International Association for Bridge and Structural Engineering

IABSE

Final program

Nordic IABSE Summit

Engineering and Beyond

9-10 April 2014

Helsinki - Tallinn

Finland - Estonia

ril

Finnish Association of Civil Engineers

Organizers

Finnish Group of IABSE

Prof., Dr. Risto Kiviluoma

Chair of the Finnish Group of IABSE

Mr. Atte Mikkonen

Secretary of the Finnish Group of IABSE

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, the 2008 Conference in Helsinki and the Workshop 2013 Helsinki. Read more about IABSE from IABSE: www.iabse.org.

Finnish Association of Civil Engineers RIL

Ms. Anu Karvonen

Director, Products and Services

Mr. Ville Raasakka

Congress Secretary, International Conferences

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. Year 2014 RIL celebrates its 80th anniversary. Read more from: www.ril.fi.

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Introduction and welcome

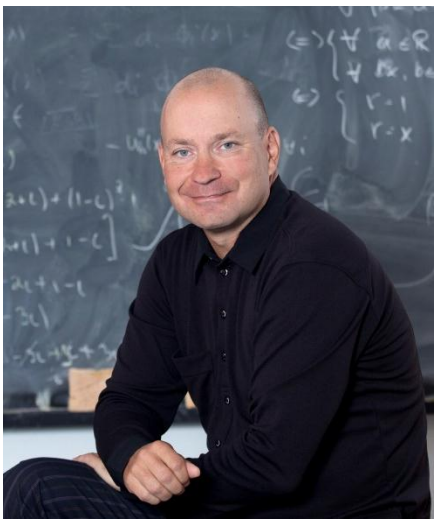
Nordic IABSE Summit *Engineering and Beyond* is new type of event, which cope to locate itself between scientific conferences and annual meetings of engineering societies. Event's program consists on keynote presentations of invited recognized professionals, panel discussions of representatives from various countries, and interaction of all participants. Presenters are not requested to provide scientific papers, but yet the presentations and discussions are targeted to base on the solid background of engineering science; being critical, uncommercial and going straight into the core of matter.

Structural engineering is today facing many changes that are related to globalization, changes in working environment, computer modelling, web based knowledge seeking and quickly renewing standards. Do structural engineers have in the future the professional skills, resources and appreciation that are needed to realise structures, from ordinary to engineering masterpieces, that fulfil the needs of the society? Do they have time, and does they employer support, lifetime lasting training of professional skills? Will tomorrow's structural engineering be only routine computer modelling, which is get where the cheapest available? Structural engineering organisations, like IABSE worldwide and RIL in Finland, are facing this kind of questions when renewing their strategy.

Engineers and experts across all affiliations have less time to put on training and being engaged in professional organisations. When they leave their workplace for training or networking, they should be server the best. Many still appreciate the face-to-face meeting and socialise with colleague, despite the fact that more and more networking in done in through the web. Participating formal annual meetings of engineering organisations attract only few young engineers. More professional significance and benefit should be gained, like we wish to serve in this Summit.

In addition to above questions, Nordic IABSE Summit plan to be versatile forum to bring out any emerging topics in structural engineering. No matter if the questions are eternal or rose on a construction site last week; answers could be sought and declarations given. The Nordic countries share the same geographical location and structural engineering traditions. They have similarities in society and economies too. This hopefully gives not only quick access to the Summit but also effective understanding and answer seeking to the issues raised. Finally, as part of the Summit, we are happy to visit Tallinn, Estonia, where structural engineers have significant role of not only building new, but also rehabilitating and renovating the structures belonging to the cultural heritage.

We heartily welcome you on board to the Nordic IABSE Summit!



Prof., Dr. Risto Kiviluoma
Chair of the Finnish Group of IABSE

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

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Purpose of the summit

The summit theme *Engineering and Beyond* refers to recent and future challenges in structural engineering. The purpose of the summit is to provide a meeting point and discussion forum to any professional working in the field of structural engineering or employing services by the structural engineers. These include engineers, architects, developers, researchers, teachers and association representatives. Summit is targeted to everybody from young professionals to eminent: each opinion and viewpoint is valuable to address 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.

