

Selecting Checkpoints along the Time Line: A Novel Temporal Checkpoint Selection Strategy for Monitoring a Batch of Parallel Business Processes

Xiao Liu, Yun Yang, Dahai Cao, and Dong Yuan (East China Normal University, China; Swinburne University of Technology, Australia)

Thursday, May 23

ACM SIGSOFT Awards

Thu, May 23, 08:15 – 08:30, Grand Ballroom, Chair: Will Tracz

Awards to be presented:

- Distinguished Service Award
- Influential Educator Award
- Outstanding Research Award
- Frank Anger Award
- Impact Paper Award
- ACM Fellows
- Distinguished Members
- Senior Members

Keynote

Thu, May 23, 08:30 – 10:00, Grand Ballroom, Chair: Gail Murphy

The Connection between Movie Making and Software Development (Keynote)

Tony DeRose (Pixar Research Group, USA)

Tony DeRose is currently a Senior Scientist and lead of the Research Group at Pixar Animation Studios. He received a BS in Physics from the University of California, Davis, and a Ph.D. in Computer Science from the University of California, Berkeley. From 1986 to 1995 Dr. DeRose was a Professor of Computer Science and Engineering at the University of Washington. In 1998, he was a major contributor to the Oscar (c) winning short film "Geri's game", in 1999 he received the ACM SIGGRAPH Computer Graphics Achievement Award, and in 2006 he received a Scientific and Technical Academy Award (c) for his work on surface representations. In addition to his research interests, Tony is also involved in a number of initiatives to help make math, science, and engineering education more inspiring and relevant for middle and high school students. One such initiative is the Young Makers Program (youngmakers.org) that supports youth in building ambitious hands-on projects of their own choosing.

Morning Break, Sponsored by Microsoft Research

Thu, May 23, 10:00 – 10:30, Grand Ballroom, Market St., Seacliff, and Bayview A Foyers

Technical Research

Code Analysis

Thu, May 23, 10:30 – 12:00, Grand Ballroom A
Chair: Alessandro Orso

Partition-Based Regression Verification

Marcel Böhme, Bruno C. d. S. Oliveira, and Abhik Roychoudhury (National University of Singapore, Singapore)

Automated Diagnosis of Software Configuration Errors

Sai Zhang and Michael D. Ernst (University of Washington, USA)

Detecting Deadlock in Programs with Data-Centric Synchronization

Daniel Marino, Christian Hammer, Julian Dolby, Mandana Vaziri, Frank Tip, and Jan Vitek (Symantec Research Labs, USA; Saarland University, Germany; IBM Research, USA; University of Waterloo, Canada; Purdue University, USA)

Technical Research

Big Data

Thu, May 23, 10:30 – 12:00, Grand Ballroom B
Chair: Prem Devanbu



ACM SIGSOFT Distinguished Paper
Assisting Developers of Big Data Analytics Applications When Deploying on Hadoop Clouds
Weiyi Shang, Zhen Ming Jiang, Hadi Hemmati, Bram Adams, Ahmed E. Hassan, and Patrick Martin (Queen's University, Canada; Polytechnique Montréal, Canada)

Broken Sets in Software Repository Evolution

Jérôme Vouillon and Roberto Di Cosmo (University of Paris Diderot, France; CNRS, France; INRIA, France)

Boa: A Language and Infrastructure for Analyzing Ultra-Large-Scale Software Repositories

Robert Dyer, Hoan Anh Nguyen, Hridesh Rajan, and Tien N. Nguyen (Iowa State University, USA)

Technical Research

Search-Based SE

Thu, May 23, 10:30 – 12:00, Grand Ballroom C
Chair: Mark Harman

LASE: Locating and Applying Systematic Edits by Learning from Examples

Na Meng, Miryung Kim, and Kathryn S. McKinley (University of Texas at Austin, USA; Microsoft Research, USA)

Search-Based Genetic Optimization for Deployment and Reconfiguration of Software in the Cloud

Sören Frey, Florian Fittkau, and Wilhelm Hasselbring (Kiel University, Germany)

How to Effectively Use Topic Models for Software Engineering Tasks? An Approach Based on Genetic Algorithms

Annibale Panichella, Bogdan Dit, Rocco Oliveto, Massimiliano Di Penta, Denys Poshyvanyk, and Andrea De Lucia (University of Salerno, Italy; College of William and Mary, USA; University of Molise, Italy; University of Sannio, Italy)

Software Engineering in Practice

Thu, May 23, 10:30 – 12:00, Seaciff A/B
Chairs: Dongmei Zhang and Tao Xie

Pathways to Technology Transfer and Adoption: Achievements and Challenges (Mini-Tutorial)

Dongmei Zhang and Tao Xie (Microsoft Research, China; North Carolina State University, USA)

New Ideas and Emerging Results

Collaborative Development

Thu, May 23, 10:30 – 12:00, Bayview A
Chair: Daniela Damian

Liberating Pair Programming Research from the Oppressive Driver/Observer Regime

Stephan Salinger, Franz Zieris, and Lutz Prechelt (Freie Universität Berlin, Germany)

Pricing Crowdsourcing-Based Software Development Tasks

Ke Mao, Ye Yang, Mingshu Li, and Mark Harman (ISCAS, China; UCAS, China; University College London, UK)

Building Test Suites in Social Coding Sites by Leveraging Drive-By Commits

Raphael Pham, Leif Singer, and Kurt Schneider (Leibniz Universität Hannover, Germany)

Supporting Application Development with Structured Queries in the Cloud

Michael Smit, Bradley Simmons, Mark Shtern, and Marin Litoiu (York University, Canada)

Hunting for Smells in Natural Language Tests

Benedikt Hauptmann, Maximilian Junker, Sebastian Eder, Lars Heinemann, Rudolf Vaas, and Peter Braun (TU Munich, Germany; CQSE, Germany; Munich Re, Germany; Validas, Germany)

Lunch, Sponsored by Accenture

Thu, May 23, 12:00 – 13:30, Atrium

Student-Industry Lunch

Thu, May 23, 12:00 – 13:30, Pacific Concourse, Chair: Gail Murphy

All student registrations to the main ICSE 2013 conference are invited to the Student-Industry Lunch on Thursday May 24. Students, look for signs to the location of this lunch! Your student registration to the main conference is your ticket to entry. This lunch provides students with an opportunity to interact with multiple industrial participants from the conference sponsors. Students, come with your questions about what working in industry is really like and what opportunities exist. Come and get industrial perspectives on your research. Come. Connect. Participate!

