

Program Highlights from ESEM 2014

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The ESEM Symposium is an international venue for researchers and practitioners interested in measurement and empirical evidence in software engineering.



The ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM) has a long tradition of aggregation venue for both academics and practitioners. It is the result of the merge of the IEEE International Software Metrics Symposium (METRICS) and the ACM-IEEE International Symposium on Empirical Software Engineering (IASESE).

The ESEM conference concludes the Empirical Software Engineering International Week, a week full of events for the research community focused on Empirical Software Engineering, that begins with the annual ISERN meeting.

We served as Program Chairs for the past year's conference and here we report the main highlights from the conference.

ESEM 2014

Past year's edition, ESEM 2014 (<http://softeng.polito.it/ESEIW2014/ESEM/>), took place on September 18 and 19 in Turin (Italy) and saw a record high number of full-paper submissions (123) up 29% from the preceding three years average. In addition we received 57 short-papers, 20 industry experience papers, and 10 posters.

The conference was largely participated, 125 participants (roughly doubling the number of accepted submissions). The participants arrived from 27 distinct countries around the world, half of them from outside Europe.

The ESEM programme schedule was organized on two days. Both days started with a keynote speech: Diomidis Spinellis talked about "Engineering Software Analytics Studies" on the first day (slides: <http://softeng.polito.it/ESEIW2014/ESEM/SoftAnEng-2upSpinellis.pdf>), while Gualtiero Bazzana focused on "The 20% of software engineering practices that contribute to 80% of the profits" on day two (slides: http://softeng.polito.it/ESEIW2014/ESEM/ESEM2014_Bazzana.pdf).



Fig. 2 - Country of origin for conference participants.

The conference covered most of the key topics in software engineering, in particular we defined 15 sessions identified by a distinctive topic. The sessions merged together contributions from the three different tracks: full-papers, short-papers, and industrial experiences. The sessions were about:

- Testing, representative paper “What Do Game Developers Test in Their Products?”,
- Evolution, representative paper “A Qualitative Analysis of Software Build System Changes and Build Ownership Styles”,
- Security, representative paper “Discovering Buffer Overflow Vulnerabilities In The Wild: An Empirical Study”,
- Maintenance, representative paper “What's in a Bug Report?”,
- Distributed development, representative paper “The Role of Mentoring and Project Characteristics for Onboarding in Open Source Software Projects”,
- Empirical methods, representative papers “Evaluating strategies for study selection in systematic literature studies” and “Towards a Framework to Support Large Scale Sampling in Software Engineering Surveys”,
- Patterns, representative paper “Impacts of Design Pattern Decay on System Quality”,
- Social and human aspects, representative paper “Impact of Developer Reputation on Code Review Outcomes in OSS Projects: An Empirical Investigation”,
- Releases, representative paper “Forking and coordination in multi-platform development: a case study”,
- Requirements, representative paper “Engineering of Quality Requirements as Perceived by Near-shore Development Centres’ Architects in Eastern Europe: the Hole in the Whole”,

- Agile methods, representative paper “Impact of Process Conformance on the Effects of Test-driven Development”,
- Defects, representative paper “The Effect of Evolutionary Coupling on Software Defects: An Industrial Case Study on a Legacy System”,
- Modeling, representative paper “Comparing and Contrasting Model-Driven Engineering at Three Large Companies”,
- SE in practice, representative paper “Tracing Back the History of Commits in Low-tech Reviewing Environments”, and
- Measurement, representative paper “Measuring Shared Understanding in Software Project Teams using Pathfinder Networks”.

Social media and support app

The ESEM conference series is supported through a Twitter (@ESEM_conf) and Facebook (<https://www.facebook.com/ESEMconference>) accounts. In addition for this edition the speakers at the conference had the opportunity of sharing their presentations on a dedicated SlideShare channel (<http://www.slideshare.net/ESEM2014>). During the conference there was a fairly good activity on twitter that has been summarized in a single storify (<https://storify.com/mtorchiano/esem-2014>), in addition the second day keynote attracted a lot of attention (<https://storify.com/scbs/the-20-of-software-engineering-practices-that-cont>).

Moreover a conference companion app has been developed specifically for ESEM 2014. The app was available in three versions for the three main mobile operating systems. It provided access to the schedule, paper information, including full-text pdf. The app provided a “like” button for each paper. Eventually push notification could be sent through the app to all attendees.

Awards

The program chairs of each track, based on the evaluation sheets from the reviewers, picked the best submission. For the full-papers track the award went to Ming Fang and Munawar Hafiz for the paper “Discovering Buffer Overflow Vulnerabilities In The Wild: An Empirical Study”. The presentation of this paper received also the highest number of likes through the conference companion App.

Summary

The major issue encountered during the conference was wifi connectivity: the hotel provided access points supported an insufficient number of connections, therefore the average experience was that of unstable connections. As a lesson learned, when organizing

a conference one needs to keep in mind that the typical attendee has two devices (a pc/ tablet and a mobile).

Both the number of submissions and participants indicate a successful conference. An assessment questionnaire administered after the end of the conference confirms such insight: 69% of the respondents judged the overall ESEM experience above average or even excellent.