The summit includes general panel discussions where the stage-of-the art and future trends can be reviewed. If urged, the summit can gather statements or recommendations towards IABSE and national structural engineering associations. These may include recommendation for arranging future events or other modes of collaboration on specific topics.

The summit is an international engineering event that by its size is between associations' annual meetings and engineering conferences. It aims to be more versatile and flexible to address emerging professional issues than scientific conferences; both for the invited speakers and for the participants. The arrangements are made tailored to provide easy access to Nordic participants. Intention is not to establish new sequence of Nordic IABSE events in addition to national and international ones. The summit is part of organisers' plan to better serve the needs of the structural engineers by arranging international engineering science workshop or conference every other year and smaller, more adaptable, international event meanwhile.

Arranging of international events is particularly attractive to Finnish group of IABSE, as the structural engineering is currently rapidly globalising in Finland. Factors affecting to these include the European Union the related harmonised design standards; internationalisation of consulting engineering companies; utilisation of product modelling and design software; and start of usage of English language and employment of foreign scientifically-oriented professors for higher level university education.

Programme

Program consists two days of invited key-note lectures, panel discussions and technical tour.

Summit venue is split to two capitals, Helsinki and Tallinn, including two sea voyages between. Overnight is spent in the ship while the return is with the fast ferry.

Program starts at Wednesday 9th noon. In the afternoon, participants are moved to ferry for trip to Tallinn, Estonia. Participants accommodate to the cabins of the ferry and buffet dinner is will be served. Key-note presentations continue in the morning Thursday 10th in the seminar rooms of the ferry. After the morning lectures, technical tour is arranged to the Seaplane Harbour Museum, including renovated hangars with large size concrete shell structures. (Lunch in the ferry)

Return to Helsinki is by fast ferry reaching the Helsinki harbour Thursday 10th at 15.30.

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Wednesday April 9th

RIL, Töölönkatu 4, Helsinki, Finland			
10:00	Annual meeting of the Finnish group of IABSE (to Finnish members only)		
11:00	Summit registration open, coffee buffet		
Session 1			
12:00	Opening of the summit	**Risto Kiviluoma**	FI
12:10	Bringing science into structural engineering education	**Juha Paavola**	FI
12:40	Globalization in consulting engineering	**Matti Mannonen**	FI
13:10	*Break*		
13:25	Opportunities and challenges of non-destructive testing and monitoring methods in civil engineering	**Christian Crosse**	DE
13:55	How to Improve the Robustness Of Steel and Composite Buildings	**David Nethercot**	UK
14:25	*Break*		
Session 2			
14:40	Dynamic Expression: The Structural Design of The St Botolph Building	**Andrew Byrne**	UK
15:10	Keeping clients and architects happy, through the engineering of the Shard and London Bridge station	**John Parker**	UK
15:40	Panel discussion and press conference	moderator Risto Kiviluoma	FI
16:20	Close of the day 1		
16:30	*Transportation to the harbour Länsisatama (Tyynenmerenkatu 8)*		
M/S Silja Europa			
17:00	*Check-in to the cabins*		
17:30-19:30	*Buffet dinner, restaurant Buffet Europa*		
20:00-	*Free socialising, get-tohether at the restaurant to be anounced*		

Thursday April 10th

M/S Silja Europa			
07:00	*Buffet breakfast*		
08:30	*Check-out from the cabins*		
Session 3	*Conference room of the ferry*		
09:00	Tension supported structures - experiences in Estonia	**Ivar Talvik**	EE
09:30	Restoration of Tallinn seaplane hangars	**Karl Õiger**	EE
10:00	Closing discussions	moderator Risto Kiviluoma	FI
10:20	Leaving the ferry, guided walk to the bus		
Lennusadam Seaplane Harbour, 17 Küti Street / 6 Vesilennuki Street, Tallinn, Estonia			
10:40	Guided tour in the Seaplane Harbour		
12:00	Transport to the ferry		
M/S Superstar			
12:30	Check in to the ferry, Terminal D, Lootsi 13, Tallinn		
13:30	Ferry to Helsinki, Finland		
14:00	*Lunh in the ferry (Shuttle Buffet, deck 8)*		
15:30	Arrival to Helsinki (Länsisatama Harbour, Tyynenmerenkatu 8)		

Keynotes

How to Improve the Robustness of Steel and Composite Buildings?

