

Preliminary Invitation

IABSE Workshop

Safety, Failures and Robustness of Large Structures

14-15 February 2013

Helsinki, Finland

Photo WSP Group Plc., Mateusz Sosnowski

ORGANIZERS

Finnish Group of IABSE

Finnish Association of Civil Engineers RIL

ORGANIZING COMMITTEE

Ms. Helena Soimakallio (chair)

Finnish Association of Civil Engineers RIL

Prof., Dr., Aarne Jutila

Finnish Group of IABSE

Ms. Anu Karvonen

Finnish Association of Civil Engineers RIL

Dr. Risto Kiviluoma

Chair of the Finnish Group of IABSE

Mr. Atte Mikkonen

Secretary of the Finnish Group of IABSE

Ms. Kaisa Narvio (secretary)

Finnish Association of Civil Engineers RIL

Mr. Ville Raasakka

Finnish Association of Civil Engineers RIL

INTERNATIONAL SCIENTIFIC COMMITTEE (preliminary)

Dr. Risto Kiviluoma (chair)

WSP Finland Ltd, FINLAND

Prof., Dr. Carmen Bucur

Technical University of Civil Engineering Bucharest, ROMANIA

Prof., Dr. Joan Ramon Casas

Technical University of Catalonia, SPAIN

Prof., Dr. Airong Chen

Tongji University, CHINA

Dr. Christian Cremona

Sétra, FRANCE

Prof., Dr. Thomas Vogel

ETH Zurich, SWITZERLAND

INTRODUCTION AND WELCOME

IABSE workshop “Safety, Failures and Robustness of Large Structures” addresses one of the fundamental scope of bridge and structural engineering, i.e., to build safe structures. Structural engineers has long tradition for this by designing structures to resists little extra, to take into account uncertainties in various aspects including design methods, mathematical models, material properties, loads, fire, fatigue, aging of structures and quality of construction. Structural failures, however, occur time to time for varying reasons.

What comes to large structures, their collapses and failures are rare events, but they most often leads to big consequences, worldwide news coverage and public reaction. They are fruitful to the self-learning process of the profession in that respects, that thorough investigations are arranged for revealing the reasons behind. Smaller failures may be big enough to jam the traffic of the city and more detrimental ones may be part of the complex chains resulting in catastrophe-level disasters. While design, construction and maintenance errors may well still occur, an important branch of catastrophic failures appears to be those, which are due to actions not thought in advance. Such actions may, e.g., be man-maid or due to the extreme natural events where the global climatic change may contribute.

Finland is one of the few countries in the World building new nuclear power plant at the times when Fukushima disaster remembered the power of nature and limitations of engineering thinking for ultimate safety. Finland is also a country where nuclear waste disposal system is currently build, deeply in the bedrock, with more than 250'000 years review period in risks assessments.

We believe that safety, failures and robustness of structures are something that benefit from thinking the both old and new ways: learning from the failures that has occurred in the past and borrowing the ideas from other disciplines, like the nuclear industry. From this viewpoint, we would like also to bring new, or at least reinvented, ideas for arranging IABSE workshops. Namely, we have invited speakers among recognized experts outside the IABSE family and discipline, by still providing traditional open call-for-paper sessions for experts to publish their contributions to the theme. Our target is to deliver the creative opportunity for professionals to learn new, and share ideas.

We heartily welcome you to join the workshop in Helsinki!



Dr. Risto Kiviluoma
Chair of the Finnish Group of IABSE



Ms. Helena Soimakallio
Managing Director, Finnish Association of Civil Engineers

PURPOSE OF THE WORKSHOP

The workshop theme is “**Safety, Failures and Robustness of Large Structures**”. Large structures focused in this workshop include tall buildings, bridges, power plants, dams, harbour structures, stadiums, sport halls, public areas, malls and large urban developments, i.e., structures whose failure may cause the most significant consequences in the terms of fatalities, injuries and economic losses. Aside with traditional safety-concept in structural engineering, e.g. loads and resistance, the robustness issues for unforeseen and unexpected actions are addressed. Relevant actions (including loads) include etc.

- fire
- seismicity, tsunamis, waves, wind effects, snow drifting
- floods and landslides
- vehicle collisions
- progressive collapse
- excessive structural vibrations
- fatigue
- leakage, explosions
- man-made hazards
- loads due to construction and renovation.

An attempt will be made to highlight the importance of consequences that a structural failure may initiate directly or indirectly.

The purpose of the workshop is to provide a meeting point and discussion forum to any professional interested in the theme. Keynote speakers are invited as multidisciplinary bases and aim to present the best skills and experience on their field. This gives the participants a possibility to learn new ideas and best practices, as well as learning from the past collapses, failures and catastrophes.

The workshop gives a possibility to participants to share ideas and discuss about their specific topic with experts.

This workshop includes four open call-for-papers sessions, in which experts can publish their scientific contribution to the theme. The abstracts and papers are reviewed by the International Scientific Committee of the Workshop. Papers will be published in the proceedings, and some papers will be selected for oral presentations. Abstracts are especially welcome to the following subthemes:

- structural failure case studies
- tall buildings and large urban development projects
- bridges, tunnels and other large infrastructures
- mathematical modelling, design codes and standards
- robustness and thinking beyond.

