A Look into #icse2013
Experiences, Trends, and People

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First off, some pictures

ICSE 2013 - at a glance

- 1100+ attendees (record number)

- Technical Research Track: Record number of 461 submissions to the conference. Of these, 223 (48.3%) made it to the second round of reviews, and then 85 of those **(18.5%)** were accepted for presentation to the main conference.

- Workshops: 29 before and after the main conference, with sub-communities that focus on specific subareas of SE such as human-centered SE, model-checking, SE in healthcare, SW processes, etc.

- Social Media: 836 likes on Facebook <https://www.facebook.com/icse2013>, 2725 Tweets with #icse2013, 951 retweets. Follow **@ICSEConf** to keep up-to-date with ICSE-related news!

- Three day main conference includes breakfast, lunch, and coffee breaks every day with technical research talk sessions between them. To begin each day, a keynote speaker presented on high-level issues and observations related to SE. On Thursday night, ICSE 2013 was hosted on a dinner banquet cruise on the SF bay!

ICSE 2013 - at a glance

- Composition
- Adaptation
- Apps
- Testing
- Test-case Generation
- Test-case Selection
- Formal Analysis
- Formal Specification
- Analysis
- Code Analysis
- Debugging
- Bug Prediction
- Big Data
- Product Lines
- Search-based SE
- Performance
- Requirements Engineering
- Reliability
- Process
- Security and Privacy
- Analysis Studies
- Empirical Studies
- Programming Support
- Program Repair
- Tools
- Dependability Perspectives (NIER)
- Supporting Tomorrow's Developer (NIER)
- Collaborative Development (NIER)
- Alternative modeling (NIER)
- Technical Debt: Past, Present, and Future (SEIP)
- Agile and Distributed Practices (SEIP)
- Software Architecture (SEIP)
- Metrics and Evaluation (SEIP)
- Mini-Tutorial (SEIP)
- Case Studies (SEIP)
- Testing
- Bug Detection
- Problem-based and Studio Learning
- Teaching Introductory Software Engineering
- Advanced Software Engineering Education

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Works

Sketching Software in the Wild

David Socha
Computing and Software Systems
University of Washington, Bothell
Bothell, WA, USA
dsocha@uwb.edu

Josh Tenenberg
Institute of Technology
University of Washington, Tacoma
Tacoma, WA, USA
jtenenbg@uw.edu

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Fascinating talk by David Socha - the dev env is complex enough to necessitate feedback loops for developing and designing systems #icse2013

UML in Practice

Marian Petre
Centre for Research in Computing
The Open University
Milton Keynes, UK
m.petre@open.ac.uk

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Incredible talk by Marian Petre on what UML actually is - a tool for communication ("langue exchange"), not for modeling. #UML #icse103

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

Brittany Johnson, Yoonki Song, and Emerson Murphy-Hill
North Carolina State University
Raleigh, NC, U.S.A.
bijohnso,ysong2@ncsu.edu,emerson@csc.ncsu.edu

Robert Bowdidge
Google
Mountain View, CA, U.S.A.
bowdidge@google.com

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Awesome talk by Brittany Johnson on why static analysis tools aren't used by devs. Interactive quick fix UIs are a good start! #icse2013

Social Media in Transparent Work Environments

Jason Tsay, Laura Dabbish, James D. Herbsleb
School of Computer Science and Center for the Future of Work, Heinz College
Carnegie Mellon University
5000 Forbes Ave., Pittsburgh, PA, USA
{jtsay, dabbish, jdh}@cs.cmu.edu

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Nice talk by Jason Tsay about incorporating signal theory into GitHub to study transparent workflows into dev envs. #icse2013 #chase2013

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

Chris Lewis[1], Zhongpeng Lin[1], Caitlin Sadowski[2], Xiaoyan Zhu[3], Rong Ou[2], E. James Whitehead Jr.[1]
[1]University of California, Santa Cruz, USA [2]Google Inc., USA [3]Xi'an Jiaotong University, China
{cflewis,linzhp,ejw}@soe.ucsc.edu, {supertri,rongou}@google.com, xyxyzh@gmail.com

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Cool - we learned something about developing w/ bug prediction: No stat. sig. data concludes that #google devs want to use it. #icse2013

Works

Expectations, Outcomes, and Challenges of Modern Code Review

Alberto Bacchelli
REVEAL @ Faculty of Informatics
University of Lugano, Switzerland
alberto.bacchelli@usi.ch

Christian Bird
Microsoft Research
Redmond, Washington, USA
cbird@microsoft.com

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Well-groomed study on modern code reviews. Formality is out, defect communication & understandability is in. Thanks Bacchelli! #icse2013

