



**5<sup>TH</sup> INTERNATIONAL CONFERENCE ON RELIABLE ENGINEERING COMPUTING**  
**PRACTICAL APPLICATIONS AND PRACTICAL CHALLENGES**  
JUNE 13-15, 2012 | BRNO, CZECH REPUBLIC



**Brno University of Technology**  
**Faculty of Civil Engineering**  
**Institute of Structural Mechanics**  
invites you cordially to  
International Scientific Conference

# REC 2012

<http://rec2012.fce.vutbr.cz>

The 5<sup>th</sup> **International Conference on Reliable Engineering Computing** is hosted by the Brno University of Technology in Brno, Czech Republic. Industry and academia are invited to contribute and to join in the discussions on developments and needs in the field.

Reliable Engineering Computing has emerged as a multi-disciplinary quality brand with this conference series, which has been hosted at Georgia Tech Savannah in 2004, 2006, and 2008 and at the National University of Singapore in 2010. The REC-meetings provide a unique symbiosis of various engineering and associated disciplines with the kernel areas of Civil/Mechanical Engineering, Computer Science, and Mathematics. Central issue of the discussions is the reliability of engineering computations. Cross-disciplinary advisements generate synergy and impulses of a new quality for research and development, as well as for innovative applications. The organization of REC2012 in Brno will help to cater to the growing global interest in Reliable Engineering Computing, in particular, in Europe.

## Objective and scope

REC2012 is focusing on providing solutions for Practical Applications and dealing with Practical Challenges in incorporating Reliable Computing in engineering practice. While there is an underlying theoretical framework for Reliable Computing, translation from theory to practice in engineering is still needed. Industry and academia are invited to contribute and to join in the discussions on developments and needs in the field.

This conference is unique in combining computer science, mathematics, and engineering analysis and design to discuss the reliability of engineering computations, providing a common forum by which to continue cross-disciplinary advisements in the field.

Participants are expected to submit papers that will be published in the conference proceedings and also will be available on-line from the conference web site. After the conference, selected papers will be published in a special issue(s) of a selected journal. The papers will go through the normal refereeing process.

### **Topics include but are not limited to:**

- management and processing of uncertainties
- risk analysis, hazard analysis, risk and hazard mitigation
- robust design, reliability-based design, performance-based design

### **Herein, practical applications and practical challenges may concern, e.g.:**

- structures
- systems
- processes
- algorithms

### **Methods and theories may include, e.g.:**

- traditional statistics and probability theory
- Bayesian theory
- imprecise probabilities
- evidence theory
- p-box approach
- fuzzy probability theory
- interval analysis
- fuzzy set theory
- convex modeling
- information gap theory

### **Important Dates**

Submission of one page abstract:  
Notification of abstract:  
Submission of full-text:  
Registration:

**30<sup>th</sup> September 2011**  
**31<sup>st</sup> October 2011**  
**1<sup>st</sup> February 2012**  
**15<sup>th</sup> February 2012**

### **Conference Fee**

€ **400** (Euro) for all participants

## Location and Lodging

REC2012 will be held at Hotel Continental in Brno, Czech Republic.

Brno, the Czech Republic's second largest city, has a population of nearly 370,000 people. It lies in the central part of Europe and within its two hundred-kilometer radius there are other important European capitals: [Prague](#), [Vienna](#) and [Bratislava](#). The international airport in Brno serves regular flights.

Brno is the metropolis of Moravia and an important tourist centre for all who want to explore the natural and cultural beauties of the South-Moravian region.

Today Brno is a seat of universities and important judiciary institutions.

## International Scientific Committee

Ivan Au S.K.	City University of Hong Kong, Hong Kong
Michael Beer	University of Liverpool, United Kingdom
Daniel Berleant	University of Arkansas at Little Rock, USA
Christian Bucher	Vienna University of Technology, Austria
Jianye Ching	National Taiwan University, Taiwan
George Deodatis	Columbia University, USA
Scott Ferson	Applied Biomathematics, USA
Vladik Kreinovich	University of Texas at El Paso, USA
Baoding Liu	Tsinghua University, China
Dagang Lu	Harbin Institute of Technology, China
Kurt Marti	Federal Armed Forces Univ. Munich, Germany
Mehdi Modares	Illinois Institute of Technology, USA
Zissimos Mourelatos	Oakland University, USA
Drahomír Novák	Brno University of Technology, Czech Republic
Michael Oberguggenberger	University of Innsbruck, Austria
Andrzej Pownuk	University of Texas at El Paso, USA
M.V. Rama Rao	Vasavi College of Engineering, Hyderabad, India
Siegfried M. Rump	Hamburg University of Technology, Germany
Gerhart I. Schuëller	University of Innsbruck, Austria
Pol D. Spanos	Rice University, USA
Mark Stadtherr	University of Notre Dame, USA
Lev Utkin	St.Petersburg State Forest Tech. Academy, Russia
Dirk Vandepitte	Catholic University of Leuven, Belgium
Reinhard Viertl	Vienna University of Technology, Austria
Hao Zhang	The University of Sydney, Australia
Enrico Zio	Polytechnic of Milan, Italy

## Special Issue

Authors of the most innovative computational papers will be invited to submit substantially extended manuscripts with additional original computational materials for possible publication in a special issue of [Computer-Aided Civil and Infrastructure Engineering \(CACAIÉ\)](#) (Impact Factor: 3.17) now in 26<sup>th</sup> year of publication. The overlap between the paper submitted for publication in the journal and the paper published in the conference

proceedings should not be more than 50%. Addition of literature review, introductory materials, and examples will not satisfy the condition of a substantially enhanced/different paper. The extended paper must not be under consideration by any other journal or publication. All submissions will be reviewed for originality and significance by at least three reviewers using the journal's review form. Accepted papers will also be considered for [\*Hojjat Adeli Award in Computing Innovation\*](#) awarded to the authors of the most innovative year published in a given volume/year.

## Organization

### Honorary Chair

**Gerhart I. Schuëller**

Leopold-Franzens University, Innsbruck, Austria, EU

### Chair

**Miroslav Vořechovský**

Brno University of Technology (BUT), Czech Republic, EU

### Founders and General Chairs

**Rafi L. Muhanna**, Georgia Institute of Technology, USA

**Robert L. Mullen**, University of South Carolina, USA

### Local Organizing Committee

**Václav Sadílek, Stanislav Seitl, Václav Veselý**

Institute of Structural Mechanics, BUT

### Technical Support Team

**Jana Kaděřová**

Institute of Structural Mechanics, BUT

### REC2012 Secretariat

**Dita Vořechovská**, Institute of Structural Mechanics, BUT

### Conference Office

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