

23rd IEEE International
Requirements Engineering
Conference



Conference Program

Ottawa, Canada
August 24-28, 2015

<http://www.re15.org>



Daniel Amyot
General Chair



Didar Zowghi
Program Co-Chair



Vincenzo Gervasi
Program Co-Chair



Sarah C. Gregory
Industry Co-Chair



**Richard Berntsson
Svensson**
Industry Co-Chair

It is with great pleasure that we welcome you to the **23rd IEEE International Requirements Engineering Conference, RE'15**, in the beautiful multicultural city of Ottawa, Canada.

For almost a quarter of a century now, this Conference has hosted researchers, practitioners, educators and students interested in Requirements Engineering, presenting latest results, technical innovations, reports from field work, emerging challenges and opportunities. In so doing, RE has often opened the way for tool vendors, companies, teaching institutions, and professional bodies looking to anticipate the needs of the booming information society at large.

The particular focus of RE'15 is in line with the special role that Requirements Engineering can play in identifying the needs of large population segments, and in effectively processing their input, expressed or implied, and to deliver better products and achieve greater satisfaction to a large number of users. This special focus is distilled in the RE'15 motto of *"Requirements for the masses, requirements from the masses"* – a theme which several accepted papers have addressed.

The conference offers a rich technical program, including a number of selected papers from (and for) both academic and industrial perspectives. Presentations of these papers, grouped by subject, span the entire 3-day duration of the conference. In addition, this year we have introduced a new track named "RE:Next!" that offers shorter previews of ongoing work. This track is an excellent opportunity to hear what people around the world are currently working on, to establish early collaborations, to stimulate ideas and to share experiences while the chances of influencing future development are high, or even to get the first peek at the next big breakthrough!

We sincerely hope that RE'15 attendees, and especially those participating at RE for the first time, will benefit from an enriching experience and will enjoy the conference and Ottawa to the fullest extent!

Daniel Amyot, RE'15 General Chair

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Richard Berntsson Svensson, RE'15 Industry Co-Chair

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Registration Chair	<i>Vahdat Abdelzad, University of Ottawa, Canada</i>
Web Chair & Webmaster	<i>Michael Unterkalmsteiner, Blekinge Institute of Technology, Sweden</i> <i>Yi Jiang, Peking University, China</i>

PROGRAM COMMITTEE**RESEARCH**

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RE:Next!

Dan Berry, Canada; Anthony Finkelstein, UK; Martin Glinz, Switzerland; Olly Gotel, USA; Mats Heimdahl, USA; Julio-Cesar Leite, Brazil; Robyn Lutz, USA ; John Mylopoulos, Canada; Klaus Pohl, Germany; Alistair Sutcliffe, UK; Roel Wieringa, The Netherlands



You versus Users – Who owns your roadmap?

Aydin Y. Mirzaee, General Manager, FluidReview, SurveyMonkey

Requirement Engineering can become complex when the number of users who submit requirements is large. In the world of online Software as a Service businesses, the number of users can be massive – often in the millions. In the case of SurveyMonkey, the world's largest survey company, it can be in the tens of millions.

In a world with increasing demands and where users have a louder voice than ever via Twitter, Facebook and LinkedIn, how does one prioritize feature requests, bug fixes and everything else requested by customers and partners? Is the roadmap in the hands of the company or the users? Is this a winnable battle?

In this talk, I will tell the story of how product requirements were determined when Fluidware was first established almost eight years ago and how it evolved in the various accelerated growth stages of the company before and after acquisition by SurveyMonkey.



Can you intentionally design a product that is cool?

Karen Holtzblatt, Founder & CEO, InContext

What makes products cool? Can teams deliberately design for cool? What mysterious forces need to align in order to create the profoundly innovative products? To find out, we immersed ourselves in the experiences of everyday people as they used their coolest products. And we discovered there's really nothing magical about it. It's about joy and the underlying seven *Cool Concepts* - the core human motivations at the very heart of joy. The Cool Concepts create a framework for guiding

design and analyzing products. The Cool Concepts also require us to change our current methods for user research and design for the next generation of users and platforms.

In this talk, Karen Holtzblatt articulates these key dimensions that product teams need to consider to create the cool user experience. She shares the findings of The Cool Project and introduces the audience to the Cool Concepts, organized into *The Wheel of Joy in Life* and *The Triangle of Design*:

The *Wheel of Joy* represents the what of a cool product. Joy and delight come from accomplishing what you need to in life, connecting to people you care about, expressing your unique self, and simply enjoying sensory stimulation.

The *Triangle of Design* represents the how of a cool product. Joy in use comes from product design that lets users get directly to their intent with minimal hassle or learning.



Requirements, Behaviours and Software Engineering

Michael Jackson, Independent Consultant and Visiting Research Professor, The Open University

The first RE conference took place in 1993. The RE'15 theme "Requirements for the masses and requirements from the masses" can be understood as a plea to rethink the relationship of software engineering to the needs and desires of our customers. It raises many important questions: not least the question whether requirements engineering itself can, after all, be seen as a coherent discipline resting on sound and consistent principles.

In this talk, I would like to discuss some of these questions, focusing on the behaviour of cyberphysical systems, in which software interacts with the human and physical world to achieve desired effects there. Cyberphysical systems are very various, differing in many dimensions. But in all of them a central concern is the working relationship between the software engineers, who will design and build the system, and the stakeholders, whose needs and desires form the requirements. This relationship revolves around the core concept of system behaviour, seen from two distinct perspectives. The issues that must be addressed in cyberphysical systems arise also in systems of many other kinds.

RE'15 features a Welcome Reception, a Banquet, and more!

Welcome Reception

Tuesday, August 25th, 2015. 18:30 - 22:00

The RE'15 Welcome reception will be held on Tuesday (August 25th) on the Ottawa River itself! We will enjoy a cruise and the very scenic Ottawa Valley, with a full dinner buffet, drinks and music.



Come and observe the August sunset on our *magical* river!

The welcome reception is only a short walk from the conference venue (about 1.8km). Keep heading north from the university until you hit Rideau Street. Take a left on Rideau Street to go west. You will pass the Rideau Centre on your left and then the Chateau Laurier on your right. Immediately after the Chateau Laurier, you will see the locks of the Rideau Canal. There is a path on the left (west) side of the canal that takes you from Rideau Street along the canal and the locks to the Ottawa River. The cruise departs where the canal meets the river.

If you want to take the bus from the Campus Station at the University to the welcome reception, you can take almost all regular buses going to downtown Ottawa. The bus will take you half way. Ask the driver of the bus whether the bus stops at the Rideau Centre (MacKenzie King Bridge). Do not take an express bus as they are more expensive. Get off at MacKenzie King Bridge (only two stops from Campus Station) and walk through the Rideau Centre Mall to Rideau Street. When you exit the Rideau Centre Mall, head west along Rideau Street towards Chateau Laurier and the locks. Then follow the remaining walking instructions.