ICSE 2014 Organizing Committee Meeting

Thu, May 23, 12:00 – 13:30, Bayview B

ACM SIGSOFT EC

Thu, May 23, 12:00 – 13:30, Boardroom A

Technical Research

Debugging

Thu, May 23, 13:30 – 15:30, Grand Ballroom A

Chair: Margaret Burnett

The Design of Bug Fixes

Emerson Murphy-Hill, Thomas Zimmermann, Christian Bird, and Nachiappan Nagappan (North Carolina State University, USA; Microsoft Research, USA)

PorchLight: A Tag-Based Approach to Bug Triaging

Gerald Bortis and André van der Hoek (UC Irvine, USA)

Expositor: Scriptable Time-Travel Debugging with First-Class Traces

Yit Phang Khoo, Jeffrey S. Foster, and Michael Hicks (University of Maryland, USA)

Chronicler: Lightweight Recording to Reproduce Field Failures

Jonathan Bell, Nikhil Sarda, and Gail Kaiser (Columbia University, USA)

Technical Research

Process

Thu, May 23, 13:30 – 15:30, Grand Ballroom B

Chair: Paul Grünbacher

How, and Why, Process Metrics Are Better

Foyzur Rahman and Premkumar Devanbu (UC Davis, USA)

The Role of Domain Knowledge and Cross-Functional Communication in Socio-Technical Coordination

Daniela Damian, Remko Helms, Irwin Kwan, Sabrina Marczak, and Benjamin Koelewijn (University of Victoria, Canada; Utrecht University, Netherlands; Oregon State University, USA; PUCRS, Brazil)

🏆 ACM SIGSOFT Distinguished Paper Dual Ecological Measures of Focus in Software Development

Daryl Posnett, Raissa D'Souza, Premkumar Devanbu, and Vladimir Filkov (UC Davis, USA)

Not Going to Take This Anymore: Multi-objective Overtime Planning for Software Engineering Projects

Filomena Ferrucci, Mark Harman, Jian Ren, and Federica Sarro (University of Salerno, Italy; University College London, UK)

Technical Research

Performance

Thu, May 23, 13:30 – 15:30, Grand Ballroom C

Chair: Wilhelm Hasselbring

Green Streams for Data-Intensive Software

Thomas W. Bartenstein and Yu David Liu (SUNY Binghamton, USA)

Dynamic Synthesis of Local Time Requirement for Service Composition

Tian Huat Tan, Étienne André, Jun Sun, Yang Liu, Jin Song Dong, and Manman Chen (National University of Singapore, Singapore; Université Paris 13, France; CNRS, France; Singapore University of Technology and Design, Singapore; Nanyang Technological University, Singapore)

Supporting Swift Reaction: Automatically Uncovering Performance Problems by Systematic Experiments

Alexander Wert, Jens Happe, and Lucia Happe (KIT, Germany; SAP Research, Germany)

Toddler: Detecting Performance Problems via Similar Memory-Access Patterns

Adrian Nistor, Linhai Song, Darko Marinov, and Shan Lu (University of Illinois at Urbana-Champaign, USA; University of Wisconsin-Madison, USA)

Software Engineering in Practice

Case Studies

Thu, May 23, 13:30 – 15:30, Seaciff A/B

Chair: Erik Simmons

User Involvement in Software Evolution Practice: A Case Study

Dennis Pagano and Bernd Brügge (TU Munich, Germany)

🏆 SEIP Best Paper

A Characteristic Study on Failures of Production Distributed Data-Parallel Programs

Si Han Li, Hucheng Zhou, Haoxiang Lin, Tian Xiao, Haibo Lin, Wei Lin, and Tao Xie (North Carolina State University, USA; Microsoft Research, China; Tsinghua University, China; Microsoft Bing, China; Microsoft Bing, USA)

Is Time-Zone Proximity an Advantage for Software Development? The Case of the Brazilian IT Industry

Rafael Prikladnicki and Erran Carmel (PUCRS, Brazil; American University, USA)

A Study of Enabling Factors for Rapid Fielding: Combined Practices to Balance Speed and Stability

Stephany Bellomo, Robert L. Nord, and Ipek Ozkaya (SEI, USA)

Thu, May 23, 13:30 – 15:30, Marina Room

Chair: Debra Richardson

Town Hall Discussion of SE 2004 Revisions (Panel)

Mark Ardis, David Budgen, Gregory W. Hislop, Jeff Offutt, Mark Sebern, and Willem Visser (Stevens Institute of Technology, USA; Durham University, UK; Drexel University, USA; George Mason University, USA; Milwaukee School of Engineering, USA; Stellenbosch University, South Africa)

Thu, May 23, 13:30 – 15:30, Bayview A

Chair: Nenad Medvidovic

Hamid Bagheri and Kevin Sullivan (University of Virginia, USA)

An Approach for Restructuring Text Content
Lerina Aversano, Gerardo Canfora, Giuseppe De Ruvo,
and Maria Tortorella (University of Sannio, Italy)

Emilie Balland, Charles Consel, Bernard N'Kaoua, and
Hélène Sauzéon (University of Bordeaux, France; INRIA,
France)

Julia Rubin and Marsha Chechik (IBM Research, Israel;
University of Toronto, Canada)

David Socha and Josh Tenenb erg (University of Washington, USA)

Formal Demonstrations 1

Thu, May 23, 13:30 – 15:30, Seacliff C/D

Chair: Yuanfang Cai

LAMBDAFICATOR: From Imperative to Functional Programming through Automated Refactoring

Lyle Franklin, Alex Gyori, Jan Lahoda, and Danny Dig (Ball State University, USA; Politehnica University of Timisoara, Romania; Oracle, Czech Republic; University of Illinois at Urbana-Champaign, USA)

Jim Buckley, Sean Mooney, Jacek Rosik, and Nour Ali (University of Limerick, Ireland; Lero, Ireland; University of Brighton, UK)

