Empirical Software Engineering International Week

September 19-23, 2011 - Banff, Alberta, Canada

esem 2011

PROGRAM

September 2011

Mon 19	Tue 20	Wed 21	Thu 22	Fri 23
ISERN 19th International Software Engineering Research Network Annual Meeting		**IDoESE** 6th International Doctoral Symposium on Empirical Software Engineering	**ESEM** 5th International Symposium on Empirical Software Engineering and Measurement	
		IASESE 9th International Advanced School on Empirical Software Engineering		
	PROMISE 7th International Conference on Predictive Models in Software Engineering			
		RESER 2nd International Workshop on Replication in Empirical Software Engineering Research		
		MetriSec 3rd International Workshop on Security Measurements and Metrics		
ISERN Dinner	Promise Dinner	Reception	ESEM Banquet	

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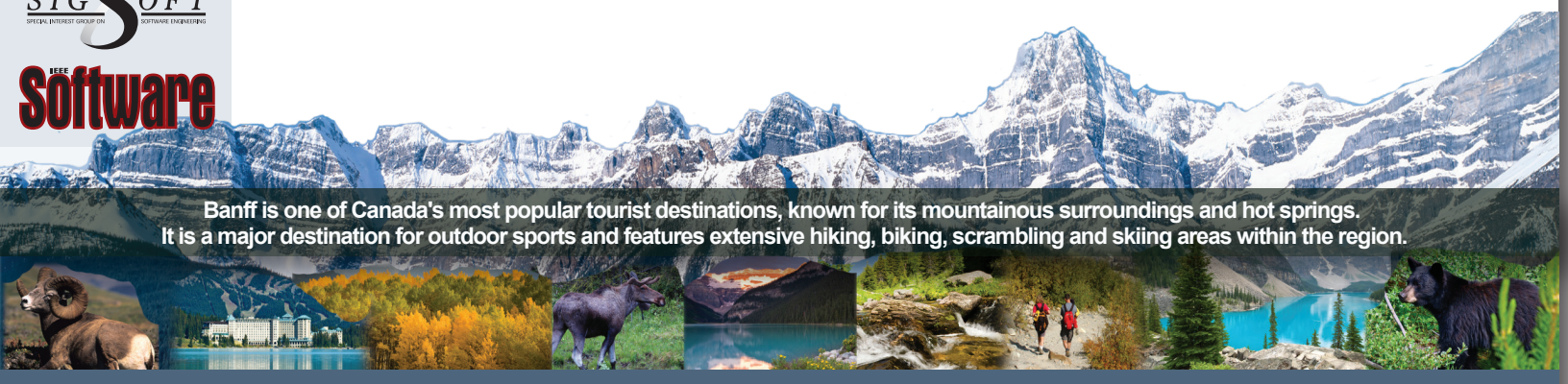


Banff is one of Canada's most popular tourist destinations, known for its mountainous surroundings and hot springs.
It is a major destination for outdoor sports and features extensive hiking, biking, scrambling and skiing areas within the region.

for more information visit: http://esem.cpsc.ucalgary.ca/esem2011/

CONTENT

Message from the Chairs

Empirical Software Engineering International Week

ESEIW 2011 (September 19-23, 2011) Banff, Alberta, Canada

The Chairs of ESEIW 2011 wish to jointly welcome you to the premier international empirical software engineering event of 2011. It is a sign of the health and vibrancy of the discipline that ESEIW is growing in scope and the number of co-located events. We particularly encouraged by the new co-locations namely the Promise Conference and Workshop on Replication in Empirical Software Engineering Research.

This week will be an exciting combination of conferences, meetings, workshops and tutorials at the beautiful Banff Conference Centre. We are fortunate to be able to benefit from such an inspirational location in the heart of the Rocky Mountains. The individual events are:

- 5th International Symposium on Empirical Software Engineering and Measurement (ESEM)
- 19th International Software Engineering Research Network Annual Meeting (ISERN)
- 6th International Doctoral Symposium on Empirical Software Engineering (IDoESE)
- 9th International Advanced School on Empirical Software Engineering (IASESE)
- 7th International Conference on Predictive Models in Software Engineering (Promise)
- 2nd International Workshop on Replication in Empirical Software Engineering Research (Reser)
- 3rd International Workshop on Security Measurements and Metrics (MetriSec)

Our overall objective has been to provide a forum where researchers and practitioners can report and discuss recent research results in the areas of empirical software engineering and software measurement. We also seek to explore strengths and weaknesses of research methods from an empirical viewpoint and to provide learning and training opportunities so that attendees may benefit from the experiences of others. In addition, through rigorous review we can showcase the very best of our research for the rest of the world. The main conferences have the following acceptance rates:

- ESEM (full papers of 33/103 = 32%; short papers 17/43 = 40%)
- Promise Conference (full papers 15/35 = 43%).

We gratefully acknowledge support from the following sponsors: Microsoft Research, Alberta Innovates, Siemens, the University of Calgary, the University of Alberta, RIM, AT&T, NTT Data and supported from the IEEE, the ACM, SIGSOFT and IEEE Software.

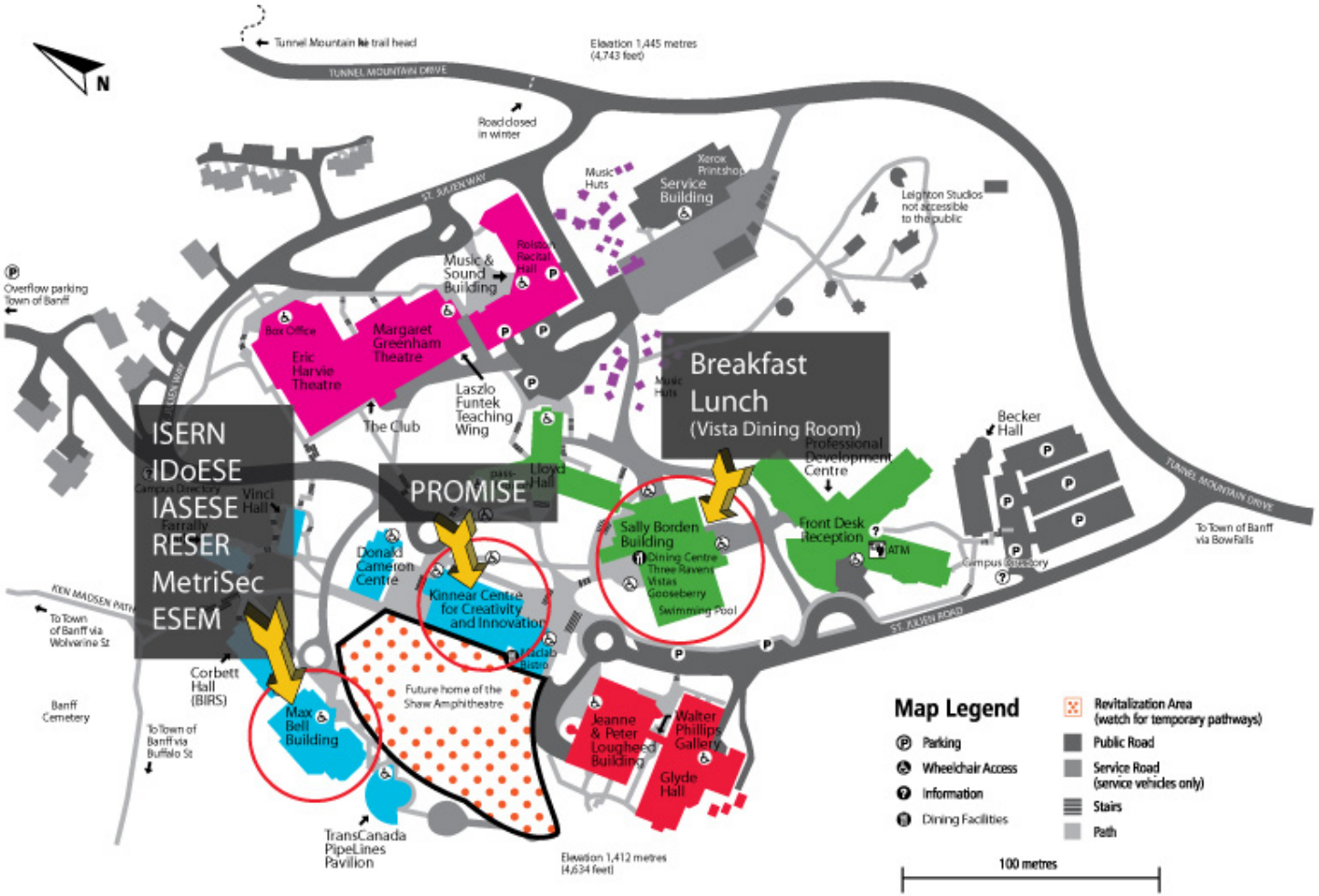
We are very conscious this is a community-wide event and that it would not have been possible without the help of so many people. In particular our thanks go to the Organizing Committees, local arrangements people, the website manager, reviewers, keynote speakers and authors. However most of all we'd like to thank the attendees. Without your support this week of special events could not happen.