Bus fees (OC Transpo) and types of payments are explained at <http://www.octranspo1.com/tickets-and-passes>. Tickets for the buses are available from the registration desk.

Ottawa Walking Tour

Wednesday, August 26th, 2015, 19:00-20:30

This tour was an extra option during registration. If you still want to participate, please contact the registration desk whether there are still spots available.

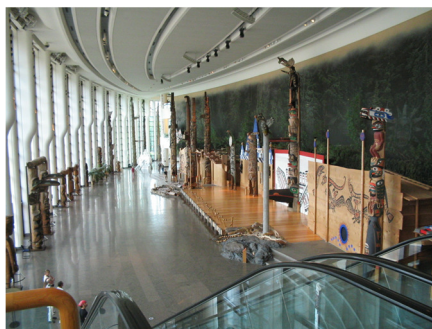
The tour will depart from the Terry Fox statue located at 90 Wellington Street, corner of Metcalfe and Wellington Streets, directly across the street from Parliament Hill. The tour will end at 55 George Street in the By Ward Market.

Ottawa Walking Tours is a local company dedicated to letting our experienced, professional bilingual guides acquaint visitors with the history and charm of our beautiful city. OWT's 2-hour guided historical walks are a must for any visitor wishing to learn more about Ottawa's history, architecture, colourful political characters as well as snap some outstanding photographs. Spend a couple of hours with Ottawa Walking Tours exploring the city's past and discovering how this modern world capital came to be with a fun and educational experience.

Banquet

Thursday, August 27th, 2015. 18:00 – 1:00

The RE'15 Banquet will be located in the nicest museum in the country: the **Canadian Museum of History**. The museum will be open for free at 16:00. The banquet will start with a cocktail at 19:00 in the gorgeous Grand Hall, followed by dinner at 20:00 and then dancing!



The most convenient way to get to the banquet at the Museum of History is to take the #8 OC Transpo bus from the Campus Station at the University. The #8 leaves every 15min (i.e., 17:25 / 17:40 / 17:55 / 18:10 / 18:25) and the last bus going directly to the museum is scheduled at 18:25. The bus stops in front of the museum and takes about 30min to get there.

On the way back, the #21 STO bus leaves right in front of the museum at 9:13 PM / 9:42 PM / 10:13 PM / 11:13 PM and takes about 6min to get to Rideau Street in Ottawa. The #31 STO bus leaves from nearby the museum at 9:37 PM / 10:37 PM / 11:37 PM / 12:31 AM (last bus) and takes about 8min to get to Rideau Street in Ottawa. To catch the #31, take a right turn when you exit the museum to walk east along Rue Laurier towards Alexandra bridge. The bus stop is right after the bridge. You will have to be on the north side of the street to catch the bus (the side of the street that's further away from the river). It should take you about 6min to walk from the museum to the bus stop.

Tickets for the buses are available from the registration desk. Make sure to use the corresponding ticket for the buses. The #8 is an OC Transpo bus, while the #21 and #31 are STO buses. Bus fees (STO) and types of payments are explained at <http://www.sto.ca/index.php?id=tarifs&L=en>

You may also walk to and from the Museum of History, taking Alexandra Bridge to cross the Ottawa River. It is roughly a 2.9km walk.

Badge and Tickets

Your participation badge is required for breaks and lunches. The other events have specific tickets included in your participant envelope (so check them properly). The Ottawa Walking Tour has specific and well-identified tickets. For the Welcome Reception and the Banquet, there are additional tickets provided:

Welcome Reception Entrance:
White and Blue



Welcome Reception Drink:
Green

Banquet Entrance:
White and Black

Banquet Drink:
Red

	Requirements elicitation, analysis, documentation, validation, and verification
	Requirements management, viewpoints, prioritization and negotiation
	Requirements specification languages, methods, processes and tools
	Modeling of requirements, goals and domains
	Evolution of requirements over time, product families, variability and reuse
	Relating requirements to business goals, architecture and testing
	Formal analysis and verification
	Social, cultural, global and cognitive factors in requirements engineering
	Requirements traceability
	Requirements related to safety, reliability, security, privacy and digital forensics
	Requirements in agile, product line and model-driven development
	Requirements in service-oriented, virtualization, embedded, cloud and mobile environments
	Empirical studies, measurements and prediction
	Tool support for requirements engineering
	Industry and research collaboration, interdisciplinary insights, learning from practice, and technology transfer
	Domain-specific problems, experiences, and solutions, including new and emerging domains
	Pragmatic requirements engineering: process efficiency, good-enough requirements, agile and lean approaches
	Collaboration with stakeholders: stakeholder management, creativity, requirements elicitation and negotiation
	Large-scale requirements engineering: complex systems, product lines, value chains, software ecosystems
	Requirements specification: natural language, model-driven approaches, formal techniques
	Requirements engineering for user experience, including ethnography, design, and usability
	Creativity, innovation, and requirements engineering

Workshops:**WS01 – AiRE:**

2nd International Workshop on Artificial Intelligence for Requirements Engineering [[FSS 1006](#)]

WS02 – EmpiRE:

5th Workshop on Empirical Requirements Engineering [[FSS 4012](#)]

WS03 – MoDRE:

5th International Model-Driven Requirements Engineering Workshop [[FSS 6032](#)]

WS04 – RE4SuSy:

4th International Workshop on Requirements Engineering for Sustainable Systems (#RE4SuSy #RE15) [[FSS 7035](#)]

WS11 – iStar:

8th International i* Workshop (two days) [[FSS 1030](#)]

Tutorials:

09:00

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T01:

17:30

Boosting requirements analysis and validation skills through feedback-enabled semantic prototyping [[FSS 7003](#)]

T02:

Eliciting Unstated Requirements (or Be Careful What You Ask Users) [[FSS 8003](#)]

T03:

How to Combine Requirements and Interaction Design [[FSS 4014](#)]

T04:

Introduction to Grounded Theory, Measurement and Applications [[FSS 9003](#)]

T05:

Secure Systems Requirements and Construction with Security Patterns [[FSS 1005](#)]

T06:

Writing Good Requirements [[FSS 6004](#)]

Coffee Breaks (10:30-11:00 & 15:30-16:00) [[FSS 4007](#) and [FSS 1st floor](#)]

Lunch (12:30-14:00) [[STE cafeteria, 1st floor](#)]

Workshops**WS06 – CrowdRE:**

The First International Workshop on Crowd-Based Requirements Engineering [[FSS 1006](#)]

WS07 – ESPRE:

2nd Workshop on Evolving Security and Privacy Requirements Engineering [[FSS 4012](#)]