Luca Ponzanelli, Alberto Bacchelli, and Michele Lanza (University of Lugano, Switzerland)

Hung Viet Nguyen, Hoan Anh Nguyen, Tung Thanh Nguyen, and Tien N. Nguyen (Iowa State University, USA)

Leandro Sales Pinto, Saurabh Sinha, and Alessandro Orso (Politecnico di Milano, Italy; IBM Research, India; Georgia Tech, USA)

Sonia Haiduc, Giuseppe De Rosa, Gabriele Bavota, Rocco Oliveto, Andrea De Lucia, and Andrian Marcus (Wayne State University, USA; University of Salerno, Italy; University of Molise, Italy)

Zhenchang Xing, Yinxing Xue, and Stan Jarzabek (Nanyang Technological University, Singapore; National University of Singapore, Singapore)

Seonah Lee, Sungwon Kang, and Matt Staats (KAIST,
South Korea)

Thu, May 23, 15:30 – 16:00, Grand Ballroom, Market St., Seacliff, and Bayview A Foyers

Thu, May 23, 15:30 – 16:00, Grand Ballroom, Market St., Seacliff, and Bayview A Foyers

Technical Research

Bug Prediction

Thu, May 23, 16:00 – 17:30, Grand Ballroom A

Chair: Jane Hayes

Does Bug Prediction Support Human Developers? Findings from a Google Case Study

Chris Lewis, Zhongpeng Lin, Caitlin Sadowski, Xiaoyan Zhu, Rong Ou, and E. James Whitehead Jr. (UC Santa Cruz, USA; Google, USA; Xi'an Jiaotong University, China)

Transfer Defect Learning

Jaechang Nam, Sinno Jialin Pan, and Sunghun Kim (Hong Kong University of Science and Technology, China; Institute for Infocomm Research, Singapore)

It's Not a Bug, It's a Feature: How Misclassification Impacts Bug Prediction

Kim Herzig, Sascha Just, and Andreas Zeller (Saarland University, Germany)

Technical Research

Product Lines

Thu, May 23, 16:00 – 17:30, Grand Ballroom B

Chair: Jean-Marc Jézéquel

Beyond Boolean Product-Line Model Checking: Dealing with Feature Attributes and Multi-features

Maxime Cordy, Pierre-Yves Schobbens, Patrick Heymans, and Axel Legay (University of Namur, Belgium; IRISA, France; INRIA, France; University of Liège, Belgium)

Strategies for Product-Line Verification: Case Studies and Experiments

Sven Apel, Alexander von Rhein, Philipp Wendler, Armin Größlinger, and Dirk Beyer (University of Passau, Germany)

On the Value of User Preferences in Search-Based Software Engineering: A Case Study in Software Product Lines

Abdel Salam Sayyad, Tim Menzies, and Hany Ammar (West Virginia University, USA)

Technical Research

Requirements Engineering

Thu, May 23, 16:00 – 17:30, Grand Ballroom C

Chair: Jon Whittle

Departures from Optimality: Understanding Human Analyst's Information Foraging in Assisted Requirements Tracing

Nan Niu, Anas Mahmoud, Zhangji Chen, and Gary Bradshaw (Mississippi State University, USA)

Analysis of User Comments: An Approach for Software Requirements Evolution

Laura V. Galvis Carreño and Kristina Winblad (University of Delaware, USA)

Requirements Modelling by Synthesis of Deontic Input-Output Automata

Emmanuel Letier and William Heaven (University College London, UK)

Software Engineering in Practice

Testing

Thu, May 23, 16:00 – 17:30, Seacliff A/B

Chair: Michael Whalen

JST: An Automatic Test Generation Tool for Industrial Java Applications with Strings

Indradeep Ghosh, Nastaran Shafiei, Guodong Li, and Wei-Fan Chiang (Fujitsu Labs, USA; York University, Canada; University of Utah, USA)

Efficient and Change-Resilient Test Automation: An Industrial Case Study

Suresh Thummalapenta, Pranavadatta Devaki, Saurabh Sinha, Satish Chandra, Sivagami Gnanasundaram, Deepa D. Nagaraj, and Sampathkumar Sathishkumar (IBM Research, India; IBM Research, USA; IBM, India)

Automatic Detection of Performance Deviations in the Load Testing of Large Scale Systems

Haroon Malik, Hadi Hemmati, and Ahmed E. Hassan (Queen's University, Canada; University of Waterloo, Canada)

Software Engineering in Education
Advanced Software Engineering Education
Thu, May 23, 16:00 – 17:45, Marina Room
Chair: Rafael Prikladnicki

Teaching Students Global Software Engineering Skills using Distributed Scrum

Maria Paasivaara, Casper Lassenius, Daniela Damian, Petteri Rätty, and Adrian Schröter (Aalto University, Finland; University of Victoria, Canada)

Teaching Software Process Modeling

Marco Kuhrmann, Daniel Méndez Fernández, and Jürgen Münch (TU Munich, Germany; University of Helsinki, Finland)

Industry Involvement in ICT Curriculum: A Comparative Survey

Chris J. Pilgrim (Swinburne University of Technology, Australia)

Vulnerability of the Day: Concrete Demonstrations for Software Engineering Undergraduates

Andrew Meneely and Samuel Lucidi (Rochester Institute of Technology, USA)

ACM Student Research Competition Posters

ACM SRC Presentations by Finalists

Thu, May 23, 16:00 – 17:30, Seacliff C/D

Chair: Tao Xie

Presentations by the finalists from the Wednesday SRC poster session.

Banquet, Sponsored by Microsoft Research

Thu, May 23, 18:45 – 22:00, Harbor

Our banquet will be on a cruise of beautiful San Francisco Bay (<http://www.hornblower.com/home/sf>). We need to complete boarding by 19:00, so please be there at 18:45. There will be a champagne reception, followed at 20:00 by a two-hour cruise toward the Golden Gate Bridge. The banquet features a buffet with a carving station, Thai dishes, pasta and desserts. After dinner, enjoy DJ music, dancing and drinks, with return around 22:00. (As Mark Twain supposedly said, “The coldest winter I ever spent was a summer in San Francisco.” Please plan for chilly air on the cruise.)



