

# **FINAL INVITATION**

[www.ril.fi/euroinfra2009](http://www.ril.fi/euroinfra2009)



**International ECCE Conference**

## **EUROINFRA 2009**

**Current State and Challenges for Sustainable Development  
of Infrastructure**

**SYMPOSIUM 1  
State Analysis  
and Condition  
Management of  
Buildings and Civil  
Infrastructure**

**SYMPOSIUM 2  
Low-Energy Building  
Concepts  
(new buildings and  
renovations)**

**October 15-16, 2009  
Helsinki, Finland**

Local Organizer:  
International Organizer:  
Co-Sponsor:

RIL Finnish Association of Civil Engineers  
ECCE European Council of Civil Engineers  
IALCCE International Association for Life-Cycle Civil Engineering  
CIB International Council for Research and Innovations  
in Building and Construction

## WELCOME ADDRESS

Sustainable energy policy and the mitigation of the climatic change are key issues for the societies of today, in Europe and globally.

The objective of this Conference is to assemble people from practice, administration and research in order to report on and discuss a couple of defined key challenges for the sustainable development of build environment. These areas are the themes of the two Symposia of this Conference: "State Analysis and Condition Management of Buildings and Civil Infrastructure" and "Low-Energy Building Concepts".

Combining these two Symposia in one conference will enable us to achieve interaction between these two central issues. The plenary sessions will provide us with generic background information on the targets for sustainability in our societies as well as on the challenges for building and civil engineering.

The EuroInfra 2009 Conference is organized by the Finnish Association of Civil Engineers RIL and the European Council of Civil Engineers ECCE with the co-operation and support of International Association for Life-Cycle Civil Engineering IALCCE and the International Council for Research and Innovations in Building and Construction CIB.

Welcome to hear, discuss and share the latest developments towards the sustainable built environment!

Helena Soimakallio  
Chairman of the Organizing Committee  
Managing Director, Finnish Association of Civil Engineers RIL

Asko Sarja  
Chairman of the Scientific Committees  
Professor, Dr. Tech

### Organizing Committee

Ms. **Helena Soimakallio**,  
Finnish Association of Civil Engineers  
RIL, Chair  
Mr. **Teemu Vehmaskoski**,  
Finnish Association of Civil Engineers RIL  
Ms. **Anu Karvonen**,  
Finnish Association of Civil Engineers RIL  
Professor, Dr. Tech. **Asko Sarja**, Finland  
Mr. **Ville Raasakka**,  
Finnish Association of Civil Engineers  
RIL, Conference Secretary

### Conference secretariat

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## Scientific Committees

Professor, Dr. Tech. Asko Sarja, Finland, Chairman

### SYMPOSIUM 1:

#### State Analysis and Condition Management of Buildings and Civil Infrastructure

Prof. **Dan M. Frangopol**, Lehigh University, USA  
Prof. **Fabio Biondini**, Politecnico di Milano, Italy  
Prof. **Ahmet Emin Aktan**, Drexel University, USA  
Prof. **Christer Sjöström**, Centre for Built Environment, Sweden  
Prof. **Ayaho Miyamoto**, Yamaguchi University Japan  
Prof. Dr. **Makoto Kagaya**, Akita University, Japan  
Prof. **Naoyuki Koshiishi**, Waseda University, Japan  
Prof. Dr.-Ing. **Jörg Kropp**, Hochschule Bremen, Germany  
Prof. Dr.-Ing. Dipl.Wi.-Ing. **Kunibert Lennerts**, University of Karlsruhe, Germany  
Dr. **Jean-Luc Chevalier**, Centre Scientifique et Technique du Bâtiment CSTB, France  
Dr. **John Cairns**, Heriot-Watt University, United Kingdom  
Dr. **Vaclav Fencel**, Transport Research Centre, Czech Republic  
Prof. **Arturas Kaklauskas**, Vilnius Gediminas, Technical University Lithuania  
Dr.-Ing. **Peter Haardt**, Bundesanstalt fuer Strassenwesen, Germany  
Dr. **Risto Kiviluoma**, WSP Group, Finland  
Dr. **Taina Koskelo**, Norgani, Finland  
Mrs. **Marja- Kaarina Söderqvist**, The Finnish National Road Administration, Finland  
Mr. **Erkki Vesikari**, Technical Research Centre of Finland, VTT

