

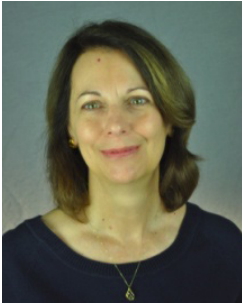
22nd IEEE International  
**Requirements Engineering**  
Conference



## Conference Program

Karlskrona, Sweden  
August 25-29, 2014

<http://www.re14.org>  
<http://conferoapp.com/sessions.html?conf=RE2014>



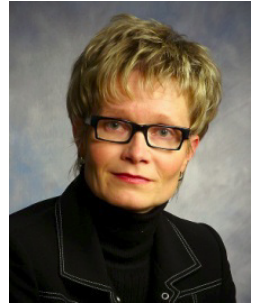
Robyn Lutz  
Program Chair



Tony Gorschek  
General Chair



Sarah C. Gregory  
Industry Co-Chair



Marjo Kauppinen  
Industry Co-Chair

We warmly welcome you to RE'14, the 22nd IEEE International Requirements Engineering Conference! This year's conference takes place in Karlskrona, Sweden at the Blekinge Institute of Technology from August 25-29.

The IEEE International Requirements Engineering Conference is the premier international forum for researchers, industrial practitioners, educators, and students to present and discuss the most recent innovations, trends, experiences, results and challenges in the field of requirements engineering (RE).

The conference this year has a dual theme focused on innovation. Innovation in Requirements Engineering considers new ideas and breakthroughs in the area. Innovation through Requirements Engineering centers on how its practices, processes, models, methods and frameworks enable and support innovation in product development.

RE'14 features an extensive technical program of interest to both academia and industry. The research track addresses key problems and reports important new results in the field of requirements engineering from progress around the globe. The industry track offers experience reports and descriptions of challenges encountered in practice by requirements engineering professionals.

The three conference days are enhanced with panels, mini-tutorials, posters and tool demonstrations, and an Industry Lab. Panels give an opportunity for a mix of people to come together to offer their positions on particular RE topics of the day, with audience discussion encouraged. Mini-tutorials offered by experts give attendees an efficient introduction to emerging topics. Posters and tool demonstrations introduce solutions in an interactive setting, and are previewed this year with a fast-paced, lightning-round session. Industry Laboratory is a new event introduced this year to attract and involve industry in the applied field of requirements engineering research by enabling industrial participants to discuss experiences and share their visions for the future with the research community.

We are pleased to have three superb keynote speakers. Anthony I. Wasserman, Carnegie Mellon University-Silicon Valley, analyzes approaches used by tech startups to define product requirements. Annie I. Antón, Georgia Tech College of Computing, describes her work on requirements for software systems that must comply with privacy and security regulations. Anthony Finkelstein, University College London, discusses current issues in requirements engineering, technology and education.

The two days before the main conference feature a full range of offerings. Tutorials by experts give participants a popular way to develop new skills in requirements engineering practices. Several tutorials have been selected to be of particular interest to industrial practitioners. Multiple workshops encourage the exchange of ideas and discuss challenging research issues in requirements engineering. The workshops gather together participants with shared interests for a day of talks, discussion and activities. Several of these workshops are regularly held at the RE conference and return this year. The RE'14 Doctoral Symposium brings together PhD students and academics working in all areas of requirements engineering. Students present their research projects and receive feedback from a panel of internationally renowned researchers in a highly interactive and collegial format.

The research track received 115 full papers by authors from 30 countries. Of these, 77 were submitted as technical solution papers, 29 as scientific evaluation papers, and 9 as vision papers. The industry track received 35 papers by authors from 20 countries. In the first phase, three members of the Program Committee reviewed each research paper, and three members of the Industry Committee reviewed each industry paper. A discussion period among the reviewers followed, facilitated by a Program Board member. At the end of the discussion phase 59 research papers advanced to the Program Board meeting. The reviews and discussions were then used by the Program Board to make final selections. A total of 31 full research papers (25 technical solution and 6 scientific evaluation) were accepted for publication, an acceptance rate of 27%. 13 full industry papers were also accepted for publication, an acceptance rate of 37%. It is the high quality of these authors' papers that provides the strong technical program for RE'14.

The members of the RE'14 Organizing Committee, Program Committee, Industry Committee and Program Board have worked hard to provide you a high-quality, engaging and useful experience. We thank them all for their dedication and expertise. We also thank our corporate and academic donors for their generous support. Finally, we thank you for participating in RE'14, and welcome you to Karlskrona!

Robyn Lutz, RE'14 Program Chair  
Tony Gorschek, RE'14 General Chair  
Sarah C. Gregory, RE'14 Industry Co-Chair  
Marjo Kauppinen, RE'14 Industry Co-Chair

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### **Startups and Requirements**

*Anthony I. Wasserman, Carnegie Mellon University, USA*

Tech startups typically approach requirements gathering differently from the process that is used to develop requirements in existing businesses and for existing products. Many of these startups operate in "stealth mode", taking care to minimize the number of people with whom they share their innovative ideas. It's common for these startups to create a succession of early releases, and apply user feedback from those releases to evolve the features and functions of their products. This talk describes various

approaches used by tech startups to define product requirements, and contrasts those approaches with those used in more traditional requirements engineering activities.



### **Now More Than Ever: Privacy and Security are Required**

*Annie I. Antón, Georgia Tech College of Computing, USA*

Properly protecting information is in all our best interests, but it is a complex undertaking. The fact that regulation is often written by non-technologists, introduces additional challenges and obstacles. Moreover, those who design systems that collect, store, and maintain sensitive information have an obligation to design systems holistically within this broader context of regulatory and legal compliance. There are questions that should be asked when developing new requirements for information systems. For

example, how do we build systems to handle data that must be kept secure and private when relevant regulations tie your hands? When building a system that maintains health or financial records for a large number of people, what do we need to do to protect the information against theft and abuse, keep the information private, AND at the same time, satisfy all governing privacy/security laws and restrictions? Moreover, how do we know that we've satisfied those laws? How do we monitor for compliance while ensuring that we're monitoring the right things? And, how do you accomplish all this in a way that can be expressed clearly to end-users and legislators (or auditors) so they can be confident you are doing the right things? We've been working on technologies to make these tasks simpler, and in some senses, automatic. In this talk, I will describe some of the research that we have been conducting to address these problems.