Prof., Dr. **David A. Nethercot**, UK
President of IABSE

OBE, FREng, FTSE, Emeritus Professor of Civil Engineering Imperial College London

After 12 years as Head of the Department of Civil and Environmental Engineering at Imperial College London, David Nethercot retired in September 2011. He remains active in technical and professional work as well as being involved with research in his specialist areas of steel and composite construction. He holds a D.Sc. degree, was elected to the Royal Academy of Engineering in 1993, and was awarded the Gold Medal of the Institution of Structural Engineers in 2009. A former president of IStructE, he is the current President of IABSE.

Dynamic Expression: The Structural Design of the St Botolph Building

Andrew Byrne, UK
Grimshaw Architects

B ARCH, RAIA, RIBA, ARB, Associate Director

Andrew is a highly experienced architect across projects at a range of scales and his expertise spans the provision of all professional services. He has a proven track record of managing the design and construction process with extreme diligence. In the seven years he has spent at Grimshaw, he has worked closely with major commercial property developers in the City of London.

The Pursuit of Happiness - keeping clients and architects happy, through the engineering of the Shard and London Bridge

John Parker, UK
WSP London

MA, CEng, FICE, FIStructE, Senior Technical Director

John Parker graduated from Churchill College Cambridge in 1982 with a first class honours degree in engineering. He joined WSP in 1987 and is now a Senior Technical Director in the London structures team. John is particularly interested in enhancing architecture through expressed structural engineering. His experience includes several landmark projects in the UK including Canning Town station, Hungerford Bridge, Rolls Royce Motors factory, London Bridge station redevelopment and The Shard – at 306m, the tallest building in western Europe.

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Opportunities and challenges of non-destructive testing and monitoring methods in civil engineering

Prof., Dr. **Christian Große**, Germany
Technische Universität München

Prof. Große's research area is non-destructive testing. This covers quality assurance during materials manufacturing, the inspection of building components, plants and buildings and continuous surveillance during the operating phase. Construction and mechanical engineering are the main sectors concerned. The disciplines that come into play are geophysics, physics, electrical engineering, computer science and materials management. The main materials he explores are concrete, metal, stone and composites such as fibre reinforced materials. His specialist expertise includes acoustic emission testing and wireless sensor networks for structural health monitoring.

Bringing science into structural engineering education

Prof., Dr. **Juha Paavola**, Finland
Aalto University

Juha Paavola is currently the Head of the Department of Civil and Structural Engineering. He was the Vice Dean of the School of Engineering at Aalto University from 2011 to 2013. He was appointed as Professor of Structural Mechanics at Aalto University (former Helsinki University of Technology) in 1997. Before that he was Associate Professor of Structural Mechanics during 1988-1997. His research work and professional interests are: Numerical Computation Technique, Finite Element Analysis, Structural Stability, Heat Transfer Problems and Teaching of Structural Mechanics. He has been visiting Professor in City University London, 1991-1992 and 2001 and in Graz Technical University in 2002. He is a member of the Association of European Civil Engineering Faculties (AECEF) and a member of the network European Civil Engineering Education and Training (EUCEET).

Globalization in consulting engineering

Matti Mannonen, Finland
Finnish Association of Consulting Firms SKOL

Matti Mannonen is the Managing Director of the Finnish Association of Consulting Firms SKOL and Executive Committee Member in the Federation of Finnish Technology Industries since 2012. He has 30 years of experience in consulting business, out of which 15 years as the Managing Director of three international consulting companies. He also has project experience from over 30 countries in Europe, Russia and CIS, Asia and Africa. Matti holds M.Sc. degree in Civil Engineering.

