Creating New Urban Spaces: Building Underground

30 NOVEMBER - 1 DECEMBER 2015 • HDB CENTRE OF BUILDING RESEARCH, WOODLANDS

This event is qualified for 5 PDUs under the PEB CPD Programme

Delivered by:

Prof. Dr. Ir. T.A.M. (Theo) Salet
Full Professor, Chair of Concrete Structures
Eindhoven University of Technology, The Netherlands

Senior Partner
Head of Building Engineering Department
Witteveen+Bos Consulting Engineers, The Netherlands

Organised by:

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Theo Salet is professor at the department of the built environment of Eindhoven University of Technology (TU/e) in the Netherlands. He combines this position with leading the Building Engineering Department in Witteveen.

During his professional career, Theo worked on many international tunneling and bridge projects all over the world, including the design of new underground metro lines in two ancient inner cities in Europe. Initially as a researcher and structural engineer, later in leading positions as contract manager and project director. Over the years he also became involved in both building and industrial projects, related to sustainable urban transformations. Most of them include challenges with respect to deep building pits in soft soil conditions, high water tables and situated close to existing buildings.

His research became more and more focused on 3D printing of sustainable concrete structures over the past years. The aim is to design and construct more sustainable and mass customized concrete structures, with more added value. In this research the following sub topics of previous research programs come together: evolutionary structural optimization, parametric design combined with design tools, innovative types of concrete (e.g. fiber-reinforced concrete and ultra-lightweight concrete) and forensic engineering by means of (discrete) non-linear finite element modelling.

Recent and past significant projects under Theo is included below:

2012 – Present
Full Professor of Concrete Structures
Eindhoven University of Technology, The Netherlands

Responsible for all education and research in the field of Concrete Structures at the Eindhoven University of Technology. Academic teaching to BSc and Msc students, surveying Doctoral Candidates. Leader of various research projects.

1998 – Present
Witteveen+Bos Consulting Engineers, The Netherlands

Head of Building Engineering Department (2007 – Present)

Responsible for line management of the department. Final responsibility for Integrated and Multidisciplinary Design projects.

Deputy Head of Adviesbureau Noord/Zuidlijn v.o.f. (‘North/South metro line consultancy agency partnership firm, Amsterdam’) and contract manager for deep stations Rokin, Vijzelgracht and Ceintuurbaan (2000 – 2007)

Jointly responsible both for the line and project management. Final responsibility for the contract management for the integrated design and construction of 3 deep underground stations within the historical inner city of Amsterdam.

1990 - 1998
Head of Department for structural and materials engineering
SGS Intron Ltd

Jointly responsible for the development of the Finite Element program FEMMASSE (for materials science and structural engineering).

Acted as structural engineer for large concrete structures such as the Oresund tunnel between Denmark and Sweden, the Convention bridge in Canada, the Storebaelt bridge in Denmark, and the Copenhagen metro (Denmark). Also involved in projects to limit crack growth in fresh concrete in many infrastructure works such as the Piet Hein tunnel and the Erasmusbridge (Rotterdam).

Researcher at Material Technology Department. Involved in many international research projects through numerical modelling. Amongst others of the grouting of oil wells for Shell and the Brite Euram projects Tolerant Concrete and Duracrete.

Our Courses Qualifies for 60% subsidy from PIC Scheme!

About Productivity And Innovation Credit

The Productivity and Innovation Credit ("PIC") was introduced in the Singapore Budget 2010.

PIC has been enhanced in Budget 2011 and Budget 2012 to provide tax benefits for investments by businesses in a broad range of activities along the innovation value chain. The tax benefits under PIC will be effective from Years of Assessment (YA) 2011 to YA 2015.

One of the six activities along the innovation value chain that will qualify for PIC benefits includes training of employees. For more details on your qualifications and the claim processes, please check with any K2B representatives today!
Creating New Urban Spaces: Building Underground

About the Event

The main topic of the course is the development of new spaces in urban environments by means of underground buildings.

Both the design of underground building and the benefits at street level (above ground) will be discussed as well as advanced design tools based on the principle of Geodesign.

How would you Benefit from the Event?

The participants will gain from the course in these aspects:

- Have an overview of different types of new spaces that have been realised successfully by means of underground buildings and the benefits for Singapore.
- Understand the parameters that are critical for a successful design of underground buildings.
- Are aware of the benefits of advanced engineering in sub soil engineering in order to find safe solutions in highly densified urban areas.
- Can describe the benefits of Geodesign+ and have explored various opportunities by means of an example themselves.
- Are informed about the Dutch experiences with different types of contracts and communication with stakeholders.

Who will Benefit from the Event?

Professionals involved in the design, construction and management of underground buildings:
- Engineers and Designers (from building and construction industry)
- Contractors
- Supervisors
- Project owners (from government agencies)

Event Program

Registration and coffee starts at 0900 daily. The course begins at 0930 sharp and ends at 1700. Lunch and refreshments will be provided for all attendees during the event.

New spaces
- An overview of new spaces that have been realised, the benefits for urban life and its feasibility to Singapore.

Advanced engineering
- A series of lectures on typical and decisive design issues related to car and bicycle parking lots, geotechnical and structural design of building pits in soft soil conditions and high water tables.
- A choice out of state of the art issues like settlement risk control, compensation grouting, soil-concrete interaction, monitoring, geohydraulics, both reinforced - and fibre reinforced underwater concrete and the observational method will be discussed.

Geodesign+
- The beneficial use of Geodesign in the design, construction and maintenance of underground buildings is demonstrated by means of a typical project. Geodesign combines both GIS and BIM in order to be in control of the process and minimise resources.

Capita selecta c³
- A series of lectures on topics that are strongly related to the realisation of underground buildings: costs, contracts (experiences with D&C) and communication.

Summary and end of event

The main topic of the course is the development of new spaces in urban environments by means of underground buildings.

Both the design of underground building and the benefits at street level (above ground) will be discussed as well as advanced design tools based on the principle of Geodesign.

Register with us today!
REGISTRATION FORM

BUILDING UNDERGROUND

30 November - 1 December 2015
HDB Centre of Building Research, Woodlands

TRAINING COURSE PRICES

<table>
<thead>
<tr>
<th>INDIVIDUAL REGISTRATION (Standard Price)</th>
<th>$600</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUP REGISTRATION (Price after team discounts)</td>
<td></td>
</tr>
<tr>
<td>Group of 3</td>
<td>$1710 (save $90)</td>
</tr>
<tr>
<td>Group of 5</td>
<td>$2700 (save $300)</td>
</tr>
</tbody>
</table>

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K2B International recognises the value of learning in teams. This applies to group bookings from the same company at the same time.

- Group of 3 or more: 5%
- Group of 5 or more: 10%

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Please photocopy for additional delegates and/or delegate with different addresses.

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Job Title: ___________________________ Email: ___________________________
Delegate 3 Name: ___________________________ Mr Mrs Ms Dr Other
Job Title: ___________________________ Email: ___________________________
Invoicing Contact: ___________________________
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Phone: (65) 9190 5966
Address: 80 Raffles Place, UOB Plaza 1, Level 36-00, Singapore 048624
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Accommodation and travel costs are not included in the training fee.

Once you have completed, signed and sent this training registration form to K2B International, we will email you a delegate welcome pack. You will receive the hotel’s booking form in this pack which you can fax to the hotel to reserve your room at a discounted rate.

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