

International ECCE Conference
EUROINFRA 2009



Conference Report

Asko Sarja

Professor, Dr. Tech.

Chair of the Scientific Committee



International ECCE Conference
EUROINFRA 2009



ORGANISERS:

- **Finnish Association of Civil Engineers RIL**
- **European Council of Civil Engineers ECCE**

WITH THE SUPPORT OF:

- **International Council for Research and Innovations in Building and Construction CIB**
- **International Association for Life-Cycle Civil Engineering IALCCE**
- **the Finnish Innovation Fund, SITRA,**



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

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



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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

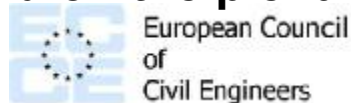


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Objectives

The objective was to assemble people from practice, administration and research through

- oral reports on and discussions on the key issues and solutions for the sustainable development of infrastructure (buildings and civil infrastructures) in our societies.
- The plenary sessions provided the audience 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.
- Combining these two Symposia in one conference aided to achieve interaction between these two central issues
 - with the aid of the plenary sessions and of the Conference Proceedings.



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Scientific Program

The Conference included:

- 4 invited Keynote Lectures
- 26 selected reports from Call of Papers :
 - 12 in the Symposium 1, and 14 in the Symposium 2
- a technical visit to a Passive house construction site

The number of Participants was 56



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KEYNOTE LECTURES

Climate Change and Built Environment

Ing. Salagnac Jean-Luc, FRANCE

Sustainable Development: A Strategic Design Challenge

Dr. Marco Steinberg, Sitra, FINLAND

Efficient Lifetime Management of Civil Infrastructure: Recent Accomplishments and Future Directions

Professor, Dan M. Frangopol and Dr. André D.Orcesi, USA .

From the Energy Evaluation to the Assessment of the Whole Building Performance

Univ. Professor, Dr.-Ing. GerdHauser (presented orally by Mrs. Natalie Essig), GERMANY



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Conference Proceedings

1. Extended Abstracts (2 pages each), Paper Copy 69 p.
2. Full Papers, in a USB Memory Stick



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EUROINFRA 2009
Final Minute Program