### SYMPOSIUM 2:

#### Low Energy Building Concepts (new buildings and renovations)

Univ. Prof. Dr.-Ing. **Gerd Hauser**, Technische Universität München, Germany  
Prof. **Per Heiselberg**, Aalborg University, Denmark  
Dr. **C.K. Chau**, The Hong Kong Polytechnic, China P. R.  
Univ. Prof. **Harald Budelmann**, Braunschweig University of Technology, Germany  
Prof. **J Owen Lewis**, University College Dublin, Ireland  
Prof., Dr. Eng. **Shuichi Matsumura**, The University of Tokyo, Japan  
Prof., Dr. **Seiji Sawada**, Meiji University, Japan  
Dr. **Darren Robinson**, Swiss Federal Institute of Technology (EPFL), Switzerland  
Prof. **Karel Kabele**, Czech Technical University, Czech Republic  
Architect **Adrian Joyce**, Architects' Council of Europe  
Mr. **Soren Pedersen**, Passivhus Denmark  
Prof. **Seppo Junnila**, Helsinki University of Technology TKK, Finland  
Mr. **Vesa Peltonen**, Vahanen Oy, Finland  
Dr. **Timo Kalema**, Tampere University of Technology TUT, Finland  
Dr. **Arto Saari**, Helsinki University of Technology TKK, Finland  
Dr. **Jarek Kurnitski**, Helsinki University of Technology TKK, Finland  
Mr. **Jyri Nieminen**, Technical Research Centre of Finland VTT, Finland



## The Conference will consist of two parallel Symposia:

### **SYMPOSIUM 1:**

#### **State Analysis and Condition Management of Buildings and Civil Infrastructure**

Infrastructures (including buildings) make up about 80 % of the national wealth in European societies. In the European Union the operation (excluding traffic), maintenance, repair, modernisation and renewal of infrastructure consumes 42 % of all energy, and produces about 40 % of all environmental emissions and wastes. The impact of traffic on climatic change is country wise between 20 and 25 %.

The civil infrastructure plays an important role in the productivity of societies and organisations, and in the safety and health of people. The number of deteriorating civil infrastructures and buildings is constantly growing, which makes a great impact on resources, the environment, and human safety and health. Infrastructures, especially production and transport structures, will be of major importance to the regional policies and cohesion of the current and enlarged European Union of the future, when many civil infrastructures of doubtful quality will be assimilated into the Union's transport system. Also a huge number of buildings in Eastern Europe will urgently need effective maintenance and repair, which will have to be planned over a long time span.

In the global economy there is a worldwide need for increased transport of goods and people, which causes added loading and demands for the civil infrastructure.

### **SYMPOSIUM 2:**

#### **Low-Energy Building Concepts (new buildings and renovations)**

“Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings” contains the following statement: “The residential and tertiary sector, the major part of which is buildings, accounts for more than 40 % of final energy consumption in the Community and is expanding, a trend which is bound to increase its energy consumption and hence also its carbon dioxide emissions.”

In this area a great deal of R&D as well as experimental building and practical construction has been done in several European countries and worldwide.

The potential for increased energy efficiency is highest and most economic in the case of new buildings, and this also has a very long-term effect into the future. Beside this, the improvement of energy efficiency in the existing building stock is of the utmost important in order to reach the objectives of energy saving and the reduction of greenhouse gases.

The use of alternative and renewal energy is getting new perspectives in the case of low-energy, minimum-energy and passive buildings.