WS08 – JIT RE:

1st Workshop on Just-In-Time RE [[FSS 4014](#)]

WS09 – RePa:

5th International Workshop on Requirements Patterns [[FSS 6004](#)]

WS10 – RELAW:

8th International Workshop on Requirements Engineering and Law [[FSS 7035](#)]

WS11 – iStar:

8th International i* Workshop (continued) [[FSS 1030](#)]

Tutorials**T07:**

09:00

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21 More Powerful Ways to Catch Inadequate Requirements Early [[FSS 7003](#)]

17:30

T08:

Aligning Product Line Strategy, Requirements and Features (Afternoon) [[FSS 8003](#)]

T09:

Business and Software Ecosystems: How to model, analyze, and survive! (Morning) [[FSS 8003](#)]

T10:

Business Process Compliance Analysis: A Graphical Representation with Tool Support [[FSS 6032](#)]

T11:

Distributed Systems Development using Info Cases (Afternoon) [[FSS 4013](#)]

T12:

Leverage BABOK® Guide v3 to Deliver Better Business Outcomes [[FSS 1005](#)]

T13:

Writing better requirements with EARS+ [[FSS 9003](#)]

Doctoral Symposium

(#RE15Docsym) [[FSS 14001](#)]

Coffee Breaks (10:30-11:00 & 15:30-16:00) [[FSS 4007](#) and [FSS 1st floor](#)]

Lunch (12:30-14:00) [[STE cafeteria, 1st floor](#)]

Welcome Reception (18:30-21:45) [[Ottawa River – see page 5](#)]

08:30 **Plenary: Opening (#RE15)**
 – [FSS 2005] Chairs: Daniel Amyot, Didar Zowghi, and Vincenzo Gervasi

09:00

09:00 **Keynote: You versus Users - Who owns your roadmap? (Keynote)**
 – [FSS 2005] Chair: Claude Laguë and Daniel Amyot

10:30 Keynote Speaker: *Aydin Y. Mirzaee* (FluidReview, SurveyMonkey, Canada)

Coffee Break (10:30-11:00) [FSS 4007 and FSS 1st floor]

Tracing (Research/Industry)

[FSS 1007] Chair: Jane Cleland-Huang



A Quality Model for the Systematic Assessment of Requirements Traceability

Patrick Rempel and Patrick Mäder

(TU Ilmenau, Germany)

Understanding Changes in Use Cases: A Case Study

Mohammad R. Basirati, Henning Femmer, Sebastian Eder, Martin Fritzsche, and Alexander Widera

(TU München, Germany; Munich Re, Germany)



An Information Theoretic Approach for Extracting and Tracing Non-functional Requirements

Anas Mahmoud (Louisiana State University, USA)



11:00

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12:30 **Risks (Research/Industry)**

[FSS 2005] Chair: Emmanuel Letier



Exposing the Susceptibility of Off-Nominal Behaviors in Reactive System Requirements

Daniel Aceituna and Hyunsook Do

(North Dakota State University, USA)

Handling Knowledge Uncertainty in Risk-Based Requirements Engineering

Antoine Cailliau and Axel Van Lamsweerde

(Université Catholique de Louvain, Belgium)



Assessment of Risk Perception in Security Requirements Composition

Hanan Hibshi, Travis D. Breaux, and Stephen B. Broomell

(Carnegie Mellon University, USA)



Lunch Break (12:30-14:00) [STE cafeteria, 1st floor]

Awards Session: Most Influential Paper & Best Paper Awards

[FSS 1007] Chair: Didar Zowghi

Most Influential Paper Award (from RE'05): Modeling security requirements through ownership, permission and delegation

Paolo Giorgini, Fabio Massacci, John Mylopoulos, Nicola Zannone

Best industry paper: Requirements Problems in the Development of a New User Interface for Healthcare Equipment

Jens Bæk Jørgensen, Maria Holmegaard, Michael Sørensen Loft, and Martin Stig Stissing (Mjølner Informatics, Denmark)

Best research paper: Ambiguity as a Resource to Disclose Tacit Knowledge

Alessio Ferrari, Paola Spoletini, and Stefania Gnesi (ISTI-CNR, Italy; Kennesaw State University, USA)

Best research paper: Bug Report, Feature Request, or Simply Praise? On Automatically Classifying App Reviews

Walid Maalej and Hadeer Nabil (University of Hamburg, Germany)

Testing (Research/Industry)

[FSS 2005] Chair: Martin Glinz



A Requirements Monitoring Model for Systems of Systems

Michael Vierhauser, Rick Rabiser, Paul Grünbacher, and Benedikt Aumayr (JKU Linz, Austria)

14:00

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15:30

Experience Requirements in Video Games: Definition and Testability

David Callele, Philip Dueck, Krzysztof Wnuk, and Peitsa Hynninen (Experience First Design, Canada; Blekinge Institute of Technology, Sweden; Aalto University, Finland)



Using the Requirements Specification to Infer the Implicit Test Status of Requirements

Tobias Morciniec and Andreas Podelski (Daimler, Germany; University of Freiburg, Germany)



Coffee Break (15:30-16:00) [FSS 4007 and FSS 1st floor]

Elicitation (Research/Industry)

[FSS 1007] Chair: Barbara Paech



Requirements Engineering: The Quest for the Dependent Variable
Hannes Holm, Teodor Sommestad, and Johan Bengtsson (Swedish Defence Research Agency, Sweden)

Systematic Elicitation of Mode Models for Multifunctional Systems
Andreas Vogelsang, Henning Femmer, and Christian Winkler (TU München, Germany; MAN Truck & Bus, Germany)



Requirements Problems in the Development of a New User Interface for Healthcare Equipment (**Best Industry Paper Award**)



16:00

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17:30

Jens Bæk Jørgensen, Maria Holmegaard, Michael Sørensen Loft, and Martin Stig Stissing (Mjølner Informatics, Denmark)

Creativity (Research/Industry)

[FSS 2005] Chairs: Birgit Penzenstadler



Selecting Creativity Techniques for Creative Requirements: An Evaluation of Four Techniques using Creativity Workshops
Richard Berntsson Svensson and Maryam Taghavianfar (Blekinge Institute of Technology, Sweden; Chalmers University of Technology, Sweden)

Sketching and Notation Creation with FlexiSketch Team: Evaluating a New Means for Collaborative Requirements Elicitation



Dustin Wüest, Norbert Seyff, and Martin Glinz (University of Zurich, Switzerland; University of Applied Sciences and Arts Northwestern Switzerland, Switzerland)

Demos and Posters

[FSS 4007] Chair: Maya Daneva and Sepideh Ghanavati

SACRE: A Tool for Dealing with Uncertainty in Contextual Requirements at Runtime

Edith Zavala, Xavier Franch, Jordi Marco, Alessia Knauss, and Daniela Damian

(Universitat Politècnica de Catalunya, Spain; University of Victoria, Canada)