The workshop includes general closing discussions where the state-of-the art can be reviewed. If urged, the organizers on the behalf of workshop participants, can gather statements or recommendations towards IABSE or openly to national structural engineering associations. These may include recommendation for arranging future events or other modes of collaboration on specific topics.

SCIENTIFIC PROGRAMME

Scientific program consists on invited key-note lectures and an open call-for paper sessions. At the end of the both workshop days, time is reserved for common discussions.

	WEDNESDAY February 13, 2013	THURSDAY February 14, 2013	FRIDAY February 15, 2013	
9.00		<i>OPENING SESSION Auditorium</i>	<i>PLENARY SESSION 2 Auditorium</i>	
9.15		Keynote presentation 1	Keynote presentation 6	
9.45		Keynote presentation 2	Keynote presentation 7	
10.15		<i>Coffee at 10.15-10.30</i>		
		<i>PLENARY SESSION 1 Auditorium</i>	<i>SESSION 3 Room 3</i>	<i>SESSION 4 Auditorium</i>
10.30		Keynote presentation 3	Presentation 12	Presentation 18
10.45			Presentation 13	Presentation 19
11.00		Keynote presentation 4	Presentation 14	Presentation 20
11.15			Presentation 15	Presentation 21
11.30		Keynote presentation 5	Presentation 16	Presentation 22
11.45			Presentation 17	Presentation 23
12.00		<i>Lunch at 12.00-13.00</i>		
		<i>SESSION 1 Auditorium</i>	<i>PLENARY SESSION 3 Auditorium</i>	
13.00		Presentation 1	Keynote presentation 8	
13.15		Presentation 2		
13.30		Presentation 3		
13.45	Presentation 4			
14.00	Check-in to the hotel starting at 14.00 On-site registration open at 14.00-18.00	Presentation 5	<i>Coffee at 14.00-14.15</i>	
			<i>CLOSING SESSION Auditorium</i>	
14.15		<i>Coffee 14.15-14.30</i>	Panel discussion at 14.15-14.45	
		<i>SESSION 2 Auditorium</i>		
14.30		Presentation 6	Bus transportation to the airport and Helsinki City centre at 15.15	
14.45		Presentation 7		
15.00		Presentation 8		
15.15		Presentation 9		
15.30		Presentation 10		
15.45		Presentation 11		
16.00		<i>Coffee at 16.00-16.15</i>		
16.15-16.45	<i>DAY 1: CLOSING SESSION Auditorium</i>			
	Panel discussion at 16.15-16.45			
18.00	Get-together at Gustavelund at 18.00-20.00	Guided walk to the dinner venue (about 10-15 min)		
18.30		Dinner at Restaurant Krapihovi at 19.00-22.00		
19.00				

SOCIAL PROGRAM

Social program of the workshop includes a get-together reception at the venue (on Wednesday evening) and the workshop dinner (on Thursday evening). The dinner takes place at restaurant Krapihovi, which will be reached by guided walk of about 10-15 min or by taxi.

CALL FOR PAPERS

Participants wishing to make a presentation are invited to submit an abstract related to the workshop themes **by September 30, 2012.**

The abstract should be written in English. There is an on-line submission form found at www.ril.fi. The following guidelines must be followed:

- maximum length of an abstract is 4000 characters
- no figures, tables or images are permitted in the abstract.

The authors with accepted abstracts will be asked to submit a full paper (6-12 pages) in IABSE proceedings format (a template will be provided) by November 20, 2012. The International Scientific Committee will review the full papers and give the final notification by December 5, 2012. All accepted full papers will be published in the workshop proceedings.

The International Scientific Committee will choose the papers to be presented at the workshop (15 min presentations). Presentation guidelines will be provided later.

PARTICIPANTS

The workshop is intended to engineers, architects, researchers, actuarial mathematicians and officials working with large structures. The workshop is also an excellent possibility for young engineers and postgraduate students to get familiar with the theme and the IABSE organisation.

PUBLICATION

A short version of the accepted papers will be published in the workshop report and the full papers will be available on USB-memory. The report and the USB-memory will be available at the beginning of the workshop.

IMPORTANT DATES

September 30, 2012	Deadline for abstract submission
October 18, 2012	Notification of acceptance of abstracts
November 2012	Deadline for submitting the final papers
December 5, 2012	Notification of acceptance of final papers
December 31, 2012	Deadline for author registration, payments and revised papers

REGISTRATION

The on-line registration will open in September 2012. The registration fee will include participation to the workshop days (incl. lunch and coffee), get-together reception, dinner and the workshop proceedings. There will be three different fee categories:

- regular participation fee
- discount fee for IABSE and RIL members
- young-engineer fee for participants of 35 years or younger (born 1978 or later).

Those interested in participating in the workshop are invited to send an e-mail with contact information to the workshop secretariat: kaisa.narvio@ril.fi.