### **Rethinking Software: Business Change and the Consequences for Software Engineering**

*Anthony Finkelstein, University College London, UK*



RE'14 features a Welcome Reception, a Banquet as well as complimentary floating saunas.

## **Welcome Reception**

**Tuesday – August 26th, 2014 19:00–23:00**

The RE'14 Welcome Reception is held on Tuesday (August 26th) at the conference venue, Blekinge Institute of Technology. The reception opens at 19:00 and includes a delicious and carefully selected Swedish buffet with one complimentary glass of wine/beer. Sea view and marvelous surroundings are included. You have the option of topping up at the bar which takes cash and credit cards. The evening will be accompanied by music and you can hang out in a tent/bar directly at the seashore. If you want to relax and experience Swedish culture, pay a visit to our floating saunas (see page 8).



## **Banquet**

**Thursday – August 28th, 2014 18:00–01:00**

For the RE'14 Banquet (August 28th) we have chosen an exceptionally beautiful setting at the famous Swedish Naval Museum, Karlskrona. The museum stretches out on a pier into the water on the island Stumholmen. Here you can delve into the highly eventful history of the Swedish navy, with model chambers and one of the world's finest collections of museum ships. In the newly opened submarine hall (June 2014), you can encounter the interior of a real submarine from the Cold War era.

Transfer buses to the banquet will be picking us up outside the conference venue or the RE'14 hotels, and drive back on a flexible schedule later in the evening. Transfer details can be found in your conference bag or at the registration desk.

RE'14 welcomes you to visit the museum starting from 18:00, English speaking guides will be at your service. The banquet opens at 19:00 with a bubbly drink in the museum's famous Figurehead Hall.

## Banquet Program

- 18:00 Swedish Naval Museum opens for RE'14 participants
- 19:00 Welcome drink and mingling
- 19:50 Welcome to dinner
- 20:00 Dinner served



Photo Erling Klintefors, Statens maritima museer



## Floating Saunas

Discover the Baltic Sea in a different and new way. At the pier at BTH, we have parked two floating saunas. Bring your swim suit and unwind in a wood-heated sauna, in the relax room or in the hot tub. Enjoy the amazing views of the surrounding islands. Life guard, towels and cold water will be available for your service.



## Sauna Etiquette

- Leave your electronics outside.  
The sauna isn't good for electronics. The air inside a sauna is generally around 176 degrees Fahrenheit (80 degrees Celsius). The low humidity keeps conditions bearable, as does all the wood. Hence, the heat and humidity in the sauna might damage your phone or other gizmo.
- Close the door.  
When the sauna door is open, it does not take long for the heat to spill out of the sauna. If you are going in or out, please do it quickly, and make sure the door closes firmly behind you.
- Sit on a towel.  
Highly recommended. The sauna bench is hot and you don't want to sit in someone else's sweaty body prints.
- Don't go naked.  
Sometimes Swedish people use the sauna naked but for RE'14 a swim suit is applicable.
- What if you want things a little hotter?  
Do you feel like a real Swedish Viking and want it hotter? – Look for the bucket. The wood-heated stove heats the rocks and the rocks heat the air inside the sauna. To make the temperature feel higher, all you have to do is pour a little water from the bucket on the rocks...

## Opening hours, RE'14 Sauna

- |  |             |
|--|-------------|
| • Monday 25th August – Wednesday 27th August | 11:00–22:00 |
| • Thursday 28th August                       | 11:00–18:00 |

-  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 – EmpiRE:** 4th Workshop on Empirical Requirements Engineering (#RE14EmpiRE) [C235]

**WS02 – ESPRE:** 1st Workshop on Evolving Security and Privacy Requirements Engineering (#RE14ESPRE) [C236]

**WS03 – MoDRE:** 4th International Model-Driven Requirements Engineering Workshop (#RE14MoDRE) [C237]

**WS04 – REBPM:** 1st International Workshop on the Interrelations between Requirements Engineering & Business Process Management (#RE14REBPM) [J1360]

**WS05 – REET:** Workshop on Requirements Engineering Education & Training (#RE14REET) [J1280]

**WS06 – UsARE:** 2nd International Workshop on Usability and Accessibility focused Requirements Engineering (#RE14UsARE) [J1270]

08:30

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17:00

## Tutorials:

**T01:** Product management essentials [J3423]

**T02:** Requirements driven innovation [C444]

**T03:** Driving Architectural Design in Agile Projects: A Persona-Centric Approach [J3506]

**T04:** Requirements on a shoestring: how to cope in industry projects with poor requirements engineering awareness [A303]

**T05:** Modeling and analysis with the User Requirements Notation 2.0: features, goals, and scenarios [C245]

**T06:** Case studies in requirements engineering [C445]

**T07:** Unlocking creative collaboration in RE and product management: theory and practice through improvisation [C446]

## Doctoral Symposium (#RE14Docsym) [J1640, J1650]

Coffee Breaks (10:00-10:30 & 15:00-15:30) [J-Building, ground floor]

Lunch (12:00-13:30) [J-Building, ground floor]

## Workshops

- WS07 – AIRE:** 1st International Workshop on Artificial Intelligence for Requirements Engineering (#RE14AIRE) [C235]
- WS08 – IWSPM:** 8th International Workshop on Software Product Management (#RE14IWSPM) [C236]
- WS09 – RE4SuSy:** 3rd International Workshop on Requirements Engineering for Sustainable Systems (#RE14RE4SuSy) [J3423]
- WS10 – RELAW:** 7th International Workshop on Requirements Engineering and Law (#RE14RELAW) [J1360]
- WS11 – RePa:** 4th International Workshop on Requirements Patterns (#RE14RePa) [C237]
- WS12 – RePriCo:** 5th International Workshop on Requirements Prioritization and Communication (#RE14RePriCo) [J1280]
- WS13 – RET:** 1st International Workshop on Requirements Engineering and Testing (#RE14RET) [J1270]

08:30  
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17:00

## Tutorials

- T10:** Writing good requirements [C445]
- T12:** Eliciting unstated requirements [C444]
- T13:** Developing modelling toolkits for requirements engineering [C446]
- T15:** Model driven requirements engineering [C245]
- T16:** Product & user driven requirement specifications derived from your business model [J3506]

Coffee Breaks (10:00-10:30 & 15:00-15:30) [J-Building, ground floor]