ReqPat: Efficient Documentation of High-Quality Requirements using Controlled Natural Language

Markus Fockel and Jörg Holtmann (Fraunhofer IPT, Germany)

Holistic Security Requirements Analysis: An Attacker's Perspective

Tong Li, Elda Paja, John Mylopoulos, Jennifer Horkoff, and Kristian Beckers (University of Trento, Italy; City University London, UK; TU München, Germany)

Breeze: A Modeling Tool for Designing, Analyzing, and Improving Software Architecture

Luxi Chen, Linpeng Huang, Hao Zhong, Chen Li, and Xiwen Wu

(Shanghai Jiao Tong University, China)

16:00

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18:00

StakeCloud Tool: From Cloud Consumers' Search Queries to New Service Requirements

Irina Todoran Koitz and Martin Glinz (University of Zurich, Switzerland)

An Enhanced Requirements Gathering Interface for Open Source Software Development Environments

Jaison Kuriakose and Jeffrey Parsons (Memorial University, Canada)

Supporting Quantitative Assessment of Requirements in Goal Orientation

Robert Darimont and Christophe Ponsard (Respect-IT, Belgium; CETIC, Belgium)

Web Tool for Goal Modelling and Statechart Derivation

João Pimentel, Jéssyka Vilela, and Jaelson Castro (Federal University of Pernambuco, Brazil)

Challenges of Requirements Engineering in AUTOSAR Ecosystems

Mozhan Soltani and Eric Knauss (University of Gothenburg, Sweden; Chalmers University of Technology, Sweden)

RE Steering Committee meeting (18:00-19:00) [FSS 4004] Chair: Jane Cleland-Huang

Ottawa Walking Tours (19:00-20:30, see page 7)

RE'15 Organization/Program Committees Dinner (19:00-22:00)

09:00 **Keynote: Can You Intentionally Design a Product That Is Cool? (Keynote)**

[FSS 2005] Chairs: Dan Berry and Didar Zowghi

10:30 Keynote Speaker: *Karen Holtzblatt* (InContext, USA)

Coffee Break (10:30-11:00) [FSS 4004 and FSS 1st floor]

Industry Presentations (Industry Experience)

[FSS 1006] Chair: Chris Sibbald


Moving from Software to Systems Product Line Engineering
Bill Bolander (IBM, Canada)


Requirements Engineering at Intel
Sarah C. Gregory (Intel, USA)


Requirements Engineering and the BABOK® Guide v3
Jas Phul and Alain Arseneault
(International Institute of Business Analysis, Canada)

Agile (Research/Industry)

[FSS 2005] Chair: Walid Maalej


Forging High-Quality User Stories: Towards a Discipline for Agile Requirements 
Garm Lucassen, Fabiano Dalpiaz, Sjaak Brinkkemper, and J.M.E.M. van der Werf
(Utrecht University, Netherlands)


11:00 – **12:30** Agile Requirements Engineering with Prototyping: A Case Study 
Marja Käpyaho and Marjo Kauppinen (Futurice, Finland; Aalto University, Finland)

The Need of Complementing Plan-Driven Requirements Engineering with Emerging Communication: Experiences from Volvo Car Group 
Ulf Eliasson, Rogardt Heldal, Eric Knauss, and Patrizio Pelliccione (Volvo, Sweden; Chalmers University of Technology, Sweden; University of Gothenburg, Sweden)

Tracing (RE:Next! track)

[FSS 1007] Chairs: Patrick Mäder

Inherent Characteristics of Traceability Artifacts: Less is More 
Jane Huffman Hayes, Giuliano Antoniol, Bram Adams, and Yann-Gaël Guéhéneuc (University of Kentucky, USA; Polytechnique Montréal, Canada)

Trace Links Explained: An Automated Approach for Generating Rationales 
Jin Guo, Natawut Monaikul, and Jane Cleland-Huang (DePaul University, USA)

Lunch Break (12:30-14:00) [STE cafeteria, 1st floor]

Quidditch Match – Ottawa against the world! (12:30-14:00) [Sports Complex, 801 King Edwards]

From The Trenches (Industry Experience)

[FSS 1006] Chair: Alistair Mavin (with Michael Panis, Sarah Gregory, and others)

We invite both Industry practitioners and Research participants to an open, loosely-facilitated session to air (and share) our grievances. What are the current RE nightmares that keep us up at night? What are the wicked problems that evade all attempts at any sort of resolution, yet hamper our RE practice within our companies? Bring your own question or challenge if you like.

Cognitive (Research/Industry)

[FSS 2005] Chairs: Dan Berry

Ambiguity as a Resource to Disclose Tacit Knowledge

(Best Research Paper Award)

Alessio Ferrari, Paola Spoletini, and Stefania Gnesi (ISTI-CNR, Italy; Kennesaw State University, USA)



From Requirements Elicitation to Variability Analysis using Repertory Grid: A Cognitive Approach.

Sangeeta Dey and Seok-Won Lee (Ajou University, South Korea)



14:00

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15:30

Resolving Goal Conflicts via Argumentation-Based Analysis of Competing Hypotheses.

Pradeep K. Murukannaiah, Anup K. Kalia, Pankaj R. Telang, and Munindar P. Singh (North Carolina State University, USA; Cisco Systems, USA)

**Goals and NFRs (RE:Next! Track)**

[FSS 1007] Chairs: Jennifer Horkoff

Handling Non-functional Requirements in Model-Driven Development: An Ongoing Industrial Survey. *David Ameller, Xavier Franch, Cristina Gómez, João Araujo, Richard Berntsson Svensson, Stefan Biffli, Jordi Cabot, Vittorio Cortellessa, Maya Daneva, Daniel Méndez Fernández, Ana Moreira, Henry Muccini, Antonio Vallecillo, Manuel Wimmer, Vasco Amaral, Hugo Brunelière, Loli Burgueño, Miguel Goulão, Bernhard Schätz, and Sabine Teufel*



Scalable Modeling and Analysis of Requirements Preferences: A Qualitative Approach using CI-Nets. *Zachary J. Oster, Ganesh Ram Santhanam, and Samik Basu* (University of Wisconsin-Whitewater, USA; Iowa State University, USA)



Rationalization of Goal Models in GRL using Formal Argumentation

Marc van Zee, Floris Bex, and Sepideh Ghanavati (University of Luxembourg, Luxembourg; Utrecht University, Netherlands; Luxembourg Institute of Science and Technology, Luxembourg)



Technology Transfer – Requirements Engineering Research to Industrial Practice – An Open (Ended) Debate (Panel)