This week represents an unprecedented opportunity for the international empirical community to meet and discuss their research and its implications for industry. We strongly urge you to take full advantage of this unique opportunity and we look forward to next year reading the results of the collaborations that started in Banff, September 2011.

So welcome to Banff. We hope you all have a fruitful and enjoyable time.

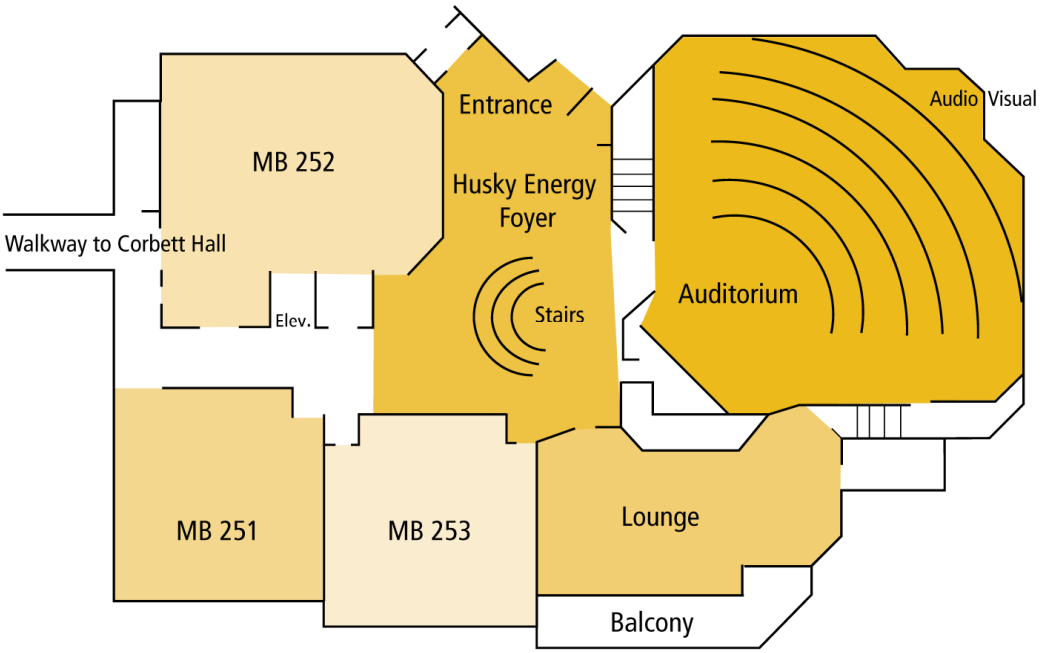
James Miller, Guenther Ruhe (ESEIW)
Vahid Garousi, Brian Robinson, ,Martin Shepperd, Forrest Shull, Jonathan Sillito, Ayse Tosun and Stefan Wagner (ESEM)
Ayse Benar, Gunes Koru, Tim Menzies, Stefan Wagner, (Promise)
Tore Dybå, Sira Vegas (ISERN)
Andreas Jedlitschka, Dietmar Pfahl (IASESE)
Guilherme Horta Travassos (IDoESE)
Natalia Juristo, Charles Knutson, Jonathan Krein, Lutz Prechelt (RESER)
James Walden, Laurie Williams (MetriSec)

