CHALMERS

Welcome to

DESIGN-OCH KONSTRUKTIONSDAGEN 2015

November 23

Photo: Dan Van Der Zwalm

Humanitarian engineering

ENGINEERING THAT MAKES A VITAL DIFFERENCE

Arranged by
Structural Engineering Centre at Chalmers
A joint event between Chalmers,
Samhällsbyggarna and Brosamverkan

Phan Khar, Ayeyarwaddy, Myanmar. Photo:Toni Rüttiman

Design- och konstruktionsdagen (The Structural Design Day) is an annual activity that aims at providing inspiration and incentives for design and engineering reflecting the needs of modern societies for sound and sustainable development. The theme of 2015 - "Humanitarian Engineering", is highly topical and aims at exploring the concept of engineering, and how engineering can make vital difference in areas torn with crisis or challenged by powers of nature.

Toni Rüttiman

Humanitarian Engineering

"El Suizo" as he is known in Latin America, 48 year, Swiss citizen, builds bridge after bridge after bridge: since 27 years already – voluntarily, without salary, without home, without the structure of any professional institution, organizing it all himself. Until today, Toni and his handful of local colleagues built over 711 suspension bridges for pedestrians, spanning up to 264m, in countries such as Ecuador, Colombia, Honduras, Mexico, Cambodia, Laos, Vietnam, Myanmar and Indonesia - often following the traces of earthquakes, floods or wars. The bridges serve nearly two million people in rural areas, creating access to hospitals, schools and markets. They are essentially made of used steel pipes from the oil industry and used wire rope from Swiss cableways, erected in a few days only with the enormous effort of local communities and at extremely low cost.

Eva Svanberg & Mårten Skogh

Social Engineering - Redefining the Engineer
What do people think of when they hear the word 'engineering'? A man in shirt and tie that does complicated math? A man in a hard hat looking at blueprints? During our presentation we will show a different side of engineering and the engineer, not as a biological calculator or a hard hat wearing blueprint viewer, instead as a force for good and the means of moving the world forward. We want to show that engineering can empower and help people all over the world, in all walks of life."

Ingenjörer utan gränser

Eva Svanberg, Civil Engineer from Uppsala University and a Consultant within Power Systems at Sweco. Eva is also head of PR in the professional branch of Engineers without borders. From June to September 2015 Eva was on a leave to volunteer for Engineers Without Borders in Tanzania in the build of a Solar Panel Power System.

Photo: Eva Svanberg

Photo: Eva Svanberg

Mårten Skogh is a third year student in Applied Physics at Chalmers and head of the Chalmers section of Engineers Without Borders.

Christina Claeson-Jonsson

Could 3D-printing be used to facilitate the reconstruction of societal functions in a disaster area?
Christina Claeson-Jonsson, Ph.D., is head of R&D at NCC Construction Sweden AB and also holds a position as Adjunct Professor in the Department of Civil and Environment Engineering, Division of Construction Management, Chalmers. She will discuss if and how new production methods, such as 3D-printing, could help in the reconstruction of societal functions in disaster areas.

Photo: Kjell Aulie, Varden
Rapport 40, 2012, Norges vassdrags- og energidirektorat

Bjørn Kristoffer Dolva

Towards a robust transportation infrastructure to respond extreme weather events in Norway
Bjørn Dolva, Cand. Scient from University of Oslo. With the Norwegian Public Roads Administration since 1985 and Project manager for intergovernmental R&D programme NIFS (Natural hazards - infrastructure for floods and slides) 2012-2016.

Norwegian transportation infrastructures are largely exposed to natural hazards such as floods, avalanches and landslides. Recent experiences show that these natural hazards have become more frequent, primary due to extreme weather events. Since 2011, NPRA, along with Norwegian National Rail Administration (NNRA) and the Norwegian Water Resources and Energy Directorate (NVE), has been working on a national level to develop robust approaches to mitigate of floods and landslides to minimise the consequences on infrastructure such as roads, railways, housing etc. This intergovernmental R&D programme is referred to as NIFS. Bjørn Dolvas presentation is based on a draft to a paper co-authored with Prof.Vikas Thakur (NTNU).

Åke Solfeldt

One way to make a difference - How to combine work as a consultant with volunteering
Åke Solfeldt, Project Manager at WSP and Structural Engineer at SWIFT USAR

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Xe Xamxoy, Laos, 2008. Photo:Toni Rüttiman

Humanitarian engineering

ENGINEERING THAT MAKES A VITAL DIFFERENCE

The Structural Design Day, Runan auditorium, November 23, 2015

12:30	**Registration**	
13:00	**Introduction and welcome**	*Mohammad Al-Emrani, Chalmers*
13:05	**Social Engineering - Redefining the Engineer**	*Mårten Skogh and Eva Svanberg, Ingenjörer utan gränser*
13:25	**Could 3D-printing be used to facilitate the reconstruction of societal functions in a disaster area?**	*Christina Claeson-Jonsson, NCC*
13:45	**Towards a robust transportation infrastructure to respond extreme weather events in Norway**	*Bjorn K. Dolva, Statens Vegvesen*
14:10	**One way to make a difference. How to combine work as a consultant with volunteering.**	*Åke Solfeldt, WSP*
14:30	**Coffee**	
15:00	**Humanitarian engineering**	*Toni Rüttimann*
17:00	**Mingle, light snacks**	

Tra Kha B, Vietnam, 2006
Photo: Toni Rüttiman

Konstruktionscentrum

The Structural Engineering Centre at Chalmers "Konstruktionscentrum" is the main organizer of the event. The Structural Engineering Centre is a collaboration body that aims at providing a platform for effective and broad interaction between research and education activities performed at the university and industry, primarily in the construction sector. The purpose is to develop and strengthen the theme of structural design. Members of the Structural Engineering Centre are actors in the construction sector and representatives of major stakeholders who, together with Chalmers, share the objectives of developing, supporting and promoting knowledge and skills in this area. This is done by targeted training, research and seminars where participant persons and entities are actively involved in both planning and implementation of the activities in the center.

The seminar will take place at:

RunAn, Chalmersplatsen 1, Kårhuset (Student Union Building). Chalmers, Gothenburg.

Registration

The seminar is free of charge. Registration is necessary, however. Please register no later than 13/11 on *www.dkdagen2015.axaco.se*

Documentation

Available for members after completion of the seminar, *www.konstruktionscentrum.chalmers.se*

Information

Further information can be obtained from:
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Program committee

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