[FSS 1006] Chair: Carlos Henrique C. Duarte and Tony Gorschek
 Panelists: Xavier Franch, Kevin Campbell, Nancy Mead, Bran Selic

Mass RE (Research/Industry)

[FSS 2005] Chairs: Sjaak Brinkkemper

Feature Lifecycles as They Spread, Migrate, Remain, and Die in App Stores
Federica Sarro, Afnan Al-Subaihin, Mark Harman, Yue Jia, William Martin, and Yuanyuan Zhang (University College London, UK)



Bug Report, Feature Request, or Simply Praise? On Automatically Classifying App Reviews (**Best Research Paper Award**)

Walid Maalej and Hadeer Nabil (University of Hamburg, Germany)



16:00

–
17:30

Detecting Repurposing and Over-Collection in Multi-party Privacy Requirements Specifications

Travis D. Breaux, Daniel Smullen, and Hanan Hibshi (Carnegie Mellon University, USA)



Cognitive (RE:Next! Track)

[FSS 2005] Chairs: Robyn Lutz

Cognitive Factors in Inconsistency Management
Irit Hadar and Anna Zamansky (University of Haifa, Israel)



Using Real Options to Manage Technical Debt in Requirements Engineering
Zahra Shakeri Hossein Abad and Guenther Ruhe (University of Calgary, Canada)



QuantUn: Quantification of Uncertainty for the Reassessment of Requirements
Nelly Bencomo (Aston University, UK)



RE'16 Organization Meeting 17:30 – 18:15, [FSS 5028], Chair: Zhi Jin
 Conference Banquet (18:00-01:00, see page 6) [Museum of Canadian History]

09:00 Requirements, Behaviours, and Software Engineering (Keynote)

[FSS 2005] Chair: Vincenzo Gervasi

10:30 Keynote Speaker: *Michael Jackson* (Open University, UK)Coffee Break (10:00-10:30) [FSS 4004 and FSS 1st floor]**Ready-Set-Transfer! Technology Transfer in the Requirements Engineering Domain (Panel)**

[FSS 1006] Chairs: Jane Cleland-Huang, Mehdi Mirakhorli, and Mona Rahimi

NL in RE (Research/Industry)

[FSS 2005] Chair: Pete Sawyer

Change Impact Analysis for Natural Language Requirements: An NLP Approach

Chetan Arora, Mehrdad Sabetzadeh, Arda Goknil, Lionel C. Briand, and Frank Zimmer (University of Luxembourg, Luxembourg; SES TechCom, Luxembourg)

Goal and Preference Identification through Natural Language

Fatima Alabdulkareem, Nick Cercone, and Sotirios Liaskos (York University, Canada)

11:00

-

12:30

The Myth of Bad Passive Voice and Weak Words: An Empirical Investigation in the Automotive Industry. *Jennifer Krisch and Frank Houdek* (Daimler, Germany)**Risks (RE:Next! Track)**

[FSS 1007] Chair: João Araujo

Towards Reuse in Safety Risk Analysis Based on Product Line Requirements

Hermann Kaindl, Roman Popp, and David Raneburger (Vienna University of Technology, Austria)

An Environment-Driven Ontological Approach to Requirements Elicitation for Safety-Critical Systems

Jiale Zhou, Kaj Hänninen, Kristina Lundqvist, Yue Lu, Luciana Provenzano, and Kristina Forsberg (Mälardalen University, Sweden; Bombardier Transportation, Sweden; Saab, Sweden)Goals at Risk? Machine Learning at Support of Early Assessment. *Paolo Avesani, Anna Perini, Alberto Siena, and Angelo Susi* (Fondazione Bruno Kessler, Italy)

Lunch Break (12:30-14:00) [STE cafeteria, 1st floor]

Architecture (Research/Industry)

[FSS 2005] Chair: Jaelson Castro

What You Ask Is What You Get: Understanding Architecturally Significant Functional Requirements

Preethu Rose Anish, Maya Daneva, Jane Cleland-Huang, Roel J. Wieringa, and Smita Ghaisas (Tata Consultancy Services, India; University of Twente, Netherlands; DePaul University, USA)



Reuse of Architecturally Derived Standards Requirements



Michael C. Panis (Teradyne, USA)

Frameworks (RE:Next! Track)

[FS 1006] Chair: Mehrdad Sabetzadeh

14:00

-

15:00

Towards Engineering Transparency as a Requirement in Socio-technical Systems

Mahmood Hosseini, Alimohammad Shahri, Keith Phalp, and Raian Ali (Bournemouth University, UK)



Towards a General Formal Framework of Coherence Management in RE

Alexander Borgida, Ivan Jureta, and Anna Zamansky (Rutgers University, USA; University of Namur, Belgium; University of Haifa, Israel)

**Mass RE (RE:Next! Track)**

[FSS 1007] Chair: Anna Perini

Democratic Mass Participation of Users in Requirements Engineering?

Timo Johann and Walid Maalej (University of Hamburg, Germany)



Exploiting Online Human Knowledge in Requirements Engineering

Anas Mahmoud and Doris Carver (Louisiana State University, USA)



Coffee Break (15:00-15:30) [FSS 4004 and FSS 1st floor]