Venue and Logistic Information at The Banff Centre

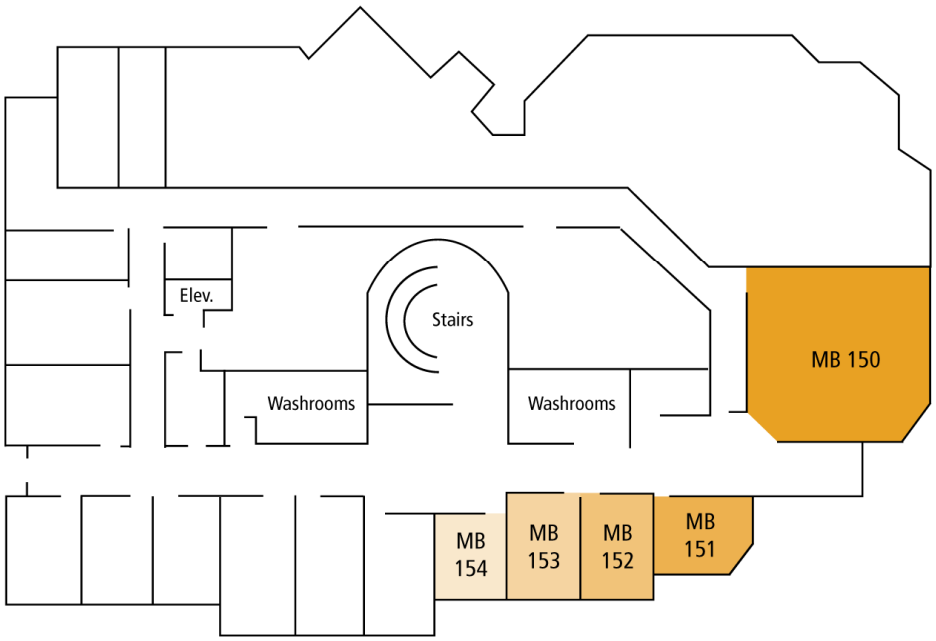


The Max Bell (MB) Building

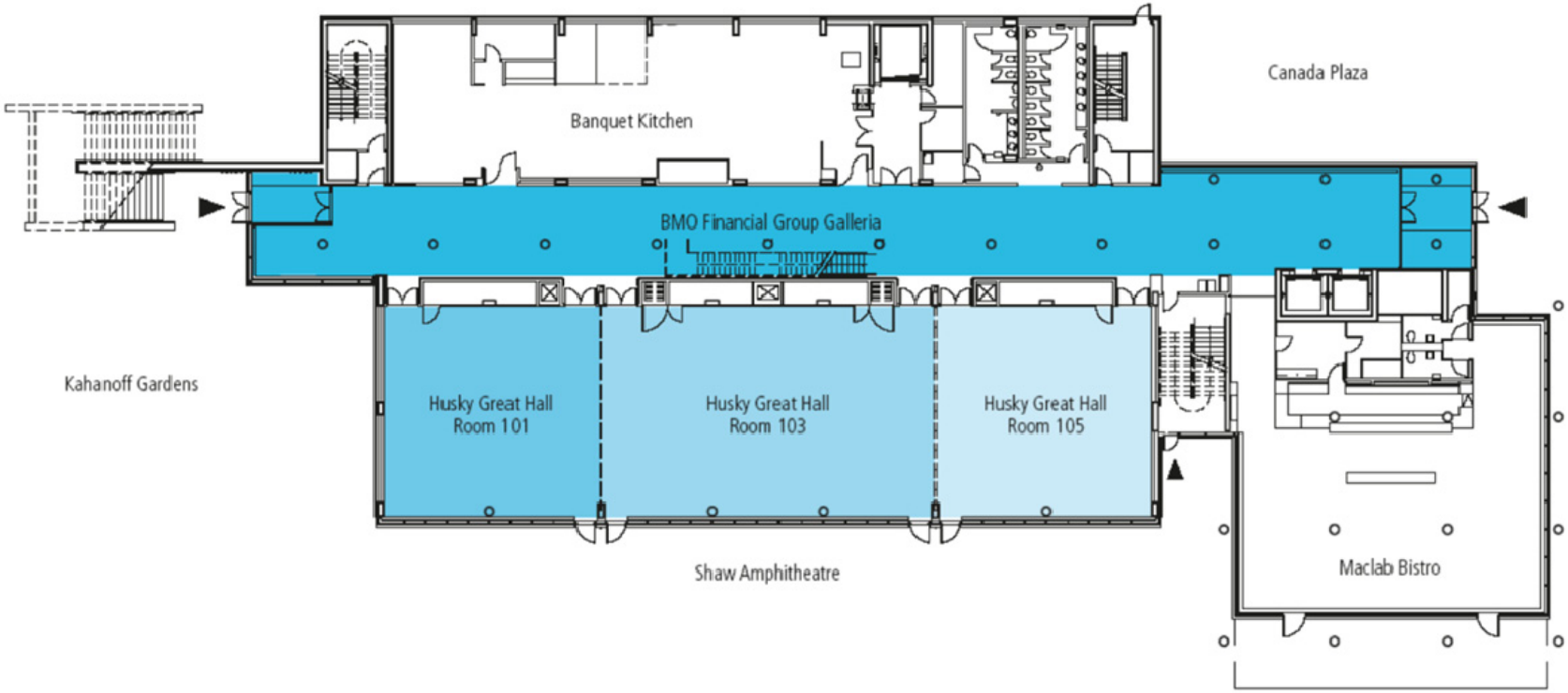
Max Bell Building Main Floor



Max Bell Building Lower Floor



Kinnear Centre for Creativity & Innovation (KCCI)



ESEIW Registration Starts (Sep18),

Date: **Sunday September 18, 2011**

Time: **between 18:00 and 20:00**

Location: **Max Bell Foyer**

ISERN Meeting Get-together (Sep 18)

Date: **Sunday September 18, 2011**

Time: **19:00**

Location: **Max Bell Lounge at the Max Bell Building**

ISERN Meeting (Sep 19-20)

Location: The Max Bell (MB) Building

Monday, September 19th

ISERN 2011 (first day)			
Time	**Event**		**Room:**
07:30 – 08.30	**Breakfast**		**Vista Dining Room**
08:00 – 10:00	**Registration**		**MB Foyer & Lounge**
08:30 – 09:30	**Welcome and new introductions** **Chair: Victor R. Basili, Tore Dybå and Sira Vegas**		MB Auditorium
09:30 – 10:00	**Report from 2010 session chairs**		MB Auditorium
10:00 – 10:30	**Coffee break**		**MB Foyer & Lounge**
10:30 – 12:00	**Session 1**		
	Session A1: Guidelines for Case Study Research and Publication **Chairs: Stefan Wagner and Per Runeson** **Location: Room MB 251** **Background:** Per Runeson and Martin Höst have systematically collected existing work on case study research in software engineering. Although some people appreciate the clear structure, many strongly demand changes to the way the study is reported. This can have at least two reasons.	**Session B1: Reporting Replications** **Chairs: Jeffrey Carver, Natalia Juristo and Teresa Baldassarre** **Location: Room MB 252** **Background:** The value of experimental replications is evident to ISERN members. The software engineering community learns a great deal from performing replications, reading reports of replications performed by others and aggregating the results of replications to draw deeper conclusions that would otherwise be possible. For experimental replications to have scientific value comparable to that of other types of empirical studies, they must be published in the peer-reviewed	

	The guidelines: 1. Have weaknesses that should be corrected 2. Are not known well enough in the broader community. **Session goals:** 1. Analyze the two possible reasons by identifying: 2. Weaknesses of and problems with the current guidelines to improve them. 3. Action steps to make them better known and used. **Development of the session:** Attendees are asked to: 1. Read a paper that follows the guidelines, and propose changes. 2. Answer a questionnaire that analyses the knowledge of the guidelines and if and why they are used. Findings are presented to the audience.	literature. To facilitate the usefulness of these publications, we need guidelines to ensure that a consistent set of information is published about each replication. There are existing guidelines for reporting controlled experiments and case studies, which have been discussed during ISERN, but there are no guidelines specifically for reporting experimental replications. The type of report required for an experimental replication is similar to, but is not the same as that for a controlled experiment. In a replication it is important to publish information about the original study, the context of the replication, any changes made, and the results. It is not always clear how to balance these various types of information within a replication paper. **Session goal:** The goal of this session, similar to the sessions conducted in 2006 on controlled experiments and in 2007 regarding case studies, will be to evaluate and improve proposed guidelines for reporting replications. Two of the session chairs have independently developed their own proposed guidelines. ISERN members will evaluate the proposed guidelines through a hands-on exercise of trying to complete them for a set of published replications. The ultimate goal of the session is to produce a publishable set of guidelines for reporting experimental replications. **Development of the session:** The session would begin with a few introductory/motivational presentations. Little time will be spent discussing replications and how to conduct them other than what is necessary to motivate a discussion about reporting guidelines. The session chairs will present one or more proposed guidelines for reporting replications. ISERN members will be divided into groups. Based on the guidelines proposed, each group will try