Tension supported structures - experiences in Estonia

Prof., Dr. **Ivar Talvik**, Estonia
Tallinn University of Technology

Ivar Talvik qualified as a civil engineer after graduating from Tallinn University of Technology in 1986, received his PhD at TTU and is currently Associated Professor and the Acting Head of Chair of Structural Engineering at the Department of Structural Design. His professional interests are steel structures, structures in fire, tension structures. Besides teaching and research activities he has been involved in many design projects, in particular in steel.

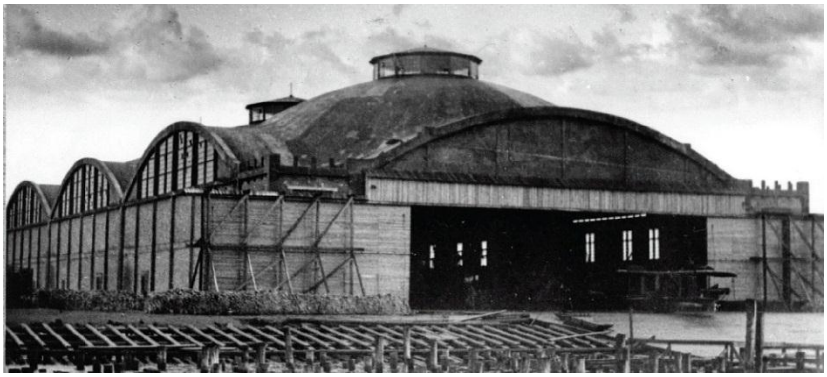
Restoration of Tallinn Seaplane Hangars

Prof., Dr. **Karl Õiger**, Estonia
Tallinn University of Technology

Karl Õiger is Emeritus Professor of Tallinn University of Technology. He is eminent structural engineer, and his field of specialisation includes renovation design and design wooden structures. He made his doctoral dissertation on actual behaviour, analysis and design of thin saddle-shaped shell roofs in Tampere Technical University Finland 1992, and received Dr. h.c. from the same university 2012.

Market square of the city of Helsinki, Finland, as photographed from the South Harbour.

Central plaza of the city of Tallinn, Estonia.



Lennusadam Seaplane Harbour Museum, Tallinn, with large concrete shell structures build originally 1916-1917. Photos www.lennusadam.eu.

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Registration

The on-line registration is open at the summit website **http://www.ril.fi/iabse2014**

Number of seats in the summit is limited. The participants are served in order the registration is made. On-line registration will close April 8, 2014 or at sold out. Registration fees are:

- IABSE or RIL members when registering before the 31th March 2014: **620 Eur** (Incl. 37,2 Eur VAT)
- others, regular registration fee: **650 Eur** (Incl. 39 Eur VAT).

The registration fee includes:

- technical program and the coffee buffet in Helsinki (the 1st summit day)
- transportation to the harbour for the ship
- ship Helsinki-Tallinn:
  - ticket with overnight in the ferry (single person cabin, Class A, window)
  - buffet dinner
  - technical program in Tallinn (the 2nd summit day)
- Program in Tallinn
- Ferry ticket Tallinn-Helsinki.
  - Lunch in the ferry

Please note that as the overnight is in the ferry, booking of hotel is not needed for those guests arriving to Helsinki by the morning flights the 9th April and departing the evening 10th April.

For any questions please contact the workshop secretariat: **ville.raasakka@ril.fi** or +358 50 366 8687.

Venue

Start of the summit takes place in facilities of RIL, Töölönkatu 4, Helsinki. The venue is from walking distance from the main railway/bus station of Helsinki.

M/S Silja Europa is 202 m long ship designed for over 3000 passengers and for 340 vehicles. It currently operates between Helsinki and Tallinn.

General information

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

Weather in Helsinki region
Mid April is usually the start of spring season in the Southern Finland. Daylight time is already long, with sun rise 6:30 and set 20:30. The average day temperature is estimated to be around 3°C.

M/S Sija Europa (photo www.wikipedia.org).

Visa and passport
Finland and Estonia are both countries of European Union and belong to Shengen area. Nationals of the Shengen countries do not need a visa to enter Finland or Estonia. When entering to Finland or Estonia, passengers are required to have proof of identity, such as valid passport or official ID card with photo.

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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:

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