15:30

-

16:15

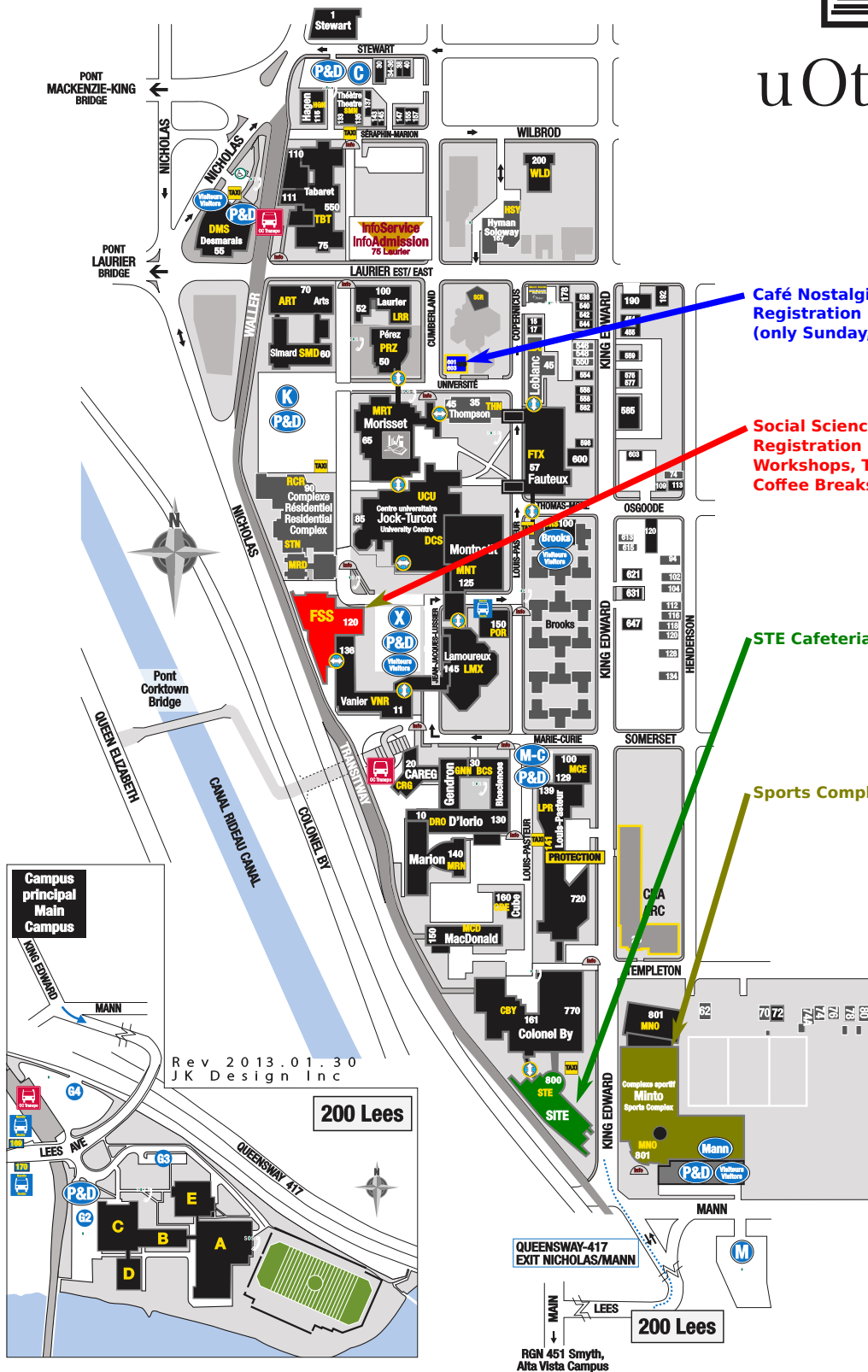
Closing session: Farewell and presentation of next year's RE

[FSS 2005] Chairs: Daniel Amyot, Didar Zowghi, and Vincenzo Gervasi

Campus principal Main Campus



uOttawa



Café Nostalgica:
Registration Desk
(only Sunday, Aug. 23, 18:00-20:30)

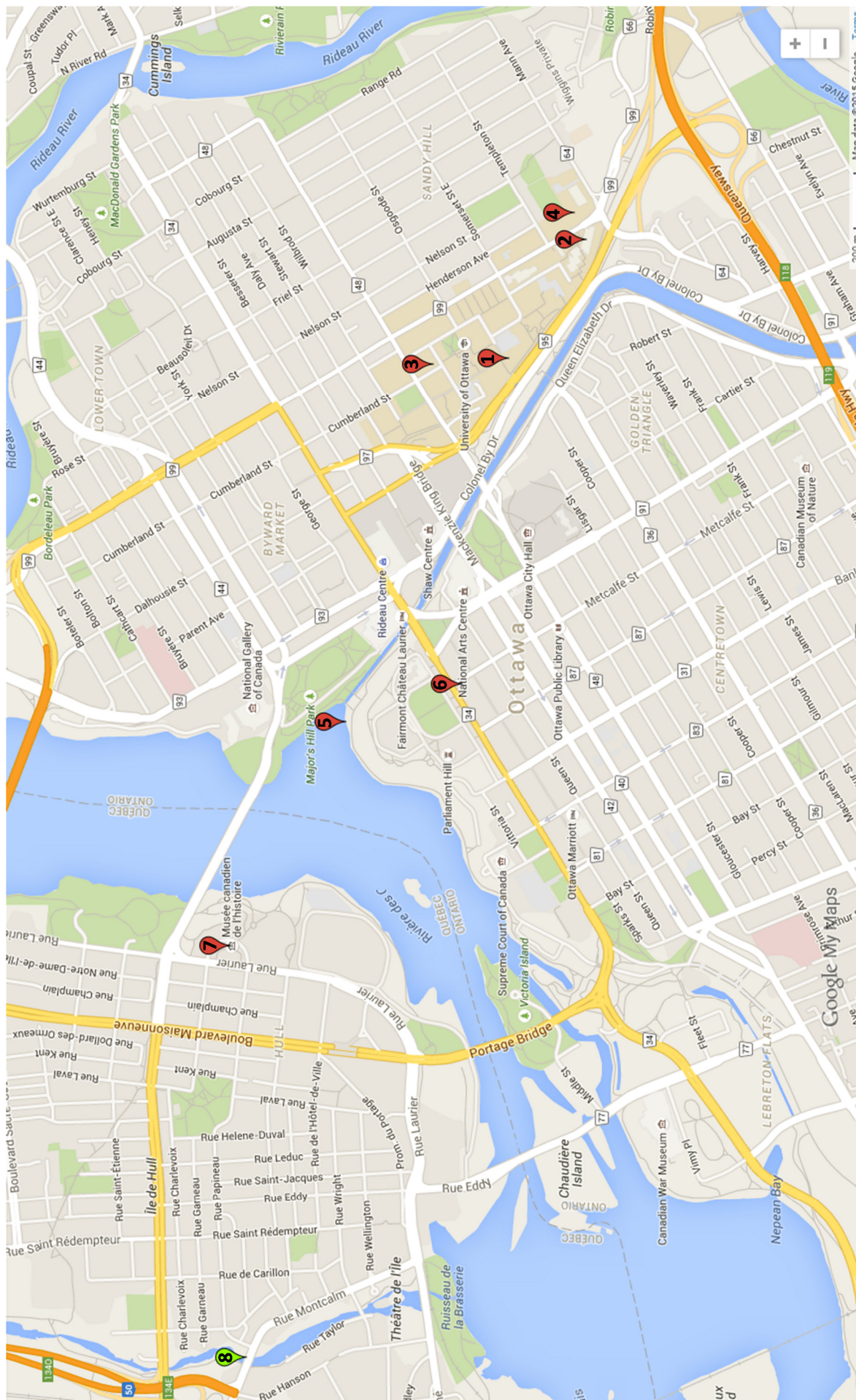
Social Sciences Building FSS:
Registration Desk (Monday-Friday)
Workshops, Tutorials, Main Conference,
Coffee Breaks

STE Cafeteria: Lunch

Sports Complex: Quidditch Match

Légende / Legend

- Distributrice de permis Pay & Display Parking
- Stationnement visiteurs Visitors Parking Lot
- Navette Shuttle
- OC Transpo
- Bibliothèque Library
- Taxi - point d'embarquement Taxi Pick-up Point
- Information
- Téléphone de secours Emergency Telephone
- Passerelle
- Construction