		to identify the required information in one or more published replication papers. The goal of this exercise is to evaluate the usefulness of the reporting guidelines and identify information that should be included in the guidelines.	
12:00 – 13:30	**Lunch**		**Vista Dining Room**
13:30 – 15:00	**Session 2**		
	Session A2: Systematic Literature Reviews: Are They Really Reliable, Useful and Replicable? **Chair: Claes Wohlin** **Location: Max Bell Room 251** **Background:** The number of systematic literature reviews has increased over the last five years. The objective of a review is to synthesize the research in an area. But are the reviews reliable? Do we get similar results if conducting two independent reviews? **Session goal:** The goal of the session is to discuss and conclude how we as a community can both write for synthesis and conduct more reliable systematic literature reviews. **Development of the session:** The session will start with an introduction to systematic literature reviews and in particular its challenges. The session will then move into a general discussion on issues related to conducting reviews. The discussion will be based on a set of prepared questions to guide the session.	**Session B2: System Evaluation** **Chair: Andreas Jedlitschka** **Location: Max Bell Room 252** **Background:** In the past, ESE aimed mainly at evaluating SE methods with regard to certain aspects, e.g., efficiency etc. However, what does this mean for the resulting system. Is it more usable, reliable, afterwards? Several ideas are published, e.g., the unified theory of acceptance and use of technology by Venkatesh. **Session goal:** The objective of this session is to discuss the question of "how to evaluate SW-based products from an end-user perspective". **Development of the session:** Very brief introduction of the key points, perhaps supported by some people who have experience with those kinds of evaluations. The session will be guided by key questions collected from the audience during the introduction.	
15:00 – 15:30	**Coffee break**		**MB Foyer & Lounge**

15:30 – 17:00	**Session 3**	
	The future organization of the ISERN Workshop **Chair: Victor R. Basili** **Location: Max Bell Room 251** **Background:** There has been some discussion within the ISERN Steering Committee about the future organization of ISERN, as we grow in number. The goal is to continue to allow new members to enter, but still maintain the special flavor of in-depth workshops which push the state-of-the-art envelope. These in-depth workshops created a unique workshop environment in the past. Some of the committee members believe that we are in danger of losing this special flavor due to the facts that we (a) are growing too large, and (b) re-inventing the wheel by discussing issues with always changing attendees with different experiences. Vic Basili has agreed to moderate the meeting and will start with a collection of ideas proposed by various Steering Committee members, and solicit opinions and other ideas from the attendees.	
17:00 – 17:15	**Wrap-up and plan for Tuesday**	**MB Auditorium**
17:15 – 18:15	**ISERN SC meeting *(by invitation only)***	**MB Auditorium**
19:00 –23:00	**ISERN dinner at the Three Ravens Restaurant**	**Sally Borden Building, 3rd Floor at The Banff Centre**

Tuesday, September 20st

ISERN 2011 (second day)		
Time	**Event**	**Room:**
07:30 – 08.30	**Breakfast**	**Vista Dining Room**
11:30 – 14:00	**Registration**	**MB Foyer & Lounge**
08:30 – 09:15	**Open Space – Theme: Making an Empirical Impact** **Chairs: Sira Vegas and Tore Dybå**	MB Auditorium
09:15 – 10:00	**Open Space** You can already think of a topic related to the overall Open Space Theme that you would like to take responsibility for discussing. We will have several 45 min. sessions in parallel, all of which depend on YOU!	MB Auditorium Max Bell Room 251 Max Bell Room 252 Max Bell Room 253
10:00 – 10:30	**Coffee break**	**MB Foyer & Lounge**
10:30 – 12:00	**Session 1**	
	Qualitative Synthesis of SE Research **Chairs: Daniela Cruzes, Tore Dybå and Per Runeson** **Location: Max Bell Room 251** **Background:** Synthesizing the evidence from a set of studies that spans many countries and years, and that incorporates a wide variety of research methods and theoretical perspectives is not a trivial task. Research synthesis is a collective term for a family of methods for summarizing, integrating, combining, and comparing the findings of different studies on a topic or research question. Such synthesis can also identify crucial areas and questions that have not been addressed adequately with past empirical research. It is built upon the observation that no matter how well designed and executed, empirical findings from single studies are limited in the extent to which they may be generalized. Research synthesis is, thus, a way of making sense of what a collection of studies is saying. **Session goal:** This year we continue a series of sessions to deepen the knowledge on synthesis of empirical studies in SE. The goal of this	

<table>
<tr><td></td><td colspan="2">session is to discuss research challenges in synthesizing qualitative evidence in ESE with a special focus on case studies.

Development of the session:
• The session will have the following structure:
• Presenting a set of relevant techniques for case study synthesis, including thematic synthesis and cross case comparison.
• Open discussion on drawbacks, flaws, and challenges.

Wrap-up of the Session.</td></tr>
<tr><td></td><td>Open Space
You can already think of a topic related to the overall Open Space Theme that you would like to take responsibility for discussing. We will have several 45 min. sessions in parallel, all of which depend on YOU!</td><td>MB Auditorium
Max Bell Room 252
Max Bell Room 253</td></tr>
<tr><td>12:00 – 13:30</td><td>Lunch</td><td>Vista Dining Room</td></tr>
<tr><td>13:30 – 15:00</td><td colspan="2">Session 2</td></tr>
<tr><td></td><td>Session A2: What are the Important Problems in Our Field?
Chairs: Guilherme, Travassos and Tore Dybå
Location: Max Bell Room 251

Background:
What are the important problems in Software Engineering? Are we doing research that has an impact?

Session goal:
To discuss and prioritize the important research questions in Software Engineering accordingly the perspective of ISERN participants.

Development of the session:
At day one, as part of the welcome and introduction</td><td>Session B2: Software Assurance, Neglected or Unnecessary?
Chairs: Dan Port, Yuko Miyamoto and Haruka Nakao
Location: Max Bell Room 252

Background:
Recent work at JPL indicates that different groups of stakeholders have significantly different ideas about what constitutes SA activities as well as different expectations of their expected benefits and outcomes. Such differing perspectives on SA are both pervasive and persistent. There is a need to establish clarity on what activities constitute SA, the conditions in which these are needed or desirable, and the means for demonstrating their benefit. To this end an extensive empirical study was conducted at JPL with participation from JAXA and the NASA assurance community at large. The primary outcome of this study was a proposed a</td></tr>
</table>

	session, audience will be invited to write down their one, top burning research question and put it on a board during the first day. To motivate activities and give the discussion perspective, a short motivational material will be distributed. The important questions will be collected the next morning and in the session, these will be the questions to discuss and prioritize. Audience will be organized in groups to work out the questions. Then a summary will be produced.	new definition and "value proposition" for SA, meant to clarify the nature of SA and its tangible expected value to software projects. **Session goal:** To stimulate interest and collaboration activities in utilizing the proposed new SA definition and "value proposition" as a unifying principle for SA operations and research going forward. The expected outcome of the session is to establish, clarify, and prioritize a list of "fundamental" research opportunities in SA. **Development of the session:** The session starts with an introduction to SA. It is followed by an attendee interactive discussion with panel of SA practitioners and researchers of proposed new SA definition and value proposition. Finally, from a brainstorm on research questions, research suggestions and opportunities to address questions are identified and prioritized.
15:00 – 15:30	**Coffee break**	**MB Foyer & Lounge**
15:30 – 16:30	**Session 3**	
	Session A3: Great debate **Chair: Mike Barker** **Location: Max Bell Room 251** **Background:** Resolved: Using Cloud Computing means End Users don't need Empirical Software Engineering. Depending on who you listen to, cloud computing means never having to worry about programming, software, maintenance, backups, all of that stuff anymore! Just push all of your work into the cloud, access	**Session B3: Empirical Approaches to Support Decision Making in Industry** **Chairs/Panelists: Pete Rotella, Brian Robinson, Nachi Naggappan and Audris Mockus** **Location: Max Bell Room 252** **Background:** The role of measurement-based decision making has dramatically increased in the corporate software development environment over the last decade. Many of the measures are based on the data from corporate issue tracking and software development databases, much as the underlying data in the empirical study of software