Lunch (12:00-13:30) [J-Building, ground floor]

Welcome Reception (19:00-23:00) [at the tent – see page 22]  
(posters are on display)

**08:30** **Plenary: Opening** (#RE14Opening)  
 – [J-Building, Multiroom] Chairs: Tony Gorschek and Robyn Lutz

**09:00**

**09:00** **Keynote: Startups and Requirements** (#RE14Startups)  
 – [J-Building, Multiroom] Chair: Claes Wohlin

**10:00** Keynote Speaker: *Anthony I. Wasserman* (Carnegie Mellon University, USA)

Coffee Break (10:00-10:30) [J-Building, ground floor]

**Research Track A: Empirical Studies in Elicitation** (#RE14Empirical)  
 [J-Building, Multiroom] Chair: Daniel Amyot

How Practitioners Approach Gameplay Requirements? An Exploration into the Context of Massive Multiplayer Online Role-Playing Games **RE'14 Best Research Paper Award**  
*Maya Daneva* (University of Twente, Netherlands)



Therapist-Centered Requirements: A Multi-method Approach of Requirement Gathering to Support Rehabilitation Gaming  
*Cynthia Putnam and Jinghui Cheng* (DePaul University, USA)



Towards a Situation Awareness Design to Improve Visually Impaired Orientation in Unfamiliar Buildings: Requirements Elicitation Study  
*Abdulrhman Alkhanifer and Stephanie Ludi* (Rochester Institute of Technology, USA)



**10:30**

**12:00** **Research Track B: Formal Modeling and Analysis** (#RE14Formal)  
 [J1610] Chair: Mats Heimdahl

Supporting Early Decision-Making in the Presence of Uncertainty  
*Jennifer Horkoff, Rick Salay, Marsha Chechik, and Alessio Di Sandro* (University of Trento, Italy; University of Toronto, Canada)



Integrating Exception Handling in Goal Models  
*Antoine Cailliau and Axel van Lamsweerde* (Université Catholique de Louvain, Belgium)



Protos: Foundations for Engineering Innovative Sociotechnical Systems  
*Amit K. Chopra, Fabiano Dalpiaz, F. Başak Aydemir, Paolo Giorgini, John Mylopoulos, and Munindar P. Singh* (Lancaster University, UK; Utrecht University, Netherlands; University of Trento, Italy; North Carolina State University, USA)





**Industry Track: Lightweight RE Methods (#RE14Lightweight)**

[J1620] Chair: David Callele

Handling Design-Level Requirements across Distributed Teams:  
Developing a New Feature for 12 Danish Mobile Banking Apps



*Lars Bruun, Mikkel Bovbjerg Hansen, Jørgen Bøndergaard Iversen, Jens Bæk Jørgensen, and Bjarne Knudsen* (Bankdata, Denmark; Mjølner Informatics, Denmark)

**10:30** – Experience of Pragmatically Combining RE Methods for Performance Requirements in Industry



**12:00** *Rebekka Wohlrab, Thijmen de Gooijer, Anne Koziolk, and Steffen Becker* (ABB Research, Sweden; KIT, Germany; University of Paderborn, Germany)



Lightweight Requirements Engineering Assessments in Software Projects



*Daniel Rapp, Anne Hess, Norbert Seyff, Peter Spörri, Emmerich Fuchs, and Martin Glinz* (Zühlke Management Consultants, Switzerland; Fraunhofer IESE, Germany; University of Zurich, Switzerland)

Lunch Break (12:00-13:30) [J-Building, ground floor]

**Research Track A: Legal and Regulatory Requirements (#RE14Legal)**

[J-Building, Multiroom] Chair: Seok-Won Lee

Automated Detection and Resolution of Legal Cross References:  
Approach and a Study of Luxembourg's Legislation



*Morayo Adedjouma, Mehrdad Sabetzadeh, and Lionel C. Briand* (University of Luxembourg, Luxembourg)

**13:30** – Goal-Oriented Compliance with Multiple Regulations

**15:00** *Sepideh Ghanavati, André Rifaut, Eric Dubois, and Daniel Amyot* (CRP Henri Tudor, Luxembourg; University of Ottawa, Canada)



Identifying and Classifying Ambiguity for Regulatory Requirements



*Aaron K. Massey, Richard L. Rutledge, Annie I. Antón, and Peter P. Swire* (Georgia Tech, USA)

**Research Track B: Handling Change and Evolution (#RE14Evolution)**

[J1610] Chair: Nelly Bencomo

An Approach for Decision Support on the Uncertainty in Feature Model Evolution



*Le Minh Sang Tran and Fabio Massacci* (University of Trento, Italy)

Maintaining Requirements for Long-Living Software Systems by Incorporating Security Knowledge



*Stefan Gärtner, Thomas Ruhroth, Jens Bürger, Kurt Schneider, and Jan Jürjens* (Leibniz Universität Hannover, Germany; TU Dortmund, Germany)

Rationalism with a Dose of Empiricism: Case-Based Reasoning for Requirements-Driven Self-Adaptation



*Wenyi Qian, Xin Peng, Bihuan Chen, John Mylopoulos, Huanhuan Wang, and Wenyun Zhao* (Fudan University, China; University of Trento, Italy)

13:30

**Industry Track: Stakeholder Collaboration (#RE14Collaboration)**

[J1620] Chair: Sami Jantunen

Capturing and Sharing Domain Knowledge with Business Rules: Lessons Learned from a Global Software Vendor



*Walid Maalej and Smita Ghaisas* (University of Hamburg, Germany; Tata Consultancy Services, India)

Building a National E-Service using Sentire: Experience Report on the Use of Sentire: A Volere-Based Requirements Framework Driven by Calibrated Personas and Simulated User Feedback



*Chris Porter, Emmanuel Letier, and M. Angela Sasse* (University College London, UK)

Competition and Collaboration in Requirements Engineering: A Case Study of an Emerging Software Ecosystem



*George Valença, Carina Alves, Virgínia Heimann, Slinger Jansen, and Sjaak Brinkkemper* (Federal Rural University of Pernambuco, Brazil; Federal University of Pernambuco, Brazil; Utrecht University, Netherlands)


15:00


Coffee Break (15:00-15:30) [J-Building, ground floor]