- 1** Faculty of Social Sciences building (FSS): Conference
- 2** SITE building (STE): Lunches
- 3** Café Nostalgica: Sunday Registrations
- 4** Sports Complex (SCS): Thursday Quidditch
- 5** Rideau Locks: Tuesday Welcome Reception
- 6** Terry Fox Statue: Wednesday Ottawa Walking Tour
- 7** Museum of Canadian History: Thursday Banquet
- 8** Brasseurs du Temps: Wednesday PC/OC Dinner

Registration desk and dates: The conference registration desk is open at the conference venue on the 1st floor of the FSS building. If you hold this program in hand, it seems you were able to locate it ☺

- Monday 24th August 08:00–18:00
- Tuesday 25th August 08:00–17:45
- Wednesday 26th August 08:00–18:00
- Thursday 27th August 08:00–18:00
- Friday 28th August 08:00–16:30

Participation identification: RE'15 enforces a strict badge policy. Badges shall be worn at all times during the conference.

Internet Access: Use the SSID named *guOttawa*. There is no need for login or password and there is no security or encryption on the wireless. Note that EDUROAM is also available at the University of Ottawa.

Restaurants:



F O O D (* Ideal for workshop dinners)

11	\$\$\$\$	18 (Steak & Seafood)	6	\$\$\$	Milestones (Steaks, Seafood, & Pasta)
17	\$	Ahora (Mexican)	17	\$\$	Palais Imperial (Chinese)
7	\$\$\$	Black Tomato (Locally sourced food)	17	\$	Pho by Night (Vietnamese)
21	\$\$	Blue Cactus (Bar & Grill)	27	\$	Piccolo Grande (Ice cream)
9	\$\$\$	Brothers (Beer Bistro) *	1	\$	Rideau Centre Food Court (closes early)
4	\$	Castle Shawarma (Lebanese)	16	\$\$	Shafali (Indian)
31	\$\$	El Camino (Tacos)	11	\$\$-\$\$\$	Sidedoor (Contemporary Kitchen & Bar)
26	\$\$	Fat Boys (Southern Smokehouse) *	3	\$	Smoke's Poutinerie (Poutine)
19	\$\$	Haveli (Indian) *	18	\$\$	SmoQue Shack (BBQ & Burgers)
29	\$\$\$\$	Hy's (Steakhouse)	10	\$\$\$	Social (Canadian free-style cuisine)
3	\$	Island Flava (Caribbean)	23	\$\$-\$\$\$	Stella (Modern Italian) *
28	\$\$	Khao Thai (Thai) *	5	\$\$	Sushi Village (all you can eat sushi)
2	\$	Kothu Rotti (Indian)	14	\$\$\$	The Fish Market (Seafood) *
13	\$\$	Lapointe (Seafood Grill) *	15	\$\$\$	The Keg (Steakhouse)
30	\$\$	Les 3 Brasseurs (Microbrewery) *	20	\$	The King Eddy (Burgers)
12	\$\$-\$\$\$	Luxe (Steak, Burgers, & Seafood)	14	\$\$-\$\$\$	Vittoria Trattoria (Italian) *

D R I N K S

24	\$\$	Clocktower (Brew Pub)	4	\$\$	Hooch (Bourbon House)
25	\$\$	Earl of Sussex (Pub)	30	\$\$	Les 3 Brasseurs (Microbrewery)
22	\$\$	Heart and Crown (Irish Pub)	8	\$\$	The Aulde Dubliner (Irish Pub)

Airport

There is frequent and efficient bus service from the airport to downtown Ottawa or from downtown to the airport. Take bus #97. It runs typically every 15min throughout the day, every 20min in the evening, and every 30min late in the evening or early in the morning. The airport shuttle service was cancelled in 2012. Taxis are also available.

Bicycles

Ottawa is a fairly safe city for biking, with an extensive network of bike paths. Bike sharing service is offered by Velogo (<http://velogo.ca>). Bikes can be rented at <http://rentabike.ca>.

Public Transports and Tickets

The two public transport companies are OC Transpo (<http://www.octranspo.com>) and STO (<http://www.sto.ca>). OC Transpo mainly serves Ottawa and STO mainly serves Gatineau.

Tickets from one service are not accepted by the other one. However, transfers can be used between the two.

OC Transpo and STO tickets are available at the Campus Pharmacy and at the Pivik Convenience store (main floor Jock Turcot University Centre).

Phone numbers of Taxi Companies

Some Ottawa taxi contact numbers:

Airport West Way Taxi : 613 523 1234

Blue Line Taxi Co Ltd : 613 238 1111

B & R Taxi : 613 446 7272

Caddy Cab : 613 260 8585

Capital Taxi : 613 744 3333

Electricity

Outlets ("Type B" NEMA 5-15 Grounded) and voltage (110 - 120 volts) are the same as in the United States. For electrical appliances from other countries, adapters are required (small appliances such as hair dryers, irons, and razors may work, but it is advisable to double check first). The frequency of electrical current in Canada is 60 Hz.

Pharmacies

The Campus Pharmacy is located at 100 Marie Curie Private, 613-563-4000.

Emergency Numbers/Emergency Ward

Campus Protection Emergency: 613-562-5411

Campus Protection Non-Emergency: 613-562-5499

Emergency: 911

Poison Information Centre: 613-737-1100

Ottawa Fire Services: 613-580-2860

Ontario Provincial Police: 888-310-1122

Ottawa Police: 613-236-1222

Language

English and French are the official languages. English is more commonly spoken in Ontario and French in Quebec. Beside English and French, many other languages such as Spanish, Italian, Portuguese, Chinese, Vietnamese, Arabic, ... can be heard in Ottawa. The University of Ottawa is a bilingual (English-French) institution.

Currency

The Canadian Dollar (C\$) is the local currency. Currency can be exchanged at banks or at currency exchange stations. Some hotels and other merchants accept foreign currency, but it is recommended that visitors exchange currency before they arrive.

Banking

Banking hours differ by bank and branch, but are generally the same as common working hours (9am to 5pm). Some banks are open later or on weekends or Thursday evenings. Most businesses accept debit cards as a form of payment. Most major credit cards are accepted in Ottawa.

Automated Teller Machines (ATMs) are located in banks and in various other locations throughout the city. They are usually available during and outside of regular banking hours, although often with an additional service fee.

Tipping

Service fees are typically not included in restaurant and bar prices. A tip of 15% of the pre-tax bill is customary. Some restaurants add a service charge to the bill, especially for large groups, in which case further tipping is not expected. Tipping is also customary in salons/spas, and taxis.