VENUE, ACCOMMODATION AND TRANSPORTATION

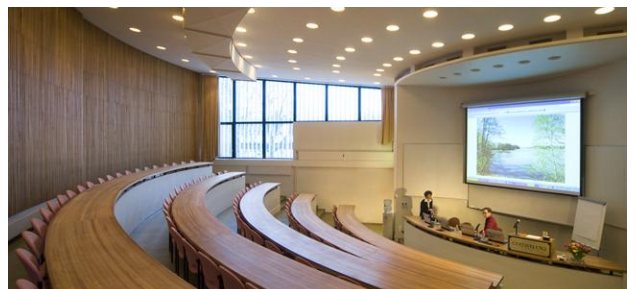
Workshop venue is **Gustavelund** (address: Kirkkotie 36, Tuusula), which is located 35 km from Helsinki city centre and close to the Helsinki-Vantaa airport.

The venue has own accommodation facilities with total 84 rooms reserved to the workshop participants. Accommodation needs to be booked separately. In Gustavelund, specially negotiated room rates to workshop participants are:

Single room (standard)	84 eur / night
Double room (standard)	109 eur / night

Room reservations directly from the hotel by December 15, 2012:

Tel. + 358 9 273 751
E-mail: reception@gustavelund.fi
Booking code: IABSE2013



Recommended transport from the airport is by taxi, which takes about 15 min. Driving instructions and information of the public transport can be found at www.gustavelund.fi.

After the workshop, bus transportation will be arranged to the airport and to the Helsinki city centre. The busses are scheduled to leave on Friday at 15.15. The estimated arrival to the airport is at 15.45 and Helsinki City centre at 16.30.

GENERAL INFORMATION

Language

The official language of the workshop is English. Oral presentation and discussion will be in English only.

Winter weather in Helsinki region

The month of February is considered winter also in the Southern Finland. If you plan to do outdoor activities, remember to bring a warm jacket, walking shoes, gloves and hat with you. Walking paths might be icy and slippery.

HELSINKI, FINLAND

The capital, Helsinki, and the neighbouring towns, Espoo and Vantaa, form the fast growing Helsinki metropolitan region, which is now home to almost a million Finns. Helsinki was founded by King Gustav Vasa of Sweden in 1550 and became the capital city of the independent Finland in 1917. Surrounded by the sea and its own exotic archipelago, Helsinki offers visitors an endless number of possibilities.

The workshop is held in Tuusula, about 30 km from Helsinki city centre and 15 min from Helsinki-Vantaa airport. Tuusula is a small town with the population of 36.000. Tuusula has a strong cultural heritage. The first Finnish museum road - Tuusula Rantatie – is located close to the workshop venue. This road hosts the homes of many Finnish artists, such as Pekka Halonen, Juhani Aho, Venny Soldan-Brofeldt, Aleksis Kivi, Eino Leino, Eero Järnefelt and Jean Sibelius.

Finland (Finnish name Suomi) is a republic which became a member of the European Union in 1995. Its population is 5.3 million. Finland is an advanced industrial economy: Metal, engineering and electronics industries account for about 60 % of export revenues and the forest products industry for about 20 %. Finland is situated in northern Europe between the 60th and 70th parallels of latitude. A quarter of its total area lies north of the Arctic Circle. Forest covers about 75 % of Finland, while bodies of water - mainly lakes - cover almost 10 %.

LOCAL ORGANISERS

The **Finnish Group of IABSE** is more than sixty years old and one of the oldest national groups inside the IABSE organization. The Finnish Group organised the 1988 IABSE Symposium Helsinki, the 2001 Conference in Lahti and the 2008 conference in Helsinki.

Finnish Association of Civil Engineers (RIL) is an organization for civil engineers with Master of Science degrees and university students of civil engineering. RIL supports the development of building, urban planning and environmental technology and acts to preserve solid and durable building and maintenance traditions. RIL also supervises the benefits of its members and promotes their professional skills and welfare. Read more from: www.ril.fi.

ABOUT IABSE

The International Association for Bridge and Structural Engineering (IABSE) was founded in 1929. Today, IABSE has 4000 members in over 100 countries. The mission of IABSE is to promote the exchange of knowledge and to advance the practice of structural engineering worldwide in the service of the profession and society. To accomplish its mission, IABSE organizes conferences and publishes the quarterly journal Structural Engineering International (SEI), as well as reports and other monographs. IABSE also presents annual awards for outstanding achievements in research and practice that advance the profession of structural engineering.

More information about IABSE:

IABSE Secretariat
ETH Hönggerberg
CH-8093 Zurich, SWITZERLAND
Tel. +41-44-633 2647
Fax. +41-44-633 1241
E-mail: secretariat@iabse.org
Internet: <http://www.iabse.org>

FURTHER INFORMATION

IABSE Workshop Helsinki 2013
Finnish Association of Civil Engineers RIL
Ms. Kaisa Narvio
Töölönkatu 4
00100 Helsinki, FINLAND
Tel. +358 40 534 1381
Fax. +358 207 120 619
E-mail: kaisa.narvio@ril.fi