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Friday, May 24

IEEE CS TCSE Awards

Fri, May 24, 08:15 – 08:30, Grand Ballroom, Chair: Hausi Müller

Awards to be presented:

- 2013 IEEE TCSE Distinguished Educator Award
- 2013 IEEE TCSE Distinguished Service Award
- 2013 IEEE Software Best Software Engineering in Practice Paper Award

Keynote

Fri, May 24, 08:30 – 10:00, Grand Ballroom, Chair: Klaus Pohl

Does Scale Really Matter? Ultra-Large-Scale Systems Seven Years after the Study (Keynote)

Linda Northrop (SEI, USA)

In 2006, *Ultra-Large-Scale Systems: The Software Challenge of the Future* (ISBN 0-9786956-0-7) documented the results of a year-long study on ultra-large, complex, distributed systems. Ultra-large-scale (ULS) systems are socio-technical ecosystems of ultra-large size on one or many dimensions number of lines of code; number of people employing the system for different purposes; amount of data stored, accessed, manipulated, and refined; number of connections and interdependencies among software components; number of hardware elements to which they interface. The characteristics of such systems require changes in traditional software development and management practices, which in turn require a new multi-disciplinary perspective and research. A carefully prescribed research agenda was suggested. What has happened since the study results were published? This talk shares a perspective on the post study reality — a perspective based on research motivated by the study and direct experiences with ULS systems. Linda Northrop is director of the Research, Technology, and Systems Solution Program at the Software Engineering Institute (SEI) where she leads the work in architecture-centric engineering, software product lines, cyber-physical systems, advanced mobile systems, and ultra-large-scale systems. Linda is coauthor of the book *Software Product Lines: Practices and Patterns* and led the research group on ultra-large-scale systems that resulted in the book, *Ultra-Large-Scale Systems: The Software Challenge of the Future*. Before joining the SEI, she was associated with both the United States Air Force Academy and the State University of New York as professor of computer science, and with both Eastman Kodak and IBM as a software engineer. She is an SEI Fellow and an ACM Distinguished Member.

Morning Break, Sponsored by Intel

Fri, May 24, 10:00 – 10:30, Grand Ballroom, Market St., Seacliff, and Bayview A Foyers

Technical Research

Reliability

Fri, May 24, 10:30 – 12:00, Grand Ballroom A

Chair: John C. Knight

Automated Reliability Estimation over Partial Systematic Explorations

Esteban Pavese, Víctor Braberman, and Sebastian Uchitel (Universidad de Buenos Aires, Argentina; Imperial College London, UK)

Safe Software Updates via Multi-version Execution

Petr Hosek and Cristian Cadar (Imperial College London, UK)

Reliability Analysis in Symbolic Pathfinder

Antonio Filieri, Corina S. Păsăreanu, and Willem Visser (University of Stuttgart, Germany; Carnegie Mellon Silicon Valley, USA; NASA Ames Research Center, USA; Stellenbosch University, South Africa)

Technical Research

Analysis Studies

Fri, May 24, 10:30 – 12:00, Grand Ballroom B

Chair: Jim Herbsleb

Why Don't Software Developers Use Static Analysis Tools to Find Bugs?

Brittany Johnson, Yoonki Song, Emerson Murphy-Hill, and Robert Bowdidge (North Carolina State University, USA; Google, USA)

Exploring the Impact of Inter-smell Relations on Software Maintainability: An Empirical Study

Aiko Yamashita and Leon Moonen (Simula Research Laboratory, Norway)

An Empirical Study on the Developers' Perception of Software Coupling

Gabriele Bavota, Bogdan Dit, Rocco Oliveto, Massimiliano Di Penta, Denys Poshyvanyk, and Andrea De Lucia (University of Salerno, Italy; College of William and Mary, USA; University of Molise, Italy; University of Sannio, Italy)

Technical Research

Programming Support

Fri, May 24, 10:30 – 12:00, Grand Ballroom C

Chair: Mehdi Jazayeri

Are Your Incoming Aliases Really Necessary? Counting the Cost of Object Ownership

Alex Potanin, Monique Damitio, and James Noble (Victoria University of Wellington, New Zealand)

Efficient Construction of Approximate Call Graphs for JavaScript IDE Services

Asger Feldthaus, Max Schäfer, Manu Sridharan, Julian Dolby, and Frank Tip (Aarhus University, Denmark; Nanyang Technological University, Singapore; IBM Research, USA; University of Waterloo, Canada)

Improving Feature Location Practice with Multi-faceted Interactive Exploration

Jinshui Wang, Xin Peng, Zhenchang Xing, and Wenyun Zhao (Fudan University, China; Nanyang Technological University, Singapore)

Software Engineering in Practice

Bug Detection

Fri, May 24, 10:30 – 12:00, Bayview A

Chair: Robert Schwanke

Detecting Inconsistencies in Wrappers: A Case Study

Henning Femmer, Dharmalingam Ganesan, Mikael Lindvall, and David McComas (TU Munich, Germany; Fraunhofer CESE, USA; NASA Goddard Space Flight Center, USA)

Categorizing Bugs with Social Networks: A Case Study on Four Open Source Software Communities

Marcelo Serrano Zanetti, Ingo Scholtes, Claudio Juan Tessone, and Frank Schweitzer (ETH Zurich, Switzerland)

Predicting Bug-Fixing Time: An Empirical Study of Commercial Software Projects

Hongyu Zhang, Liang Gong, and Steve Versteeg (Tsinghua University, China; CA Technologies, Australia)

SEIP Keynote**Fri, May 24, 10:30 – 12:00, Seacliff A/B****Chair: Jane Cleland-Huang****The Lean Mindset (SEIP Keynote)**

Mary Poppendieck (Poppendieck.LLC)

Mary Poppendieck has been in the Information Technology industry for over forty years. She has managed software development, supply chain management, manufacturing operations, and new product development. She spearheaded the implementation of a Just-in-Time system in a 3M video tape manufacturing plant and led new product development teams, commercializing products ranging from digital controllers to 3M Light Fiber(TM). Mary is a popular writer and speaker, and coauthor of the book *Lean Software Development: an Agile Toolkit*, which was awarded the Software Development Productivity Award in 2004. A sequel, *Implementing Lean Software Development: from Concept to Cash* was published in 2006. A third book, *Leading Lean Software Development: Results are Not the Point* was published in November 2009.