	it anywhere and anytime you like, and everything will be wonderful! Right? So... does this mean that end-users and corporate cloud users can quit worrying about empirical software engineering? **Session Goal:** Share ideas and thinking about how empirical software engineering fits into an environment where most computing is done "in the cloud." What kind of "empirical software engineering literacy" does cloud computing require from its end users? Can they really just ignore everything, or does using cloud computing require them to pay attention to certain specific types of research and results? **Development of the session:** 1. We'll start by assuming that cloud computing really is the answer to all our problems, and in teams, consider how much using cloud computing reduces the need for end users to understand empirical software engineering models and results. 2. Then we'll consider what empirical software engineering knowledge is needed by end users and cloud system developers and providers, and what research studies need to be done in the cloud environment. 3. We'll summarize this as challenges to ISERN that cloud computing poses.	engineering. However, the goals of the measurement in industry are substantially different as are the standards of what constitutes valid evidence. **Session goal:** Share experiences of software quality and productivity measures that are based on corporate databases including software development, sales, and services. Explain how and why the measures were designed and are used to make business and development decisions at the levels of a developer, a project, and of entire corporation. The session also outlines industry needs to academic participants. **Development of the session:** Brief statements by panelists followed by general discussion. Each panelist: 1. Gives the primary objectives of such measurement programs in their context. 2. Outlines the approaches that worked in the past and present existing and future challenges. 3. Provides examples of what is accepted as valid evidence in a particular industry context. 4. Outlines challenges that remain. Translating the above into a language that participants from academia could understand (and act upon).
16:30 – 17:00	**ISERN business** **Chair: Victor R. Basili**	**MB Auditorium**

PROMISE Conference (Sept 20 - 21)

Location: Kinnear Centre for Creativity & Innovation (KCCI)

Tuesday, September 20st

PROMISE 2011 (first day)		
Time	**Event**	**Room:**
07:30 – 08.30	**Breakfast**	**Vista Dining Room**
08:00 – 10:00	**Registration**	**MB Foyer & Lounge**
08:45 – 09:00	**Welcome and Best paper award**	KCCI 101
09:00 – 10:00	**Keynote #1** **Chair: Stefan Wagner** **Seven Habits of High Impactful Empirical Software Engineers** ***Laurie Williams*** *Department of Computer Science* *North Carolina State University*	KCCI 101
10:00 – 10:30	**Coffee break**	
10:30 – 12:00	**Session 1:**	KCCI 101
	Chair: Ayse Benar *Robert Bell, Thomas Ostrand and Elaine Weyuker.* Does Measuring Code Change Improve Fault Prediction? *Vu Nguyen, Liguo Huang and Barry Boehm.* An Analysis of Trends in Productivity and Cost Drivers over Years *Wen Zhang, Ye Yang and Qing Wang.* Handling missing data in software effort prediction with naive Bayes and EM	
12:00 – 13:30	**Lunch**	**Vista Dining Room**

13:30 – 15:00	**Session 2:**	KCCI 101
	Chair: Jacky Keung **Panel:** Practical Software Project Improvements using Actionable Predictive Models and Solutions Introduction (Keung; 20mins): general notes, comments on effort estimation and actionable models. **Paper (30 mins):** *Andreas Zeller, Thomas Zimmermann and Christian Bird.* Failure is a Four-Letter Word: A Satire in Empirical Research **Panelist discussion (40mins):** Emila Mendes, Wang Qing, Martin Shepperd	
15:00 – 15:30	**Coffee break**	
15:30 – 17:30	**Session 3:**	KCCI 101
	Chair: Tom Ostrand *Mohammad Azzeh.* Software Effort Estimation Based on Optimized Model Tree *Sandeep Krishnan, Chris Strasburg, Robyn Lutz and Katerina Goseva-Popstojanova.* Are Change Metrics Good Predictors for an Evolving Software Product Line? *Tomi Prifti, Sean Banerjee and Bojan Cukic.* Detecting Bug Duplicate Reports through Locality of Reference *Leandro Minku and Xin Yao.* A Principled Evaluation of Ensembles of Learning Machines for Software Effort Estimation	
19:00	**PROMISE Dinner**	**Kinnear Centre for Creativity & Innovation at The Banff Centre**

Wednesday, September 21st

PROMISE 2011 (second day)		
Time	**Event**	**Room:**
07:30 – 08.30	**Breakfast**	**Vista Dining Room**
08:00 – 10:00	**Registration**	**MB Foyer & Lounge**
09:00 – 10:00	**Keynote #2** **Chair: Tim Menzies** **Nothing else Matters: What Predictive Model should I use?** ***Massimiliano Di Penta*** *Department of Engineering* *University of Sannio, Benevento, Italy*	KCCI 101
10:00 – 10:30	**Coffee break**	
10:30 – 12:00	**Session 4:**	KCCI 101
	Chair: Ye Yang *Lionel Marks, Ahmed E. Hassan and Ying Zou.* Studying the Fix-Time for Bugs in Large Open Source Projects *Ibrahim Aljarah, Shadi Banitaan, Sameer Abufardeh, Wei Jin and Saeed Salem.* Selecting Discriminating Terms for Bug Assignment: A Formal Analysis *Anh Nguyen Duc, Daniela Cruzes, Claudia Ayala and Reidar Conradi.* Empirical validation of human factors on predicting issue resolution time in open source projects	
12:00 – 13:30	**Lunch**	**Vista Dining Room**
13:30 – 15:00	**Session 5:**	
	Chair: Ayse Bener **Panel:** The Road Ahead in Predictive Modeling 1. Industry involvement and needs (15mins): report from iPromise, Toronto, July 2011;	KCCI 101

	2. Panel discussion (75mins): **Panelists:** Hakan Erdogmusm Mika Mantyla, Barbara Russo, Guenther Ruhe, Burak Turhan. **Topics:** maturity of predictive models (generalization/ locality, policy making etc); repeatability; data analysis (the human side of modeling and metrics); tool support in wide usage of predictive models in the field	
15:00 – 15:30	**Coffee break**	
15:30 – 17:30	**Session 6:**	KCCI 101
	Chair: Stefan Wagner **BEST PAPER :** *Ye Yang, Lang Xie, Zhimin He, Qi Li, Vu Nguyen, Barry Boehm and Ricardo Valerdi.* Local Bias and its Impacts on the Performance of Parametric Estimation Models *Huihua Lu, Bojan Cukic and Mark Culp.* An Iterative Semi-supervised Approach to Software Fault Prediction *Elham Paikari, Guenther Ruhe, Bo Sun and Emadoddin Livani.* Customization Support for CBR-Based Defect Prediction *Masateru Tsunoda, Akito Monden, Takeshi Kakimoto and Kenichi Matsumoto.* An Empirical Evaluation of Outlier Deletion Methods for Analogy-Based Cost Estimation	