The challenge for building engineers now is to create and implement low-energy concepts for new buildings, and energy-efficient renovation concepts. These concepts must also have a high lifetime quality in relation to usability, economy, ecology and cultural aspects. Communication on these issues is valuable both between research and practice, and between countries.

## OBJECTIVES OF THE CONFERENCE

The objective of this Conference is to assemble people from practice, administration and research in order to report on and discuss key challenges for the sustainable development of infrastructure (buildings and civil infrastructures) in our societies.

Combining these two Symposia in one conference will enable us to achieve interaction between these two central issues: Condition Management and Energy Efficiency. The plenary sessions will provide us with generic background information on the targets for sustainability in our societies and on the challenges for building and civil engineering in this major issue.

### Objectives of the Symposia

**SYMPOSIUM 1: “State Analysis and Condition Management of Buildings and Civil Infrastructure”** aims to provide an information and discussion forum for the development of lifetime management of buildings and civil infrastructures, which will promote progress towards sustainable, coherent and optimal asset management and operation of these structures.

We want to collect reports on the national analysis and assessment of the current state of infrastructure (buildings and civil infrastructures), which can serve as basic information for the formulation of political and technical strategies on the optimal management of infrastructure for a sustainable future. In addition, advanced technologies and methods for renovation, rehabilitation and renewal of the infrastructure will be reported. In this and in the design of new infrastructures, systematic service-life prediction and service-life design must also be applied

**SYMPOSIUM 2: “Low-Energy Building Concepts”** aims to bridge the huge gap between the energy efficiency requirements of current norms and standards, and the techno-economic optimum for energy efficiency of new buildings. Energy renovations of existing buildings are especially important and challenging. The use of alternative and renewal energy is getting new perspectives in the case of low-energy, minimum-energy and passive buildings.

The existing technology is scattered among in different countries and actors. Strong efforts are needed to inform investors, owners, administrators and civil engineers about the current availability of building concepts, structural and building service systems, and the modules and components of these concepts.

The symposium aims to serve as a forum for collecting current knowledge, and for distributing this knowledge and technology into the everyday practice of civil engineers.

## CONFERENCE VENUE

### Hotel Linna

Who could refuse the alluring charm of a genuine chateau in the middle of the city? The Art Nouveau building is a worthy premise for devising the most inspirational meetings. The numerous meeting rooms and over 100 people Art Nouveau hall have been faithfully restored and equipped with state-of-the-art technology.

### Helsinki, Finland

Helsinki, Finnish capital since 1809, thrives amid a number of clear contrasts. Here, on its wide and elegant streets, Nordic cool combines with a distinct taste of the exotic east. Old meets new. Land meets sea. Urban development and unspoilt countryside co-exist like nowhere else.

## REGISTRATION

Registration fee for non members 490 EUR

Registration fee for members (CIB,ECCE,RIL,IALCCE) 440 EUR

Registration fee for students (Full time student with ISIC) 300 EUR

All prices include 22 % VAT

Download the registration form from the website [www.ril.fi/euroinfra2009](http://www.ril.fi/euroinfra2009)

## ACCOMMODATION

To secure your accommodation during the Conference, please book your room as early as possible (14.8.2009 Latest)

Conference hotel: Hotel Linna, Address: Lönnrotinkatu 29, 00180 Helsinki, Finland

Room rate per night:

14.-16.10. 145 EUR / single room 16.-18.10. 88 EUR / single room

14.-16.10. 165 EUR / double room 16.-18.10. 125 EUR / double room

Reservations: Telephone: +358 10 3444 111, E-mail: [linna@palacekamp.fi](mailto:linna@palacekamp.fi)

Please quote the allotment code 1410RIL and the name of the hotel when making a booking