Lunch, Sponsored by Siemens**Fri, May 24, 12:00 – 13:30, Atrium****ESEC/FSE Organizing and Program Committees Meeting****Fri, May 24, 12:00 – 13:30, Seacliff D****Technical Research****Security and Privacy****Fri, May 24, 13:30 – 15:30, Grand Ballroom A****Chair: Robert B. France****Engineering Adaptive Privacy: On the Role of Privacy Awareness Requirements**

Inah Omoronyia, Luca Cavallaro, Mazeiar Salehie, Liliana Pasquale, and Bashar Nuseibeh (University of Glasgow, UK; Lero, Ireland; University of Limerick, Ireland; Open University, UK)

Mining SQL Injection and Cross Site Scripting Vulnerabilities using Hybrid Program Analysis

Lwin Khin Shar, Hee Beng Kuan Tan, and Lionel C. Briand (Nanyang Technological University, Singapore; University of Luxembourg, Luxembourg)

Path Sensitive Static Analysis of Web Applications for Remote Code Execution Vulnerability Detection

Yunhui Zheng and Xiangyu Zhang (Purdue University, USA)

Automated Software Architecture Security Risk Analysis using Formalized Signatures

Mohamed Almorsy, John Grundy, and Amani S. Ibrahim (Swinburne University of Technology, Australia)

Technical Research**Empirical Studies****Fri, May 24, 13:30 – 15:30, Grand Ballroom B****Chair: Nachiappan Nagappan****X-PERT: Accurate Identification of Cross-Browser Issues in Web Applications**

Shauvik Roy Choudhary, Mukul R. Prasad, and Alessandro Orso (Georgia Tech, USA; Fujitsu Labs, USA)

Expectations, Outcomes, and Challenges of Modern Code Review

Alberto Bacchelli and Christian Bird (University of Lugano, Switzerland; Microsoft Research, USA)

**🏆 ACM SIGSOFT Distinguished Paper
UML in Practice**

Marian Petre (Open University, UK)

Cassandra: Proactive Conflict Minimization through Optimized Task Scheduling

Bakhtiar Khan Kasi and Anita Sarma (University of Nebraska-Lincoln, USA)

Technical Research

Program Repair

Fri, May 24, 13:30 – 15:30, Grand Ballroom C

Chair: David Garlan

SemFix: Program Repair via Semantic Analysis

Hoang Duong Thien Nguyen, Dawei Qi, Abhik Roychoudhury, and Satish Chandra (National University of Singapore, Singapore; IBM Research, USA)

Automatic Recovery from Runtime Failures

Antonio Carzaniga, Alessandra Gorla, Andrea Mattavelli, Nicolò Perino, and Mauro Pezzè (University of Lugano, Switzerland; Saarland University, Germany)

Program Transformations to Fix C Integers

Zack Coker and Munawar Hafiz (Auburn University, USA)



ACM SIGSOFT Distinguished Paper Automatic Patch Generation Learned from Human-Written Patches

Dongsun Kim, Jaechang Nam, Jaewoo Song, and Sunghun Kim (Hong Kong University of Science and Technology, China)

Technical Research

Tools

Fri, May 24, 13:30 – 15:30, Seacliff A/B

Chair: Wilhelm Schäfer

Reverb: Recommending Code-Related Web Pages

Nicholas Sawadsky, Gail C. Murphy, and Rahul Jiresal (University of British Columbia, Canada)

Dynamic Injection of Sketching Features into GEF Based Diagram Editors

Andreas Scharf and Till Amma (University of Kassel, Germany)

Discovering Essential Code Elements in Informal Documentation

Peter C. Rigby and Martin P. Robillard (Concordia University, Canada; McGill University, Canada)

Automatic Query Reformulations for Text Retrieval in Software Engineering

Sonia Haiduc, Gabriele Bavota, Andrian Marcus, Rocco Oliveto, Andrea De Lucia, and Tim Menzies (Wayne State University, USA; University of Salerno, Italy; University of Molise, Italy; University of West Virginia, USA)

Formal Demonstrations

Formal Demonstrations 2

Fri, May 24, 13:30 – 15:30, Marina Room

Chair: Ewan Tempero

LASE: An Example-Based Program Transformation Tool for Locating and Applying Systematic Edits

John Jacobellis, Na Meng, and Miryung Kim (University of Texas at Austin, USA)

CEL: Modeling Everywhere

Remo Lemma, Michele Lanza, and Fernando Olivero (University of Lugano, Switzerland)

V:ISSUE:LIZER: Exploring Requirements Clarification in Online Communication over Time

Eric Knauss and Daniela Damian (University of Victoria, Canada)

YODA: Young and newcOmer Developer Assistant

Gerardo Canfora, Massimiliano Di Penta, Stefano Giannantonio, Rocco Oliveto, and Sebastiano Panichella (University of Sannio, Italy; University of Molise, Italy; University of Salerno, Italy)

RADAR: A Tool for Debugging Regression Problems in C/C++ Software

Fabrizio Pastore, Leonardo Mariani, and Alberto Goffi (University of Milano-Bicocca, Italy; University of Lugano, Switzerland)

MCT: A Tool for Commenting Programs by Multimedia Comments

Yiyang Hao, Ge Li, Lili Mou, Lu Zhang, and Zhi Jin (Peking University, China; Chinese Academy of Sciences-AMSS, China)

Memoise: A Tool for Memoized Symbolic Execution

Guowei Yang, Sarfraz Khurshid, and Corina S. Păsăreanu (University of Texas at Austin, USA; Carnegie Mellon Silicon Valley, USA; NASA Ames Research Center, USA)

Controller Synthesis: From Modelling to Enactment

Víctor Braberman, Nicolas D'Ippolito, Nir Piterman, Daniel Sykes, and Sebastian Uchitel (Universidad de Buenos Aires, Argentina; Imperial College London, UK; University of Leicester, UK)

MODELS 2013 Program Board Meeting

Fri, May 24, 13:30 – 18:00, Boardroom C

Afternoon Break, Sponsored by Intel

Fri, May 24, 15:30 – 16:00, Grand Ballroom, Market St., Seacliff, and Bayview A Foyers

Awards Ceremony

Fri, May 24, 16:00 – 17:00, Grand Ballroom, Chair: William Griswold

Awards to be presented:

- ACM Student Research Competition (SRC)
- Student Contest on Software Engineering (SCORE)
- ACM SIGSOFT Distinguished Papers
- Most Influential Paper (MIP)

Conference Closing and Preview of 2014, 2015

Fri, May 24, 17:00 – 17:30, Grand Ballroom, Chairs: Betty H. C. Cheng and Klaus Pohl



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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.