IDoESE Doctoral Symposium (Sep 21)

Location: The Max Bell (MB) Building

Wednesday, September 21st

Time	Event	Room:
07:30 – 08.30	**Breakfast**	**Vista Dining Room**
08:00 – 10:00	**Registration**	**MB Foyer & Lounge**
10:00 – 10:30	**Coffee break**	**MB Foyer & Lounge**
10:30 – 10:50 10 min presentation + 10 min. discussion	Software Release Planning Under Soft Resource and Dependency Constraints *Mark Przepiora* *University of Calgary Canada*	MB Room 251
10:50 – 11:25 20 min presentation + 15 min. discussion	Program Comprehension of Feature-Oriented Software Development *Janet Feigenspan* *University of Magdeburg Germany*	MB Room 251
11:25 – 12:00 20 min presentation + 15 min. discussion	Bringing Research Evidence into Software Industry Practice: A Study on Evidence-based Practice in the Software Industrial Setting *Carol Passos* *Federal University of Bahia (UFBA) Brazil*	MB Room 251
12:00 – 13:30	**Lunch**	**Vista Dining Room**

IASESE Advanced School (Sep 21)

Location: The Max Bell (MB) Building

Wednesday, September 21st

Time	Event	Room:
07:30 – 08.30	**Breakfast**	**Vista Dining Room**
08:00 – 10:00	**Registration**	**MB Foyer & Lounge**
09:15 – 10:00	**Introduction (Andreas Jedlitschka & Dietmar Pfahl)**	MB Room 253
10:00 – 10:30	**Coffee break**	**MB Foyer & Lounge**
10:30 – 12:00	**Talk on decision support in software product management** **Speaker: Guenther Ruhe,** University of Calgary, Canada **Title:** Product release and version management - A decision-centric approach	MB Room 253
12:00 – 13:30	**Lunch**	**Vista Dining Room**
13:30 – 15:00	**Talk on decision support in software project management** **Speaker: Stefan Wagner,** University of Stuttgart, Institute of Software Technology, Germany **Title:** Evidence-based decision making in software engineering: Project management	MB Room 253
15:00 – 15:30	**Coffee break**	**MB Foyer & Lounge**
15:30 – 17:00	**Talk on decision support in software quality management** **Speaker: Per Runeson,** Lund University, Sweden **Title:** Strategic and operational decision support in quality management	MB Room 253
17:00 – 17:15	Wrap up	MB Room 253

RESER Workshop Dinner (Sep 20)

Date: September 20, 2011

Time: 19:00

Location: Maple Leaf Grille & Lounge

(please see online program for details: http://sequoia.cs.byu.edu/reser2011)

RESER Workshop (Sep 21)

Wednesday, September 21st

Time	Event	Room:
07:30 – 08.30	**Breakfast**	**Vista Dining Room**
08:00 – 10:00	**Registration**	**MB Foyer & Lounge**
09:00 – 10:00	Introduction	MB Room 252
	Keynote: Victor R. Basili What's so hard about replication of SE experiments? **Chair: Charles D. Knutson**	
10:00 – 10:30	**Coffee break**	**MB Foyer & Lounge**
10:30 – 12:00	**Joint Replication Panel Session** **Chair: Lutz Prechelt** This panel session explores results and methodology of the first cooperative joint replication ever conducted in empirical software engineering research. The target study has now become one of the most prolifically replicated studies in the history of SE research. This session features the culmination of work by four separate research teams. **Papers:** *Lutz Prechelt and Martin Liesenberg* Design Patterns in Software Maintenance: An Experiment Replication at Freie Universität Berlin	MB Room 252

Time	Event	Room:
	Natalia Juristo and Sira Vega Design Patterns in Software Maintenance: An Experiment Replication at UPM *Aziz Nanthaamornphong and Jeffrey C. Carver* Design Patterns in Software Maintenance: An Experiment Replication at University of Alabama *Jonathan L. Krein, Landon J. Pratt, Alan B. Swenson, Alexander C. MacLean, Charles D. Knutson, and Dennis L. Eggett* Design Patterns in Software Maintenance: An Experiment Replication at Brigham Young University	
12:00 – 13:30	**Lunch**	**Vista Dining Room**
13:30 – 15:00	**Paper Session 1** **Chair: Jonathan Krein** **Papers:** *Per Runeson, Andreas Stefik, Anneliese Andrews, Sam Grönblom, Ivan Porres, and Susanna Siebert* A Comparative Analysis of Three Replicated Experiments Comparing Inspection and Unit Testing *Carter Kozak and Megan Squire* A Secondary Data Archive for Code-Level Debian Metrics *Fabio Q. B. da Silva, Marcos Suassuna, Rodrigo. F. Lopes, Tatiana B. Gouveia, A. César A. França, João Paulo N. de Oliveira, Leonardo F. M. de Oliveira, André L. M. Santos* Replication of Empirical Studies in Software Engineering: Preliminary Findings from a Systematic Mapping Study	MB Room 252
15:00 – 15:30	**Coffee break**	**MB Foyer & Lounge**
15:30 – 16:30	**Paper Session 2** **Chair: Sira Vegas** **Papers:** *Elaine J. Weyuker, Robert M. Bell, and Thomas J. Ostrand* Replicate, Replicate, Replicate *Scott H. Burton, Paul M. Bodily, Richard G. Morris, Charles D. Knutson, and Jonathan L. Krein* Design Team Perception of Development Team	MB Room 252

Time	Event	Room:
	Composition: Implications for Conway's Law	
16:30 – 17:10	**Conway Session: Joint Replication 2012** **Chair: Charles Knutson** Join us for an interactive tour of Conway's Law, past and present, as well as a discussion and planning session for the RESER 2012 joint replication. We'll be inviting researchers from around the world to participate in a cooperative differentiated joint replication study of Conway's Law in order to better understand the nuances of this well-known, but under-analyzed phenomenon.	MB Room 252
17:10 – 17:30	Wrap-up	MB Room 252

MetriSec Workshop (Sep 21)

Wednesday, September 21st

Time	Event	Room:
07:30 – 08.30	**Breakfast**	**Vista Dining Room**
08:00 – 10:00	**Registration**	**MB Foyer & Lounge**
08:45 – 09:00	**Welcome**	MB Room 150
09:00 – 10:00	**Session 1 – Vulnerabilities** **Chair: Riccardo Scandariato** **Papers:** *Golnaz Elahi, Eric Yu and Nicola Zannone.* Security Risk Management by Qualitative Vulnerability Analysis *Maureen Doyle and James Walden.* An Empirical Study of the Evolution of PHP Web Application Security	
10:00 – 10:30	**Coffee break**	**MB Foyer & Lounge**
10:30 – 12:00	**Session 2 – Alerts** **Chair: Laurie Williams** **Papers:** *Stewart Kowalski, Rostyslav Barabanov and Robert Hoffmann.* Cyber Security Alert Warning System:A Socio-Techinal Coordinate System Proposal *Harpreet Kohli, Dale Lindskog, Pavol Zavarsky and Ron Ruhl.* An Enhanced Threat Identification Approach For Collusion Threats *Sufatrio and Roland H.C. Yap.* Quantifying the Effects of More Timely Certificate Revocation on Lightweight Mobile Devices	MB Room 150
12:00 – 13:30	**Lunch**	**Vista Dining Room**
13:30 – 15:00	**Session 3 - Privacy and Short Talks** **Chair: Maureen Doyle** **Papers:** *Sebastian Banescu and Nicola Zannone.* Measuring Privacy Compliance with Process Specifications	MB Room 150