**Research Track A: Traceability (#RE14Traceability)**

[J-Building, Multiroom] Chair: Emmanuel Letier


TiQi: Towards Natural Language Trace Queries

*Piotr Pruski, Sugandha Lohar, Rundale Aquanette, Greg Ott, Sorawit Amornborvornwong, Alexander Rasin, and Jane Cleland-Huang* (DePaul University, USA) 

Traceability-Enabled Refactoring for Managing Just-In-Time Requirements 

*Nan Niu, Tanmay Bhowmik, Hui Liu, and Zhendong Niu* (University of Cincinnati, USA; Mississippi State University, USA; Beijing Institute of Technology, China)

Supporting Traceability through Affinity Mining

*Vincenzo Gervasi and Didar Zowghi* (University of Pisa, Italy; University of Technology Sydney, Australia) 

**Meeting: Most Influential Paper 10 Years Later (from RE'04) and Posters Lightning Round (#RE14TenYearsLater)**

[J1610] Chairs: Neil Maiden and Jennifer Horkoff

15:30

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17:00

**RE2004 Most Influential Paper:** "Speeding up Requirements Management in a Product Software Company: Linking Customer Wishes to Product Requirements through Linguistic Engineering"


*Johan Natt och Dag, Vincenzo Gervasi, Sjaak Brinkkemper, and Björn Regnell*

**Industry Track: RE in Practice: Experiences from the Field I (#RE14Experiences)**

[J1620] Chair: Smita Ghaisas


Modelling Sustainability in a Procurement System: An Experience Report 

*Camilla Bomfim, Wesley Nunes, Leticia Duboc, and Marcelo Schots* (State University of Rio de Janeiro, Brazil; Federal University of Rio de Janeiro, Brazil)

A Case Study using a Protocol to Derive Safety Functional Requirements from Fault Tree Analysis **RE'14 Best Industry Paper Award** 

*Luiz Eduardo Galvão Martins and Tiago de Oliveira* (Federal University of São Paulo, Brazil)

The DODT Tool Applied to Sub-Sea Software

*Tor Stålhane and Tormod Wien* (Norwegian University of Science and Technology, Norway; ABB Research, Norway) 

RE Steering Committee meeting (17:00-19:00) [Utsikten on 4th floor in J-Building]

RE'15 Organization meeting (17:00-19:00) [J1280]

08:45  
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10:00

**Keynote: Now More Than Ever: Privacy and Security Are Required** (#RE14Privacy)

[J-Building, Multiroom] Chair: Alistair Sutcliffe

Keynote Speaker: *Annie I. Antón*, Georgia Tech, USA

Coffee Break (10:00-10:30) [J-Building, ground floor]

**Research Track A: Discovering Requirements** (#RE14Discovery)

[J-Building, Multiroom] Chair: Vincenzo Gervasi

How Do Users Like This Feature? A Fine Grained Sentiment Analysis of App Reviews



*Emitza Guzman and Walid Maalej* (TU München, Germany; University of Hamburg, Germany)

Scaling Requirements Extraction to the Crowd: Experiments with Privacy Policies



*Travis D. Breaux and Florian Schaub* (Carnegie Mellon University, USA)

Discovering Affect-Laden Requirements to Achieve System Acceptance



*Alistair Sutcliffe, Paul Rayson, Christopher N. Bull, and Pete Sawyer* (Lancaster University, UK)

10:30  
–  
12:00

**Research Track B: Security and Privacy Requirements** (#RE14Privacy)

[J1610] Chair: Nancy Mead

Hidden in Plain Sight: Automatically Identifying Security Requirements from Natural Language Artifacts



*Maria Riaz, Jason King, John Slankas, and Laurie Williams* (North Carolina State University, USA)

Managing Security Requirements Patterns using Feature Diagram Hierarchies



*Rocky Slavin, Jean-Michel Lehker, Jianwei Niu, and Travis D. Breaux* (University of Texas at San Antonio, USA; Carnegie Mellon University, USA)

Engineering Topology Aware Adaptive Security: Preventing Requirements Violations at Runtime



*Christos Tsigkanos, Liliana Pasquale, Claudio Menghi, Carlo Ghezzi, and Bashar Nuseibeh* (Politecnico di Milano, Italy; Lero, Ireland; Open University, UK)

**Industry Track: Industry Laboratory 1: Invited company talks**  
 (#RE14IndustryLab)

[J1620] Chairs: Alistair Mavin and Eero Uusitalo

10:30

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CSC's way of Managing Requirements in an Agile environment

12:00

*Tanja Berggren* (CSC, Sweden)

Realizing customer requirements in a world leading Business Support Solution  
*Afaf Adawi and Karin Hoel* (Ericsson, Sweden)

Lunch Break (12:00-13:30) [J-Building, ground floor]

Speed Dating (12:30-13:30)

**Research Track A: Communicating Requirements** (#RE14Communication)

[J1610] Chair: John Mylopoulos

Openness and Requirements: Opportunities and Tradeoffs in Software Ecosystems

*Eric Knauss, Daniela Damian, Alessia Knauss, and Arber Borici*  
 (Chalmers, Sweden; University of Gothenburg, Sweden; University of Victoria, Canada)



13:30

–

RISDM: A Requirements Inspection Systems Design Methodology: Perspective-Based Design of the Pragmatic Quality Model and Question Set to SRS

15:00

*Shinobu Saito, Mutsuki Takeuchi, Setsuo Yamada, and Mikio Aoyama* (NTT DATA, Japan; NTT, Japan; Nanzan University, Japan)



Tackling the Requirements Jigsaw Puzzle

*Maria Pinto-Albuquerque and Awais Rashid* (Lisbon University Institute, Portugal; Lancaster University, UK)



**Panel: Ready-Set-Transfer! Technology Transfer in the Requirements Engineering Domain** (#RE14Transfer)


[J-Building, Multiroom] Chairs: Jane Hayes and Didar Zowghi

Coffee Break (15:00-15:30) [J-Building, ground floor]




**Research Track A: Automated Support for Eliciting Requirements**  
 (#RE14Automation)


[J-Building, Multiroom] Chair: Zhi Jin

Automated Support for Combinational Creativity in Requirements Engineering 

*Tanmay Bhowmik, Nan Niu, Anas Mahmoud, and Juha Savolainen* (Mississippi State University, USA; University of Cincinnati, USA; Danfoss, Denmark)

Automated Extraction and Visualization of Quality Concerns from Requirements Specifications 

*Mona Rahimi, Mehdi Mirakhorli, and Jane Cleland-Huang* (DePaul University, USA)

**15:30** – The Effect of Variability Modeling on Requirements Satisfaction for the Configuration and Implementation of Off-The-Shelf Software 

**17:00** Packages  
*Amanda Rubython and Neil Maiden* (City&Guilds Kineo, UK; City University London, UK)

**Industry Track: Industry Laboratory 2: Invited company talks**  
 (#RE14IndustryLab)

[J1620] Chairs: Alistair Mavin and Eero Uusitalo

How do the leading procurement agencies in the Nordic region manage their requirements?