Thursday October 15, 2009		Friday October 16, 2009	
8:30	Coffee and registration	8:30	KEYNOTE SESSION Room "Jugend"
9:00	OPENING SESSION Room "Jugend" Chair: Managing Director and CEO, Dip.-Ing. Heleena Goinssakko Introduction of the EUROINFRA 2009 Conference Dr. Prof. Aake Saaja, Chair of the Scientific Committee, FINLAND Keynote Lesson 1: Climate Change and Built Environment Ing. Jean-Luc Salagnac, CSTB, FRANCE	9:00	Chair: Dr. Prof. Aake Saaja Keynote Lesson 2: Sustainable Development: A Strategic Design Challenge Dr. Marco Steinberg, GfZ, FINLAND Keynote Lesson 3: Efficient Lifetime Management Of Civil Infrastructure: Recent Accomplishments And Future Directions Prof. Dan M. Frangopol, USA Keynote Lesson 4: From The Energy Evaluation To The Assessment Of The Whole Building Performance Univ.-Prof., Dr.-Ing. Gerd Haasen, Technische Universität München, GERMANY, (To be presented by Dip.-Ing. Heleena Goinssakko)
10:00	Coffee 10:00 - 10:30	10:00	Coffee 10:30 - 11:00
10:30	Symposium: EUROINFRA Room "Jugend" SESSION 1, Chair: Professor Aake Saaja RUIJTA, Masanori and IWATA, Mariko, JAPAN The Resuse Management Model of Building Steel Structures SEKI, Hiroshi and YAMAGATA, Mayumi, JAPAN Reusing methods and environmental influence regarding concrete piles	10:30	Symposium: LOW ENERGY BUILDING CONCEPTS Room "Dahle"
11:00	SESSION 1, Chair: Dip.-Ing. Heleena Goinssakko SYLYKANGAS, Kari, FINLAND Bau: Corbiel House - an example of the building concept for sustainability SHOEWALTER, William Eric, USA Trends in Sustainable Building in the USA	11:00	Symposium: LOW ENERGY BUILDING CONCEPTS Room "Dahle" SESSION 2 Chair: Dr. Prof. Aake Saaja BARNA, GAB, JAPAN The Rising Popularity and Prospects of Low Energy Housing in Japan VEISKARI, Ermi, FINLAND Life Cycle Management tools for infrastructure based on LIFECON concepts and methodology
11:30	SESSION 2, continues BRAUNS, Jens, ROCENS, Rafie and OZOLINS, Rainards, LATVIA Reliability estimation of RC and composite structures VENMAGKOSKI, Teemu, FINLAND RCFH: Super Analysis On The State Of The Nation Of Built Infrastructure TERLIZZI, Tobias, SWITZERLAND Evaluating the service life of concrete structures subjected to carbonation: on the basis of the air permeability of the concrete cover	11:30	SESSION 2, continues BARTMANN, Andreas and DEWULF, Geert, NETHERLANDS Sustainability of infrastructure asset management at public agencies HARTDT, Peter, GERMANY The German approach to bridge management: from reactive to predictive management procedures
12:00	Lunch 12:00 - 12:30	12:00	Lunch 12:00 - 12:30
12:30	Symposium: EUROINFRA Room "Jugend" SESSION 3, continues	12:30	Symposium: LOW ENERGY BUILDING CONCEPTS Room "Dahle" SESSION 3, continues
13:00	SESSION 3, continues KONTRATSEV, Valentin, SOBOLEVA, Svetlana and DEMENTSEV, Aleksander, RUSSIA The concept of an engineering-ecological monitoring system of the Highway "Astrak" (Chita-Stepanovsk) MIYAMOTO, Akiho and YOSHITAKE, Toshiaki, JAPAN Development of a remote condition assessment system for road infrastructures REISANEN, Tommi, ARAKSENEN, Matti and STONEN, Peltti, FINLAND Kas-Gitopa - a remote control to cover maintenance and upkeep tasks of 252 bridges during eight years in South-Eastern Finland	13:00	SESSION 3, continues DIOCCA, Claudia, INCONIELLO, Mauro, ITALY Monitoring protocol of carbon dioxide in the historic center of Naples (Italy) PULAKKA, Sakari, FINLAND Econometric analysis to sustainability AL-NESHAWY, Fatma, SESTONEN, Eela, PIIRONEN, Jukka, PELTOLA, Sanna and PUTTONEN, Antti, FINLAND Assessment of the structure and thermal performance of repaired building facades
14:00	Coffee 14:00 - 14:30 Room "Jugend"	14:00	CLOSING SESSION Room "Jugend" Chair: ECCE President, M.Sc. (CE) Vesa P. Eeromaa Greetings to the EUROINFRA 2009 Conference and to the 50th Annual Meetings of ECCE (European Council of Civil Engineers) Closing words of the Organizers: President of ECCE, M.Sc. (CE) Vesa P. Eeromaa, and M.D., Managing Director and CEO, Dip.-Ing. Heleena Goinssakko Closing Coffee Room "Dahle"
15:00	Technical visit to Multimedial houses: 14.30 Departure by bus 15.15-16.15 Excursion 17.00 Arrival at Hotel Linn Please, sign up for the excursion at the registration desk!	15:00	50th ECCE Meeting Welcome address Opening Ceremony Session: - SC Education & Training - SC Environment & Sustainability - TF Civil Engineering Heritage - SC Professional Recognition & Mobility - SC Knowledge & Technology - SC Development & Business Environment
18:00	Welcome and City Reception at Bock house Aaltonkatu 20, Helsinki	18:00	
19:30	Conference Dinner at Restaurant Merita Lapinlahdenkatu 3, Helsinki	19:30	