X-PERT: Accurate Identification of Cross-Browser Issues in Web Applications

Shauvik Roy Choudhary
Georgia Institute of Technology, USA
shauvik@cc.gatech.edu

Mukul R. Prasad
Fujitsu Laboratories of America, USA
mukul@us.fujitsu.com

Alessandro Orso
Georgia Institute of Technology, USA
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Detecting cross-browser issues through algorithms can prevent manual labor of cross-browser comparison of web apps. #icse2013

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

Weiyi Shang[†], Zhen Ming Jiang[†], Hadi Hemmati[†], Bram Adams[‡], Ahmed E. Hassan[†], Patrick Martin[§]
[†]Software Analysis and Intelligence Lab (SAIL), School of Computing, Queen's University, Kingston, Canada
[‡]Département de Génie Informatique et Génie Logiciel, Polytechnique Montréal, Montréal, Québec, Canada
[§]Database Systems Laboratory, School of Computing, Queen's University, Kingston, Canada
{swy, zmjiang,hhemmati, martin, ahmed}@cs.queensu.ca, bram.adams@polymtl.ca

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Cool talk on reducing #bigdata system logs. @kenbod this might be useful for finding errors in our systems. tinyurl.com/p9c8etv #icse2013

The Design of Bug Fixes

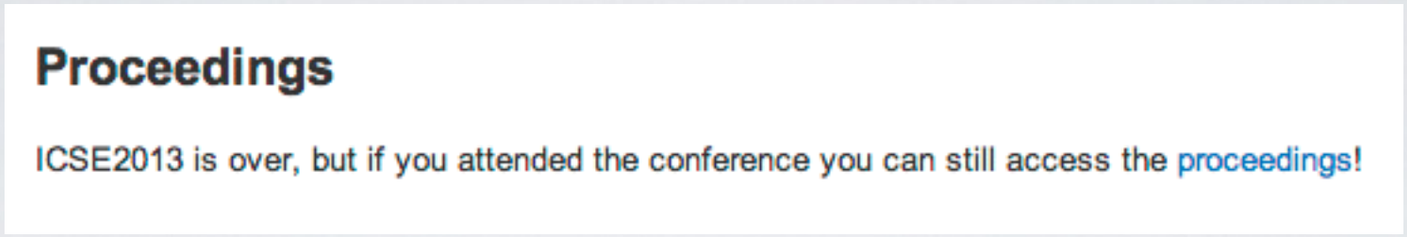
Emerson Murphy-Hill
Department of Computer Science
North Carolina State University
Raleigh, North Carolina, USA
emerson@csc.ncsu.edu

Thomas Zimmermann, Christian Bird, and Nachiappan Nagappan
Microsoft Research
Redmond, Washington, USA
{tzimmer,cbird,nachin}@microsoft.com

mbarrenecheajr
Awesome talk by emerson hill-murphy about design of bug fixes. We have to do more to understand choices for devs to fix bugs. #icse2013

And many more...

Where can you get these papers?



- Click on the link at: http://2013.icse-conferences.org/proceedings

- Browse through Electronic Proceedings. Unfortunately, they took down PDF links, so the only way to cherry pick the ones you want is within the CU Network (via ACM DL).

So, you think you have what it takes to do SE research?

- Of course you do. However, this stuff doesn't come naturally. Daunting and intimidating, right?
- Are you afraid of (paper) rejection?
- Don't know how to start the conversation with the person you met?
- Not sure what to wear (to the conference)?
- Should she know that I'm just a graduate student and don't have too much experience?

How are you ever going to get your foot in the door and score if you don't muster up and face these challenges head on?

Observations

- We have the potential to perform high-quality SE Research. To do that:
  - Focus on tangible, specific problems.
  - Questions inform solutions. **Create research questions!**
  - **Focus on validation** - how does your work generalize?
  - We are software engineering people - we can **implement** well. Use that to your advantage.
  - Talk and talk and talk. **Talk about your research with other people.**
    - Use the SEBuffs group as a buffer zone for reviews, ideation, and clarification.
  - Frame your story with these above elements. Stories captivate audiences.

There was a high-level format for the work at ICSE2013. Study this format and use it to increase your chance in publishing at ICSE!

What format?

- Problem
- Motivation and Background
- Research Questions
- Research Hypotheses
- Research Design
  - Experiments
  - Discussion and Validation
- Conclusions
- Are you here yet? Write a paper about it!

Done. Thanks! Questions?