*Lars Anderberg and Henrik Morast* (Syntell, Sweden)

Eating our own ice cream! How IBM Rational works with Requirements

*Morgan Brown* (IBM)

**Tool Demonstrations and Posters: Tool Demonstrations and Posters**  
 (#RE14Tools)

[J1610] Chairs: Jennifer Horkoff and Richard Berntsson Svensson

Nòmós 3: Reasoning about Regulatory Compliance of Requirements  
*Silvia Ingolfo, Alberto Siena, and John Mylopoulos* (University of Trento, Italy)

GUIAR: An Ontology-based Automated Requirements Analysis Tool  
*Tuong Huan Nguyen, John Grundy, and Mohamed Almorsy* (Swinburne University of Technology, Australia)

Simulation-Based Requirements Discovery for Smart Driver Assistive Technologies  
*Andreas Gregoriades, Maria Pampaka, and Alistair Sutcliffe* (European University Cyprus, Cyprus; University of Manchester, UK)

EAM: Ecosystemability Assessment Method  
*Eric Knauss and Imed Hammouda* (Chalmers, Sweden; University of Gothenburg, Sweden)

Combined Goal and Feature Model Reasoning with the User Requirements Notation and jUCMNav  
*Yanji Liu, Yukun Su, Xinshang Yin, and Gunter Mussbacher* (McGill University, Canada)

15:30

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17:00

Decisively: Application of Quantitative Analysis and Decision Science in Agile Requirements Engineering  
*Sanjaya Kumar Saxena and Rachna Chakraborty* (GrayPE Systems, India)

VARED: Verification and Analysis of Requirements and Early Designs  
*Julia Badger, David Throop, and Charles Claunch* (NASA, USA; Boeing, USA)

Structured Multi-view Modeling by Tabular Notation  
*Xiuna Zhu, Dongyue Mou, and Daniel Ratiu* (TU München, Germany; fortiss, Germany)

Efficient Visual Notations for Efficient Stakeholder Communication  
*Ralf Laue, Frank Hogrebe, Boris Böttcher, and Markus Nüttgens* (University of Applied Sciences Zwickau, Germany; Hessische Hochschule für Polizei und Verwaltung Wiesbaden, Germany; University of Hamburg, Germany)

Symbolic Verification of Requirements in VRS System  
*Oleksandr Letychevskiy and Thomas Weigert* (Glushkov Institute of Cybernetics, Ukraine; Uniquesoft LLC, USA)

Business Application Modeler: A Process Model Validation and Verification Tool  
*Sören Witt, Sven Feja, Andreas Speck, and Christian Hadler* (Kiel University, Germany)

08:45

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10:00


**Keynote: Rethinking Software: Business Change and the Consequences for Software Engineering** (#RE14Rethink)

[J-Building, Multiroom] Chair: Robyn Lutz


Keynote Speaker: *Anthony Finkelstein*, University College London, UK

Coffee Break (10:00-10:30) [J-Building, ground floor]


**Research Track A: Requirements Management Concerns** (#RE14Management) [J1610] Chair: Didar Zowghi

Language Extended Lexicon Points: Estimating the Size of an Application using Its Language 

*Leandro Antonelli, Gustavo Rossi, Julio Cesar Sampaio do Prado Leite, and Alejandro Oliveros* (Universidad Nacional de La Plata, Argentina; PUC-Rio, Brazil; Universidad Argentina de la Empresa, Argentina)

The Role of Legal Expertise in Interpretation of Legal Requirements and Definitions 

*David G. Gordon and Travis D. Breaux* (Carnegie Mellon University, USA)

Evaluating the Business Value of Information Technology: Case Study on Game Management System 

*Harri Töhönen, Marjo Kauppinen, and Tomi Männistö* (Aalto University, Finland; University of Helsinki, Finland)


10:30

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12:00

**Industry Track: RE in Practice: Experiences from the Field II** (#RE14Experiences)


[J1620] Chair: Michael Panis

Towards Feature-Oriented Requirements Validation for Automotive Systems 

*Jiale Zhou, Yue Lu, Kristina Lundqvist, Henrik Lönn, Daniel Karlsson, and Bo Liwång* (Mälardalen University, Sweden; Volvo, Sweden; Swedish Radiation Safety Authority, Sweden)

Product Knowledge Configurator for Requirements Gap Analysis and Customizations 

*Preethu Rose Anish and Smita Ghaisas* (Tata Consultancy Services, India)

Reassessing the Pattern-Based Approach for Formalizing Requirements in the Automotive Domain 

*Predrag Filipovikj, Mattias Nyberg, and Guillermo Rodriguez-Navas* (Mälardalen University, Sweden; Scania, Sweden)

**10:30** Meeting: **Workshop highlights** (#RE14WSHighlights)  
 – [J-Building, Multiroom] Chairs: Travis Breaux and Eric Knauss

**12:00**


Lunch Break (12:00-13:30) [J-Building, ground floor]

**Research Track A: Quality Goals** (#RE14Quality)

[J1610] Chair: Jane Cleland Huang

Non-Functional Requirements as Qualities, with a Spice of Ontology  
*Feng-Lin Li, Jennifer Horkoff, John Mylopoulos, Alexander Borgida, Renata S. S. Guizzardi, Giancarlo Guizzardi, and Lin Liu* (University of Trento, Italy; Rutgers University, USA; Federal University of Espírito Santo, Brazil; Tsinghua University, China)