Time	Event	Room:
	Emmanuel Ibidokun Tope, Pavol Zavarsky, Ron Ruhl and Dale Lindskog. Performance Evaluation of Oracle VM Server Virtualization Software 64 bit Linux Environment *Erland Jonsson and Laleh Pirzadeh.* A Framework for Security Metrics Based on Operational System Attributes *Jeffrey Stuckman and James Purtilo.* A testbed for the evaluation of web intrusion prevention systems *Kihun Jang and Heung-Youl Youm.* Authentication Protocol for Preventing Damage by Loss and Theft of Smartphone *Laleh Pirzadeh and Erland Jonsson.* A Cause and Effect Approach Towards Risk Analysis *Lukas Demetz, Daniel Bachlechner, Stefan Thalmann and Ronald Maier.* Performance measurement in cross-organizational security settings *Olav S. Ligaarden, Atle Refsdal and Ketil Stølen.* Experiences from Using Indicators to Validate Expert Judgments in Security Risk Analysis	
15:00 – 15:30	**Coffee break**	**MB Foyer & Lounge**
15:30 – 17:00	**Breakout Session** **Chair: James Walden** Details: http://metrisec2011.cs.nku.edu/program.html	MB Room 150

ESEM Reception (SEP 21)

Date: **Wednesday, September 21, 2011**

Time: **19:00**

Location: **Kinnear Centre for Creativity & Innovation**

Room KCCI 103

ESEM Conference (Sep 22 – 23)

Location: The Max Bell (MB) Building

Thursday, September 22nd

ESEM 2011 (first day)			
Time	**Event**		**Room:**
07:30 – 08.30	**Breakfast**		**Vista Dining Room**
08:00 – 10:00	**Registration**		**MB Foyer & Lounge**
08:30 – 09:00	Welcome		MB Auditorium
09:00 – 10:00	**Keynote: Elaine Weyuker** Empirical Software Engineering Research - The Good, The Bad, The Ugly		MB Auditorium
10:00 – 10:30	**Coffee break and Poster Exhibition**		**MB Foyer & Lounge**
10:30 – 12:00	**Session 1:** **Debugging** **Chair: Daniela Soares Cruzes** **Location: Room MB Auditorium**	**Session 2:** **State of the Practice** **Chair: Dietmar Pfahl** **Location: Room MB 251**	**Session 3:** **Systematic Reviews** **Chair: Guilherme Horta Travassos** **Location: Room MB 252**
	Full Papers *Andrew Austin and Laurie Williams.* One Technique is Not Enough: A Comparison of Vulnerability Discovery Techniques *John Noll, Sarah Beecham and Dominik Seichter.* A Qualitative Study of Open Source Software Development: the OpenEMR	**Full Papers** *Jari Soini.* A Survey of Metrics Use in Finnish Software Companies *Gabriela Robiolo.* How simple is it to measure software size and complexity for an IT practitioner?	**Full Papers** *He Zhang and Muhammad Ali Babar.* An Empirical Investigation of Systematic Reviews in Software Engineering *Oscar Dieste, Enrique Fernandez, Ramon Garcia-Martinez and Natalia Juristo.* The risk of using the Q heterogeneity

ESEM 2011 (first day)			
Time	**Event**		**Room:**
	Project *Wladimir Araujo, Lionel Briand and Yvan Labiche.* On the Effectiveness of Contracts as Test Oracles in the Detection and Diagnosis of Race Conditions and Deadlocks in Concurrent Object-Oriented Software	*Fabio Q. B. Da Silva, A. César C. França, Tatiana B. Gouveia, Cleviton Monteiro, Elisa S. F. Cardozo and Marcos Suassuna.* An Empirical Study on the Use of Team Building Criteria in Software Projects	estimator for software engineering experiments *Katia Romero Felizardo, Norsaremah Salleh, Rafael Messias Martins, Emilia Mendes, Stephen G. Macdonell and José Carlos Maldonado.* Using Visual Text Mining to Support the Study Selection Activity in Systematic Literature Reviews
12:00 – 13:30	**Lunch**		**Vista Dining Room**
13:30 – 15:00	**Session 4:** **Testing** **Chair: Tim Menzies** **Location: Room MB Auditorium**	**Session 5:** **Using Metrics in Practice** **Chair: Audris Mockus** **Location: Room MB 251**	**Session 6:** **Empirical Methods** **Chair: Barbara Russo** **Location: Room MB 252**
	Full Papers *Emanoel Barreiros, Adauto Almeida, Juliana Saraiva and Sergio Soares.* A Systematic Mapping Study on Software Engineering Testbeds *Debarshi Chatterji, Jeffrey Carver, Beverly Massengil, Jason Oslin and Nicholas Kraft.* Measuring the Efficacy of Code Clone Information in a Bug Localization Task: An Empirical Study	**Experience Reports** *Laurie Williams, Gabe Brown, Adam Meltzer and Nachiappan Nagappan.* Scrum + Engineering Practices: Experiences of Three Microsoft Teams *Prashanth Harish Southekal and Dr Ginger Levin.* Formulation and Empirical Validation of a GQM Based Measurement Framework for a Software Project *Dandan Wang, Qing Wang, Ye Yang,*	**Short Papers** *Daniela S. Cruzes, Tore Dybå, Per Runeson and Martin Höst.* Case Studies Synthesis: Brief Experience and Challenges for the Future *Tiago Alves.* Categories of Source Code in Industrial Systems *Kai Petersen and Nauman Bin Ali.* Identifying Strategies for Study Selection in Systematic Reviews and Maps

ESEM 2011 (first day)			
Time	**Event**		**Room:**
	Xiao Qu and Brian Robinson. A Case Study of Concolic Testing Tools and Their Limitations	*Qi Li, Haitao Wang and Feng Yuan.* "Is It Really a Defect?" An Empirical Study on Measuring and Improving the Process of Software Defect Reporting *Pete Rotella and Satyabrata Pradhan.* Composite Release Values for Normalized Product-level Metrics	*Xu Bai, He Zhang and Liguo Huang.* Empirical Research in Software Process Modeling: A Systematic Literature Revie *Susan Mitchell and Carolyn Seaman.* A Knowledge Mapping Technique for Project-level Knowledge Flow Analysis
15:00 – 15:30	**Coffee break and Poster Exhibition**		**MB Foyer & Lounge**
15:30 – 17:00	**Session 7:** **Software Products** **Chair: Andrew Begel** **Location: Room MB Auditorium**	**Session 8:** **Software Projects in Practice** **Chair: Per Runeson** **Location: Room MB 251**	**Session 9:** **Human Factors** **Chair: Lorin Hochstein** **Location: Room MB 252**
	Full Papers *Kathryn T. Stolee, Sebastian Elbaum and Anita Sarma.* End-User Programmers and their Communities: An Artifact-based Analysis *Dorsaf Haouari, Houari Sahraoui and Philippe Langlais.* How Good is your Comment? A study of Comments in Java Programs *Janet Feigenspan, Sven Apel, Jörg Liebig and Christian Kaestner.*	**Experience Reports** *Guoping Rong, Dong Shao, He Zhang and Jun Li.* Goal-Driven Development Method for Managing Embedded System Projects: An Industrial Experience Report *Carol Passos, Ana Paula Braun, Daniela S. Cruzes and Manoel Mendonça.* Analyzing the Impact of Beliefs in Software Project Practices *Ricardo Perez-Castillo, Laura Sanchez-Gonzalez, Mario Piattini, Felix Garcia*	**Short Papers** *Marco Torchiano, Federico Tommasetti, Filippo Ricca, Alessandro Tiso and Gianna Reggio.* Preliminary findings from a Survey on the MD* State of the Practice *Rien Sach, Helen Sharp and Marian Petre.* Software Engineers' Perceptions of Factors in Motivation *Robert Merkel, Tanjila Kanij and John Grundy.*