The theme of ICSE 2014 is *advancing the global enterprise of software engineering*, which is reflected in the broad range of tracks featured at the conference. We encourage you to contribute to ICSE 2014 through submission to one or more of our tracks. Expectations for submissions will be provided in each track's call for papers.

- Technical Research Papers
- Software Engineering in Practice
- Software Engineering Education and Training
- New Ideas and Emerging Results
- ACM Student Research Competition
- Workshops
- Tutorials
- Doctoral Symposium
- Demonstrations
- Posters

Pankaj Jalote, IIT-Delhi, India
General Chair ICSE 2014

Saturday, May 25

CHASE'13

2013 6th International Workshop on Cooperative and Human Aspects of Software Engineering (CHASE)

Sat, May 25, 08:30 – 18:00, Bayview A

CTGDSD'13

2013 3rd International Workshop on Collaborative Teaching of Globally Distributed Software Development (CTGDSD)

Sat, May 25, 08:30 – 18:00, Regency B

FormaliSE'13

2013 1st FME Workshop on Formal Methods in Software Engineering (FormaliSE)

Sat, May 25, 08:30 – 18:00, Seacliff B

MOBS'13

2013 1st International Workshop on the Engineering of Mobile-Enabled Systems (MOBS)

Sat, May 25, 08:30 – 18:00, Seacliff D

NaturaLiSE'13

2013 1st International Workshop on Natural Language Analysis in Software Engineering (NaturaLiSE)

Sat, May 25, 08:30 – 18:00, Regency A

RAISE'13

2013 2nd International Workshop on Realizing Artificial Intelligence Synergies in Software Engineering (RAISE)

Sat, May 25, 08:30 – 18:00, Bayview B

ICSE Tutorial

Sat, May 25, 08:30 – 12:30, Boardroom A

Efficient Quality Assurance of Variability-Intensive Systems

Patrick Heymans, Axel Legay, and Maxime Cordy (University of Namur, Belgium; IRISA, France; INRIA, France)

MODELS 2013 Program Board Meeting

Sat, May 25, 08:30 – 18:00, Boardroom C

ESEC/FSE 2013 PC Meeting

Sat, May 25, 08:30 – 18:00, Garden A/B

Morning Break

Sat, May 25, 10:30 – 11:00, Grand Ballroom Foyer

Lunch

Sat, May 25, 12:30 – 14:00, Atrium

ICSE Tutorial

Sat, May 25, 14:00 – 18:00, Boardroom A

Software Requirement Patterns

Xavier Franch (Universitat Politècnica de Catalunya, Spain)

Afternoon Break

Sat, May 25, 16:00 – 16:30, Grand Ballroom Foyer

Sunday, May 26

GTSE'13

2013 2nd SEMAT Workshop on a General Theory of Software Engineering (GTSE)
Sun, May 26, 08:30 – 18:00, Marina Room

PESOS'13

2013 5th International Workshop on Principles of Engineering Service-Oriented Systems (PESOS)
Sun, May 26, 08:30 – 18:00, Regency A

RAISE'13

2013 2nd International Workshop on Realizing Artificial Intelligence Synergies in Software Engineering (RAISE)
Sun, May 26, 08:30 – 18:00, Marina Room

USER'13

2013 2nd International Workshop on User Evaluations for Software Engineering Researchers (USER)
Sun, May 26, 08:30 – 18:00, Regency B

ESEC/FSE 2013 PC Meeting

Sun, May 26, 08:30 – 18:00, Garden A/B

Morning Break

Sun, May 26, 10:30 – 11:00, Grand Ballroom Foyer

Lunch

Sun, May 26, 12:30 – 14:00, Atrium

Afternoon Break

Sun, May 26, 16:00 – 16:30, Grand Ballroom Foyer



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Awards

ACM SIGSOFT:

Distinguished Service	Wilhelm Schaefer
Influential Educator Award	Tony Wasserman
Outstanding Research Award	David Notkin
Frank Anger Award	Indranil Saha
Impact Paper Award	<i>Dynamically Discovering Likely Program Invariants to Support Program Evolution</i> Michael Ernst, Jake Cockrell, Bill Griswold, and David Notkin

ACM Fellows:

Gregor Kiczales	For contributions to aspect-oriented programming language design and implementation.
Walter Tichy	For contributions to software engineering and revision control systems.

ACM Distinguished Members:

Peter F. Sweeney
Peri Tarr

ACM Senior Members:

Douglas Baldwin
Duncan Brown
Sutap Chatterjee
Georgios Eleftherakis
Jeff Gray
Mark Grechanik
Alessandro Orso

IEEE TCSE:

Distinguished Educator Award	Mehdi Jazayeri
Distinguished Service Award	Paola Inverardi

IEEE Software Best Software Engineering in Practice Paper Award:

Characteristic Study on Failures of Production Distributed Data-Parallel Programs
Sihan Li, Hucheng Zhou, Haoxiang Lin, Tian Xiao, Haibo Lin, Wei Lin, and Tao Xie

SIGSOFT Distinguished Paper Awards:

Data Clone Detection and Visualization in Spreadsheets

F. Hermans, B. Sedee, M. Pinzger, and A. van Deusen

Interaction-Based Test-Suite Minimization

D. Blue, I. Segall, R. Tzoref-Brill, and A. Zlotnick

Assisting Developers of Big Data Analytics Applications When Deploying on Hadoop Clouds

W. Shang, Z.M. Jiang, H. Hemmati, B. Adams, A.E. Hassan, and P. Martin

UML in Practice

M. Petre

Dual Ecological Measures of Focus in Software Development

D. Posnett, R. D'Souza, P. Devanbu, and V. Filkov

Automatic Patch Generation Learned from Human-written Patches

D. Kim, J. Nam, J. Song, and S. Kim

2013 ICSE 2003 Most Influential Paper Award:

Hipikat: Recommending Pertinent Software Development Artifacts

D. Cubranic and G. Murphy, ICSE 2003.

A widely referenced and inspirational work in the software evolution arena, which laid the groundwork for recommendation systems in software development.