**13:30** Quality Requirements Elicitation Based on Inquiry of Quality-Impact  
 – Relationships 

**14:30** *Farnaz Fotrousi, Samuel Fricker, and Markus Fiedler* (Blekinge Institute of Technology (BTH), Sweden)

**Panel: Panel: Educational and industrial RE needs** (#RE14EduInduNeeds)

[J-Building, Multiroom] Chair: Bashar Nuseibeh

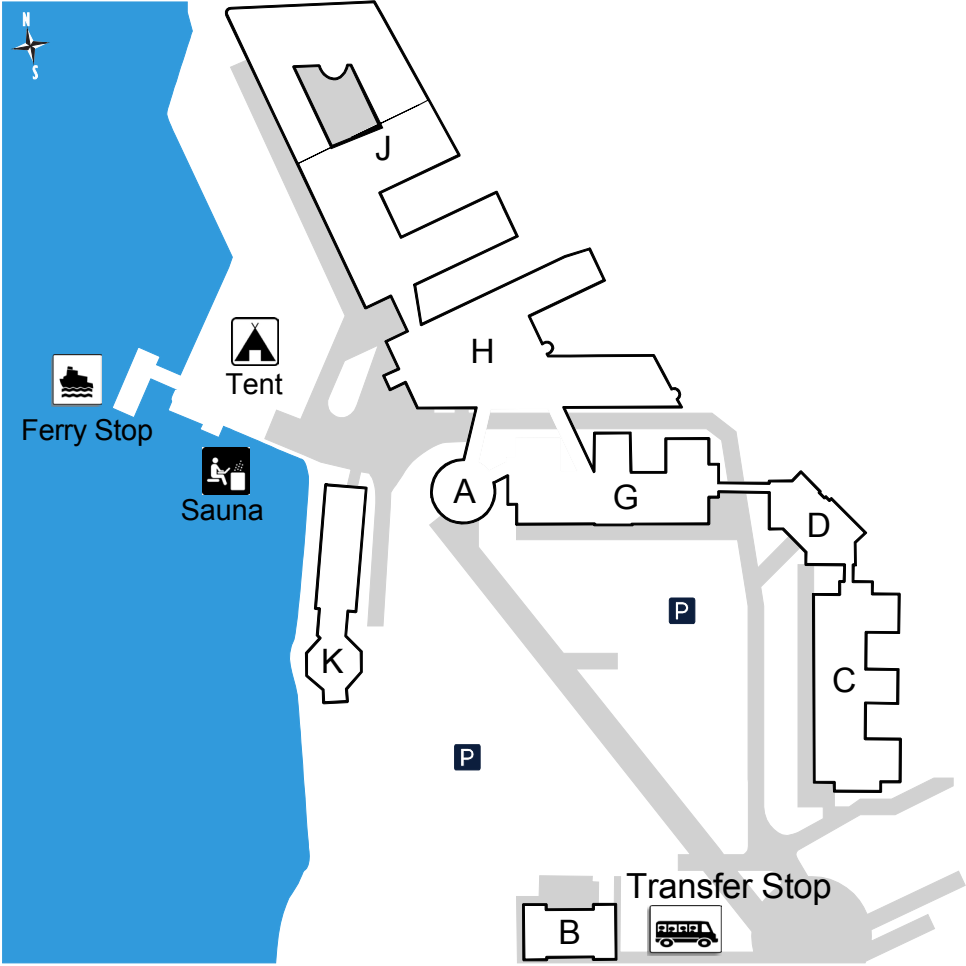
**Industry Track: Mini-tutorial: How to write an industrial RE paper** (#RE14IndustryPaper)

[J1620] Chair: Sarah C. Gregory

**14:30** **Plenary: Closing session: “Farewell with ice-cream” and presentation of next year’s RE** (#RE14Farewell)

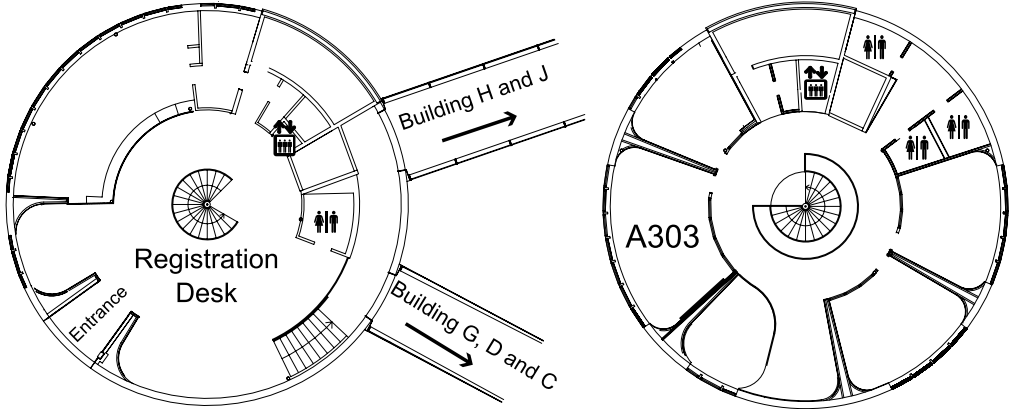
**15:15** [J-Building, Multiroom] Chairs: Tony Gorschek and Robyn Lutz