ESEM 2011 (first day)			
Time	**Event**		**Room:**
	Exploring Software Measures to Assess Program Comprehension	*and Ignacio Garcia-Rodriguez De Guzman.* Obtaining Thresholds for the Effectiveness of Business Process Mining	A preliminary study on factors affecting software testing team performance *José Fortuna Abrantes and Guilherme Horta Travassos.* Common Agile Practices in Software Processes *Da Yang, Wenpei Liu, Qiang Cui, Juan Li, Ye Yang and Qing Wang.* Modeling the Number of Active Software Users *Maria Paasivaara and Casper Lassenius.* Scaling Scrum in a Large Distributed Project
17:30	**Shuttle to Lake Louise**		
19:00 –22:00	**Banquet at the Chateau Lake Louise**		

Friday, September 23rd

ESEM 2011 (second day)			
Time	**Event**		**Room:**
07:30 – 08.30	**Breakfast**		**Vista Dining Room**
08:30 – 09:00	Welcome		MB Auditorium
09:00 – 10:00	**Keynote: Jan Bosch** Driving Innovation through Software Experiment Systems		MB Auditorium
10:00 – 10:30	**Coffee break and Poster Exhibition**		**MB Foyer & Lounge**
10:30 – 12:30	**Session 10:** **Architecture** **Chair: Lucas Layman** **Location: Room MB Auditorium**	**Session 11:** **Defect Prediction** **Chair: Elaine Weyuker** **Location: Room MB 251**	**Session 12:** **Project Management** **Chair: Claes Wohlin** **Location: Room MB 252**
	Full Papers *Rainer Lutz, David Würfel and Stephan Diehl.* How Humans merge UML-Models *Lionel Briand, Yvan Labiche and Reymes Madrazo-Rivera.* An Experimental Evaluation of the Impact of System Sequence Diagrams and System Operation Contracts on the Quality of the Domain Model *Bartosz Michalik, Danny Weyns, Nelis Boucké and Alexander Helleboogh.* Reconstructing Architectural Models	**Full Papers** *Maximilian Steff and Barbara Russo.* Measuring Architectural Change for Defect Estimation and Localization *Lianfa Li and Hareton Leung.* Mining Static Code Metrics for a Robust Prediction of Software Defect-Proneness *Rahul Premraj and Kim Herzig.* Network versus Code Metrics to Predict Defects: A Replication Study *Eero Laukkanen and Mika Mäntylä.*	**Full Papers** *Ekrem Kocaguneli and Tim Menzies.* How to Find Relevant Data for Effort Estimation? *Dirk Basten and Werner Mellis.* A Current Assessment of Software Development Effort Estimation *Van T. K. Tran, Kevin Lee, Alan Fekete, Anna Liu and Jacky Keung.* Size Estimation of Cloud Migration Projects with Cloud Migration Point (CMP)

ESEM 2011 (second day)			
Time	**Event**		**Room:**
	to Support SPL Products Updates: A Controlled Experiment *Werner Heijstek, Thomas Kühne and Michel R. V. Chaudron.* Experimental Analysis of Textual and Graphical Representations for Software Architecture Design	Survey Reproduction of Defect Reporting in Industrial Software Development	*Michael Klaes, Adam Trendowicz, Yasushi Ishigai and Haruka Nakao.* Handling Estimation Uncertainty with Bootstrapping: Empirical Evaluation in the Context of Hybrid Prediction Methods
12:30 – 13:30	**Lunch**		**Vista Dining Room**
13:30 – 15:00	**Session 13:** **Synthesizing Results** **Chair: Jeffrey Carver** **Location: Room MB Auditorium**	**Session 14:** **Software Development** **Chair: Andreas Jedlitschka** **Location: Room MB 251**	**Session 15:** **Software Quality & Effort** **Chair: Stefan Wagner** **Location: Room MB 252**
	Full Papers *Daniela S. Cruzes and Tore Dybå.* Recommended Steps for Thematic Synthesis in Software Engineering *Oscar Dieste, Anna Grimán, Natalia Juristo and Himanshu Saxena.* Quantitative determination of the relationship between internal validity and bias in software engineering experiments: consequences for systematic literature reviews *Roel Wieringa, Maya Daneva and Nelly Condori-Fernández.*	**Full Papers** *Aram Hovsepyan, Riccardo Scandariato, Stefan Van Baelen, Serge Demeyer and Wouter Joosen.* Preserving Aspects via Automation: a Maintainability Study *Sebastian Nanz, Faraz Torshizi, Michela Pedroni and Bertrand Meyer.* Design of an Empirical Study for Comparing the Usability of Concurrent Programming Languages *Gunnar R. Bergersen, Jo E. Hannay, Dag I. K. Sjøberg, Tore Dybå and Amela*	**Short Papers** *Ganesh Pai, Ewen Denney and Ibrahim Habli.* Towards Measurement of Confidence in Safety Cases *Timo Lehtinen and Mika Mäntylä.* What are problem causes of software projects? – Data of Root Cause Analysis at Four Software Companies *Ilenia Fronza, Pekka Abrahamsson, Raimund Moser, Witold Pedrycz, Alberto Sillitti, Giancarlo Succi and Jelena Vlasenko.*

ESEM 2011 (second day)				
Time	**Event**			**Room:**
	The Structure of Design Theories, and an Analysis of Their Use in Software Engineering Experiments	*Karahasanović.* Inferring Skill from Tests of Programming Performance: Combining Time and Quality	Predicting Development Effort from User Stories *Raymond Madachy, Barry Boehm, Brad Clark, Thomas Tan and Wilson Rosa.* US DoD Application Domain Empirical Software Cost Analysis *Sabine Nunnenmacher, Jessica Jung, Golriz Chehrazi, Alexander Klaus, Constanza Lampasona, Christian Webel and Marcus Ciolkowski.* A Preliminary Survey on Subjective Measurements and Personal Insights into Factors of Perceived Future Project Success *Lorin Hochstein and Yang Jiao.* The cost of the build tax in scientific software	
15:00 – 15:30	**Coffee break and Poster Exhibition**			**MB Foyer & Lounge**
15:30 – 17:00	**Best paper awards & sneak peek for ESEM2012**			**MB Auditorium**

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