2013 ACM/IEEE Certificate of Appreciation:

ICSE 2013 General Chair

David Notkin

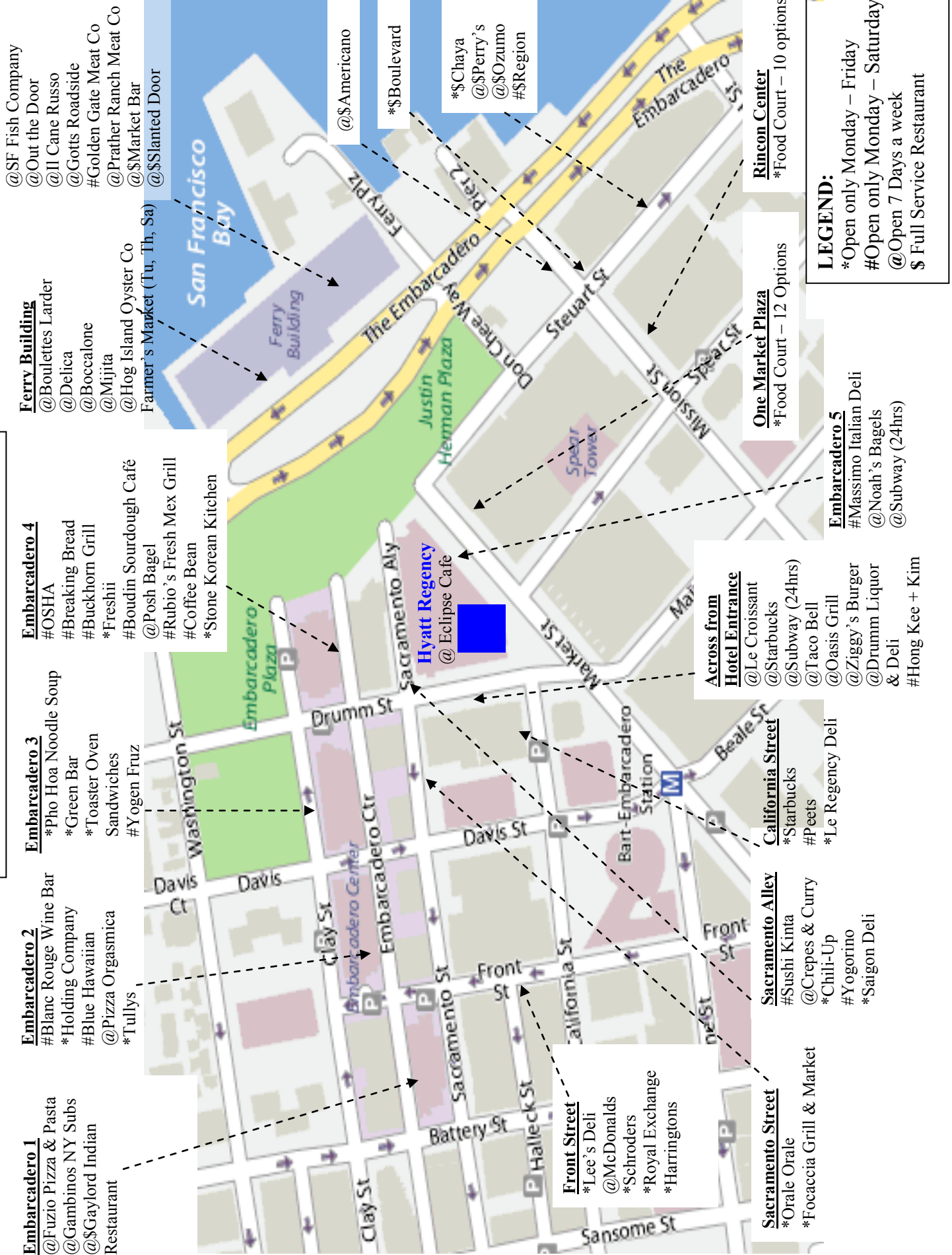
ICSE 2013 Program Co-Chair

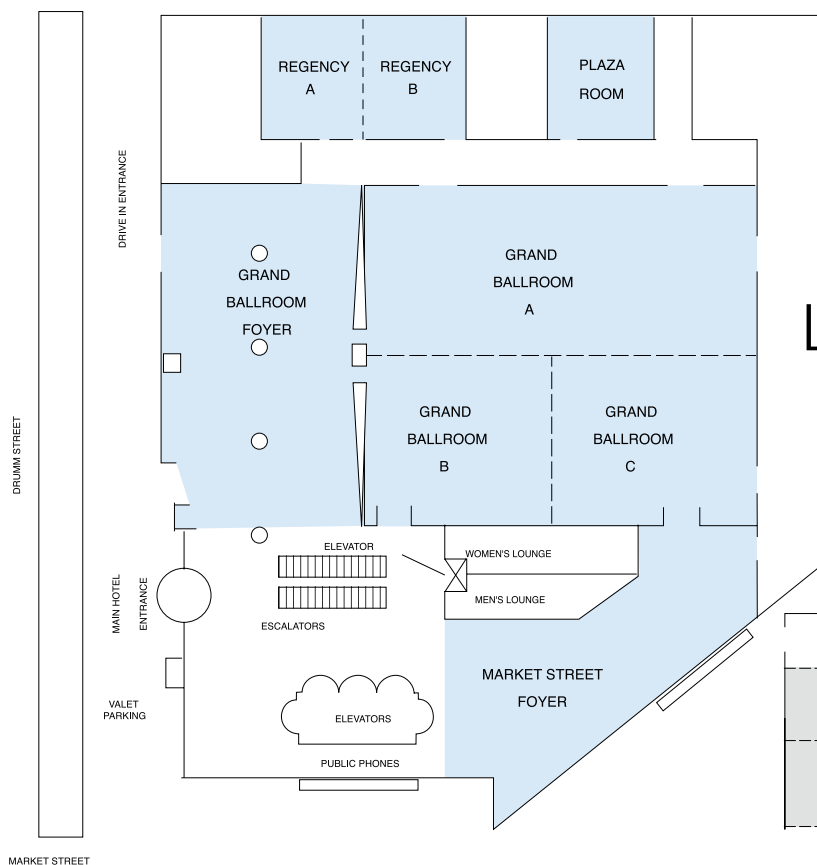
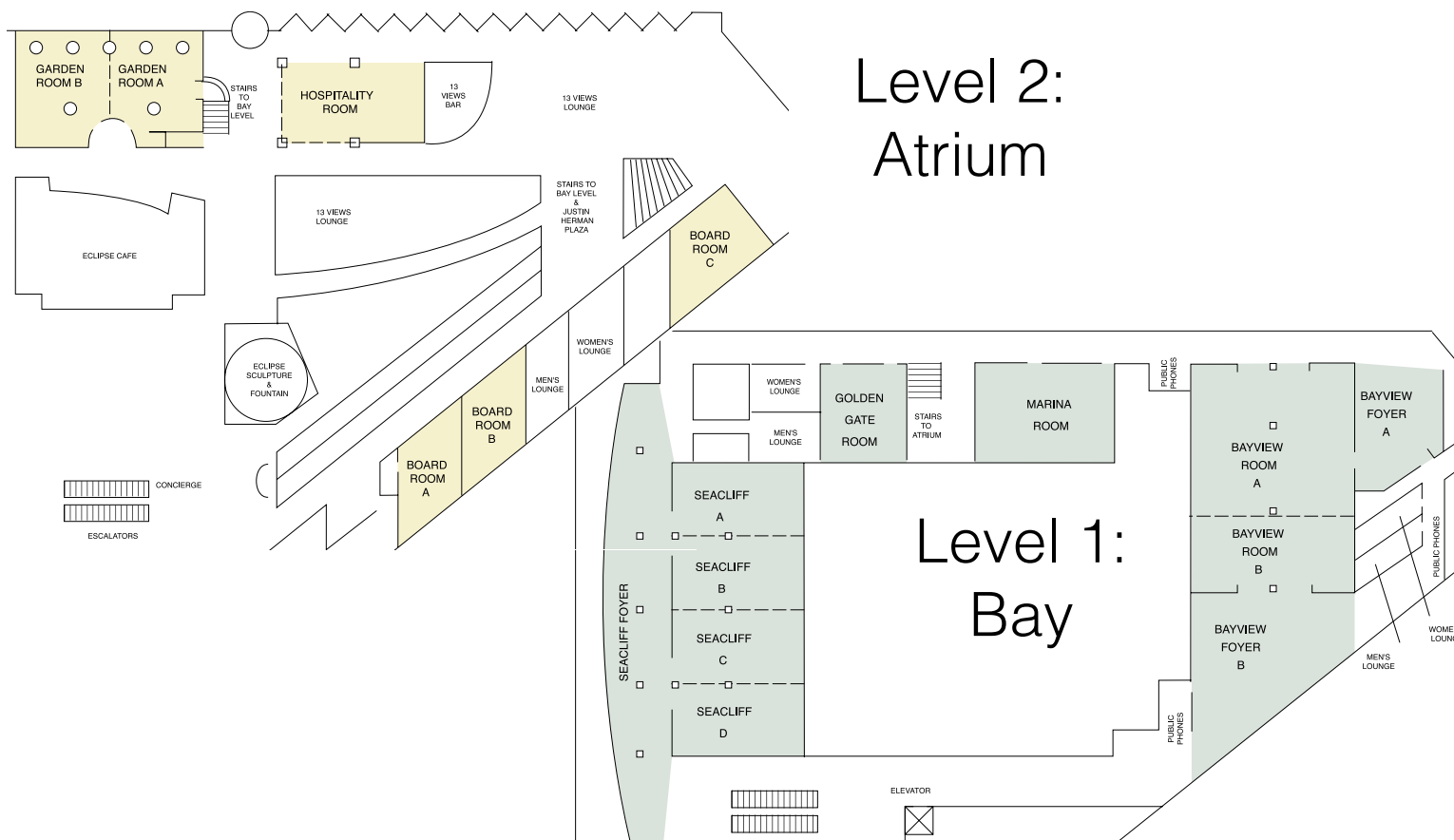
Betty HC Cheng

ICSE 2013 Program Co-Chair