Campus of Blekinge Institute of Technology

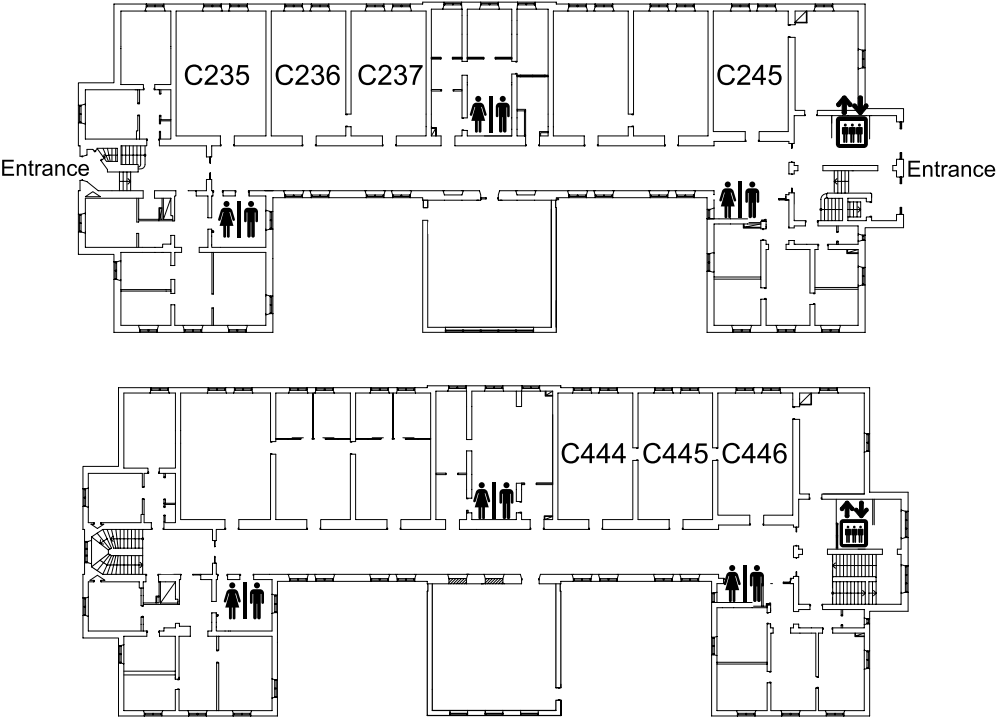




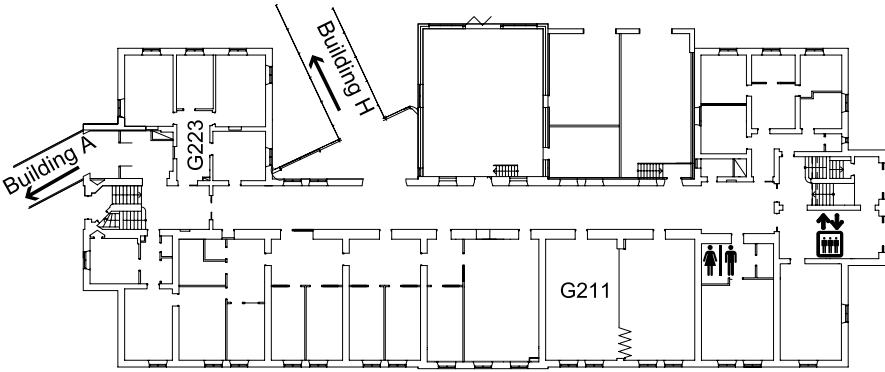
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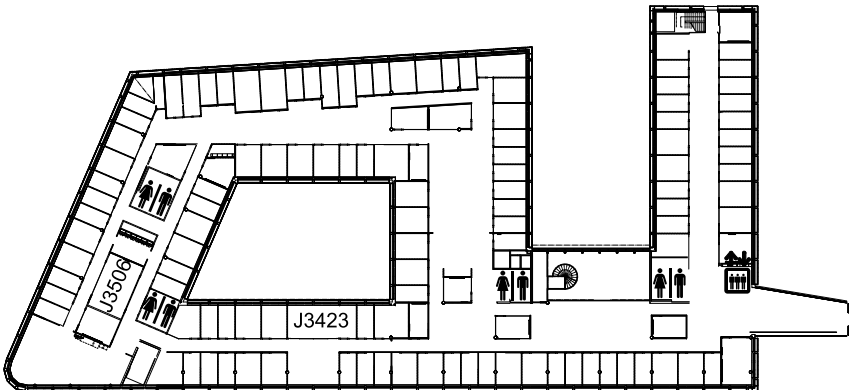
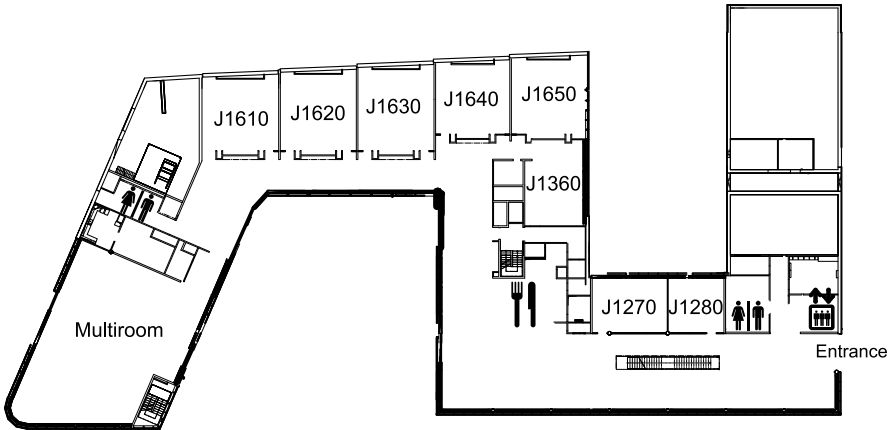
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**G-Building**



**J-Building**



**Conference address**

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**Registration desk and dates**

The conference registration desk is open at the conference venue:

- Monday 25th August 07:00–18:30
- Tuesday 26th August 07:00 – during Welcome Reception
- Wednesday 27th August 07:00–18:30
- Thursday 28th August 08:00–18:30
- Friday 29th August 08:00–18:30

A registration desk is open at the Scandic Hotel on Sunday 24th August 18:00–22:00.

**Participation identification**

RE'14 enforces a strict badge policy. Badges shall be worn at all times during the conference.

**Internet Access**

Personal login instructions for access to the Wi-Fi at BTH and city center can be found in the conference bags.

Note that EDUROAM works at BTH and in the city center.

**Lunches**

Lunches are served from 12.00–13.30 in J-Building, ground floor.

**Morning and afternoon breaks**

Swedish *fika* will be served daily in J-Building, ground floor. Morning break from 10.00–10.30 and afternoon break from 15.00–15.30.

## Restaurants

In Karlskrona, you can eat well with the sea as a backdrop. Many of the restaurants are situated around the big square, Stortorget. Try the local delicacies while you are in Karlskrona. The potato dumplings, called *Kroppkaka* in Swedish, herring sandwiches or a roasted rye bun called *rågskorpa*, are examples of local food.

### **Nivå – International food**

Just next to the big square, this steakhouse has a variety of light, well-priced dishes (nachos, burgers, salads), as well as robust meals from the grill. It's also a popular evening bar.

### **Scandic Hotel – International food**

The hotel restaurant has an inviting and warm atmosphere with art and design in mind. The kitchen offers tasty and well cooked food.