Taxes

Sale taxes are generally not included in advertised prices. The combined Federal and Provincial Sale tax rate are 13% in Ontario and 15% in Quebec.

Visitors can get tax refund for the Federal portion of the sale taxes (6% GST) with the minimum amount of 200 dollars and if the receipt values exceed 50 dollars. Goods need to be taken out from Canada within 60 days and hotel accommodation also can be refunded if it is less than one month. For more information please contact,

Canada Revenue Agency

Location: Summerside Tax Centre , Summerside, PEI ,C1N 6C6

or Call 1 800 66VISIT (1 800 668 4748)

Web: <http://www.cra-arc.gc.ca/visitors>

Post office

59 Sparks St., at Elgin Street. Open from Monday to Friday 8am to 6pm. Contact number is 613 844 1545

Wine, beer and spirits

ONTARIO: Liquor Control Board of Ontario (LCBO) outlets are sales agents for wines and spirits in Ontario. Wine, liquor and a selection of foreign and Canadian beers are available. Wine is also available at several stores run by individual wineries. Beer may be purchased in Ontario at The Beer Store. Both LCBO outlets and Beer Stores are open daily, including some holidays. Drinking hours in bars and restaurants are from 11 a.m. until 2 a.m. The legal drinking age is 19 years.

QUÉBEC: In Québec, wines and liquors may be purchased at Société des alcools du Québec (SAQ) outlets. Beer and some wines are available at grocery and convenience stores. The legal drinking age is 18 years.

There are stiff penalties for drinking and driving in both Ontario and Québec.

Water

It is perfectly safe to drink water from the tap in Canada.

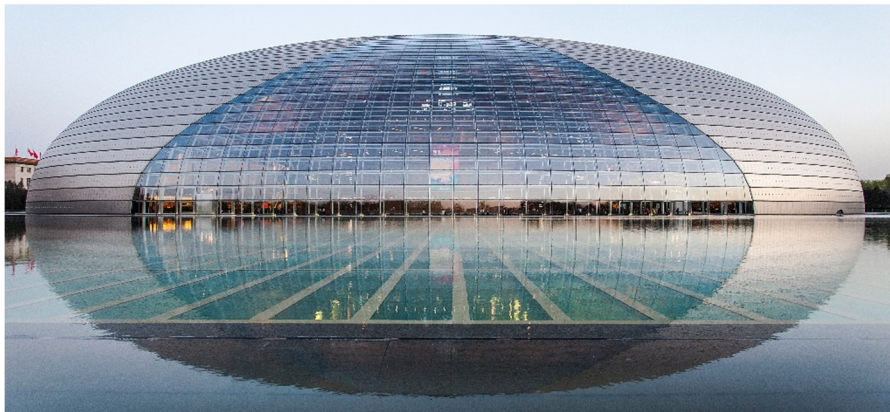
Weather

The average temperatures in August is 25C – 15C. It is advised to bring a light jacket or sweater for the evenings.



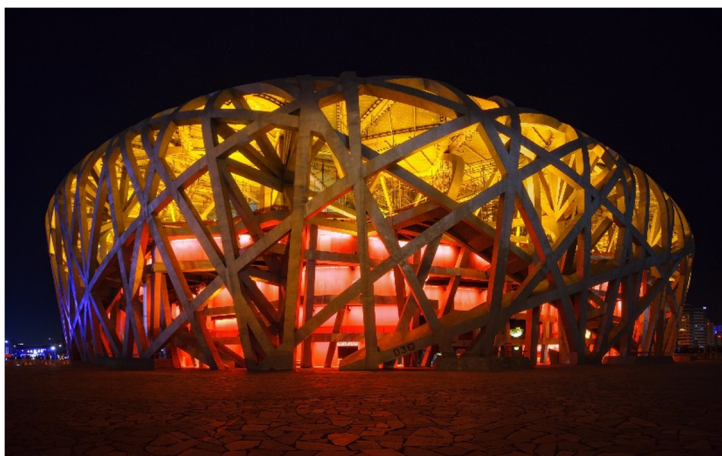
<http://www.re16.org>

24th IEEE International Requirements Engineering Conference Beijing, China, Sept. 12–16, 2016



Theme:

Delivering Value through Better Requirements

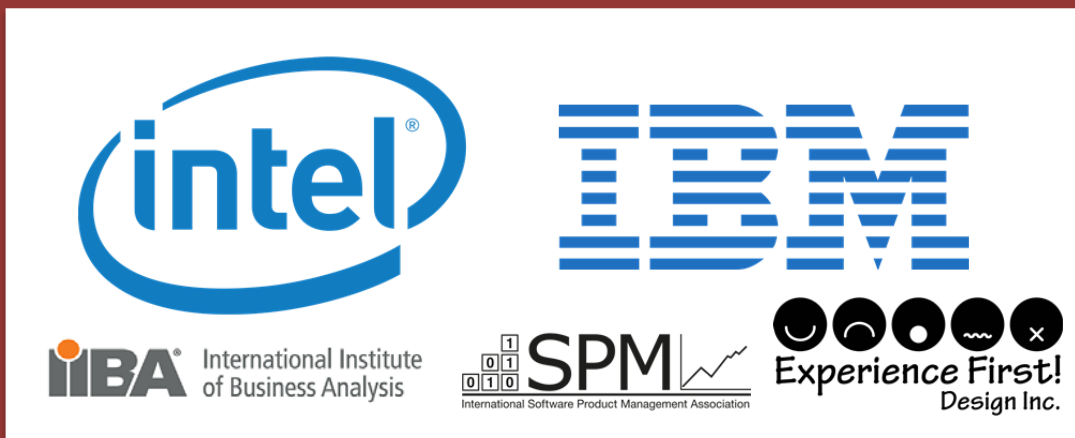


Jan 29 Workshop Proposals
Mar 07 Paper Abstracts
May 02 Doctoral Symposium

Tutorial Proposals Mar 07
Full Papers Mar 14
Posters and Tool Demos May 02

Zhi Jin in her role as the General Chair, the two program Co-Chairs, **Xavier Franch** and **Emmanuel Letier**, and the whole RE'16 team extend a warm invitation to next year's edition of the RE conference.

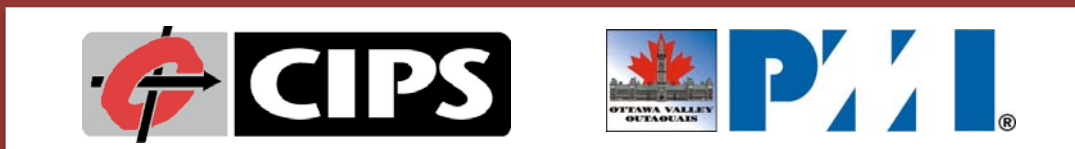
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