# Preliminary Minute Program

Thu 15.10.		Fri 16.10.	
Coffee + registration		<b>KEYNOTE SESSION</b> <b>Keynote Lesson 2:</b> Dr. Marco Steinberg, Sitra, FINLAND <b>Keynote Lesson 3:</b> Prof. Dan M. Frangopol, USA, Strategic Management of infrastructure <b>Keynote Lesson 4:</b> Univ. Prof. Dr.-Ing. Gerd Hauser, Technische Universität München, GERMANY, From energy performance certificate to sustainable buildings	
<b>OPENING SESSION</b> Chair: Helena Soimakallio <b>Introduction of the EUROINFRA 2009 Conference</b> Professor Asko Sarja, Chair of the Scientific Committees, FINLAND <b>Keynote Lesson 1:</b> Climate Change and Built Environment Mr. Jean-Luc Salagnac, CSTB, FRANCE			
Coffee		Coffee	
Symposium: EUROINFRA Room "Jugend" SESSION 1	Symposium: LOW ENERGY BUILDING CONCEPTS Room "Dalia" SESSION 1	Symposium: EUROINFRA Room "Jugend" SESSION 3	Symposium: LOW ENERGY BUILDING CONCEPTS Room "Dalia" SESSION 3
Lunch		Lunch	
Symposium: EUROINFRA Room "Jugend" SESSION 2	Symposium: LOW ENERGY BUILDING CONCEPTS Room "Dalia" SESSION 2	Symposium: EUROINFRA Room "Jugend" SESSION 4	Symposium: LOW ENERGY BUILDING CONCEPTS Room "Dalia" SESSION 4
Coffee		CLOSING SESSION	
Coffee		Coffee	
Symposium: EUROINFRA Room "Jugend" SESSION 2, continued	Symposium: LOW ENERGY BUILDING CONCEPTS , Room "Dalia" SESSION 2, continued		

**Conference dinner will be organized on Thursday 15th October**

## PUBLICATIONS

Extended abstracts will be published in a paper copy entitled "Symposium Abstracts." All full papers will be published on CD-ROM or USB-stick. Both of these will be distributed to participants at the registration desk at the start of the symposium.

List of accepted abstracts can be found on the website [www.ril.fi/euroinfra2009](http://www.ril.fi/euroinfra2009)

## 50th ECCE MEETING

ECCE Annual Meetings will be organized on Friday 16th and Saturday 17th October in Helsinki. The participants in the ECCE Annual Meetings have the option of participating in the Conference prior to these meetings.

Anneli Hongisto





## The European Council of Civil Engineers ECCE

The European Council of Civil Engineers (ECCE) was created in 1985 out of the common concern of the professional bodies for Civil Engineers in Europe. At the European Union level, ECCE aims to promote the highest technical and ethical standards, to provide a source of impartial advice, and promote co-operation with other pan-European organisations in the construction industry. ECCE also advises and influences individual governments and professional institutions and formulates standards for a European Code of Conduct of the Civil Engineering Profession and disciplinary procedures applicable throughout the Union.

### Member States of ECCE:

Croatia, Czech Republic, Cyprus, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Spain, Turkey, United Kingdom

<http://www.ecceengineers.eu/>



## CIB International Council for Research and Innovations in Building and Construction

CIB was established in 1953 as an association whose objectives were to stimulate and facilitate international cooperation and information exchange between governmental research institutes in the building and construction sector. CIB has since developed into a world wide network of over 5000 experts from about 500 member organisations active in the research community, in industry or in education and is at present the world's foremost platform for international cooperation and information exchange in the area of building and construction research and innovation.

[www.cibworld.nl](http://www.cibworld.nl)



## IALCCE

The activities of the IALCCE Association cover all aspects of life-cycle assessment, design, maintenance, rehabilitation and monitoring of civil engineering systems.

<http://www.ialcce.org/>



## RIL Finnish Association of Civil Engineers

RIL, founded in 1934, is an organisation for civil engineers with Master of Science degree 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 skill and welfare. RIL unites the most highly educated professionals in civil engineering to form a versatile network.

<http://www.ril.fi/euroinfra2009>

## Conference Secretariat

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