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### **2 Rum & Kök – European food**

Step into a restaurant like no other with its 18th century atmosphere, clearly influenced by Karlskrona's maritime history. It is small but welcoming, and offers a gastronomic experience in a class of its own. Fondue specialist.

### **Stars And Stripes – Sports bar**

Sports bar in modern style that shows sports from leagues worldwide. The menu is largely based on US tradition: large steaks and hamburgers.

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### **Skeppgossen – Swedish**

The restaurant is located at the Naval Museum and has a lovely terrace where you can both see and hear the lapping of waves. Always Swedish dishes on the menu and the "Blekinge-buffet".

### **Lisas Sjöökrog – Seafood**

The floating restaurant! Lisas Sjöökrog lies right there among all the boats in the central guest harbor. The restaurant specializes in fish & shell fish.

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### **Nya Skafferiet – Deli**

Listed by White Guide – they serve pie and a delicacy buffet for lunch. There is also a shop with delicacies from all over the world.

### **Royal Thai – International food**

Offers a nice buffet during lunchtime and a lot of different Thai-food in the evening.

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### **Montmatre – International food**

Pizzeria and restaurant in the city center.

### **Sjörök – European**

Nice restaurant at Skeppsbrokajen with a seaview.

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### **Glassiärens Glassbar – Ice cream**

The queues at this legendary ice-cream bar are matched by the enormous serves. Piled high in a waffle cone, the two-flavor option is almost a dinner.

**Bicycles**

You can borrow bicycles at the BTH reception. A “first come, first served” policy is followed.

**Public Transports and Tickets**

Regular buses to BTH leave from the bus station (Kungsplan Karlskrona, opposite to the train station). Bus no. 1 leaves towards campus from this stop (every 10 minutes). The local buses are run by Blekingetrafiken. A trip from Kungsplan to campus takes 8 minutes and costs SEK 22 cash (no cards accepted, correct change is recommended).

**Phone numbers of Taxi Companies**

There are several taxi companies in Karlskrona. Below is the contact information for some of them. A taxi ride between Ronneby Airport and Karlskrona City costs about SEK 420.

- Taxi Kurir Karlskrona, +46 455 81 000
- Zon Taxi, +46 455 230 50
- Karlskrona Taxi, +46 455 191 00
- GP Taxi, +46 455 410 00

**Electricity**

Sweden uses Northern European electrical standards (50hz/220–240 volts).

**Pharmacies**

A recommended pharmacy is Kronans Apotek in the city centre, close by the pedestrian street. Address: Landbrogatan 4, Karlskrona, Phone +46 77-161 26 12.

Basic pharmacy supplies, such as painkillers, are available at most grocery stores.

**Emergency Numbers/Emergency Ward**

112 is the emergency telephone number from a landline or mobile phone anywhere in Sweden. The number 114 14 can be used to call the nearest police agency in case of a non-emergency.

Call 112 if you need immediate help.

Call 112 if you or somebody in your vicinity falls ill or has a serious accident.

**National Telephone Number for Health Care Advice**

1177 is a national telephone number for health care advice. You can call it 24 hours a day. The operators are nurses who answer your questions, assess your need for care, give you advice and refer you to the right care center if needed.



**Emergency Ward**

**Blekingsjukhuset, Akutvägen, 371 85 Karlskrona, Phone +46 455 73 10 00**

Open 24-7, all weekdays.

**Sightseeing**

We offer RE'14 participants special activity packages to get the chance to explore Blekinge and the famous Naval City Karlskrona. Visit the RE'14 Conference website for more information and booking.

**Language**

Swedish is the official language of Sweden, but almost all Swedes speak English (over 90% of the population by some estimates). Even so, it is always helpful to be able to understand a few basic Swedish words.

- Yes = Ja
- No = Nej
- Thank you = Tack (så mycket)
- Please = Snälla
- Excuse me = Ursäkta mig
- Hello / Good Day = Hej / God dag
- Goodbye = Hej då / Adjö

**Currency**

The Swedish Krona is most often represented either as SEK (preceding the number) or simply kr (following the amount). One Swedish Krona (SEK 1) equals 100 öre. Coins come in denominations of SEK 1, SEK 5, SEK 10, and notes come in denomination of SEK 20, SEK 50, SEK 100, SEK 500, SEK 1000.

**ATM**

*Bankomat* (the Swedish name for ATMs) can be found in Karlskrona city centre, at the pedestrian street and close to the big square, Stortorget.

**Credit and debit cards**

Visa, MasterCard, Eurocard, Diners Club and American Express credit cards are widely accepted throughout Sweden. However, on local buses you can only pay with cash.

**Nature areas**

The Swedes have a unique system of *Allemansrätten*, or Right of Public Access, which basically means that everyone has the freedom to roam the countryside as they please as long as nature is not disturbed or destroyed. Among other things, this allows you to pretty much walk in any forest or swim in any lake.

**Post office**

Post offices are often integrated into various shops, like grocery stores, kiosks, gas stations and so on. The opening hours therefore differ according to the specific store, but hours are usually 9:00–18:00, Monday–Friday. To find a post office, look for the blue postal sign. Many hotels, bookstores and tourist centers also sell stamps.

**Wine, beer and spirits**

Aside from bars, restaurants and some hotels, wine, spirits and strong beers (i.e., over 3.5% alcohol) are only sold at state liquor stores called *Systembolaget*. In Karlskrona, *systembolaget* is situated in Wachtmeister shopping mall. Opening hours are 10:00–18:00 Monday–Friday, 10:00–13:00 on Saturdays.

**Water**

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

**Weather**

Swedish summers are generally sunny with only occasional rainfall. The average temperature for July is 20°C (68°F) in Karlskrona.

# 23rd IEEE International Requirements Engineering Conference Ottawa, Canada, August 24-28, 2015

Requirements  
*for*  
the masses.



Requirements  
*from*  
the masses.

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Workshop Proposals **JAN 26**      Tutorial Proposals **MAR 02**

Paper Abstracts **MAR 02**                      Full Papers **MAR 09**

Panel & Interactive Proposals / Doctoral Symposium /

Posters and Tool Demos **APR 13**

Daniel Amyot in his role as the General Chair, the two Program Co-Chairs, Didar Zowghi and Vincenzo Gervasi, the two Industry Track Co-Chairs, Sarah C. Gregory and Richard Berntsson Svensson, and the whole RE'15 team extend a warm invitation to next year's edition of the RE conference.

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