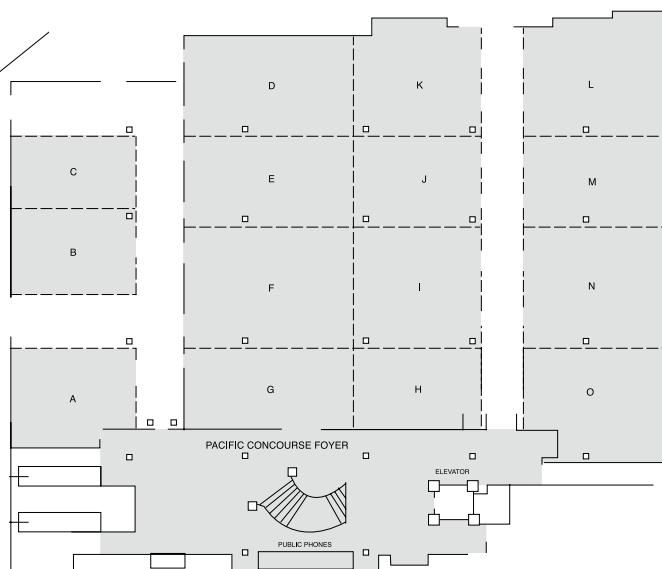
Klaus Pohl

Local Area Lunch Dining Options





Level -1: Pacific Concourse



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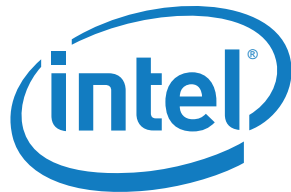
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