BuildSim-Nordic 2016 - programme

26th & 27th September, Trondheim, Norway

Thank you for participating in the **BuildSim-Nordic conference** 2016 to be held on the 26th & 27th of September at NTNU, Trondheim, Norway organized by IBPSA-Nordic.

The purpose of the event is to create a platform for ideas exchange and research focus, and to establish cross-country collaboration in order to coordinate research work and exploit synergies in the field of building performance simulation among all Nordic Countries.

Venues

- Conference venue / registration
  Fluid Mechanics Building/Strømningsteknisk bygg, Gløshaugen Campus, Kolbjørn Hejes vei 2, 3rd floor, room 311, NTNU, Trondheim, Norway, 26th & 27th of September.
  Google link
  Mazemap

- Dinner
  Restaurant: Frati http://www.frati.no/
  Kongens gate 20, 7011 Trondheim
  Monday September 26th, 19:00.
  Google link

- Site visit
  Living lab/test cell: Richard Birkelands vei 2B (next to the building)
  Google link

Event presentation

All authors are invited to give an oral presentation at the event. Each presenter has 15min to present and 5min Q&A session. Please upload your presentation to the computer at the venue. It is advised to send a ppt a day before the event to matthias.haase@sintef.no.

Accommodation

Scandic Hotel Bakklandet: telefon +47 72902000 or bakklandet@scandichotels.com
(Bookingcode: NTN250916, single room NOK 1048,- p.n. (reservation required before 19.09.16)).
P-Hotels Brattøra: (bookingcode: 56285, single room: NOK 669 p.n.; double room: NOK 869 p.n.)
Alternatively it is possible to book your own accommodation e.g.:
- booking.com
- trivago.no
- hotels.com

Transport

It is appr. 25min walk from the city centre to Gløshaugen. Bus no. 5 will bring you there. For more information: www.atb.no

Registration

Registration takes place on Monday 26 September between 08:30 – 09:00 at the entrance of room 311.
An invoice will be sent from EPT to participants after the conference has taken place.

Please fill out the attached registration form, where we collect invoice details and dietary requirements. Could you please return it a.s.a.p., on Tuesday 13.Sep the latest to: Debbie Koreman van den Bergh, debbie.w.koreman@ntnu.no

The presentations will be made available online on our website (www.ibpsa-nordic.org).

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Monday 26.09. morning

08:30 – 09:00   Registration

09:00 – 09:15   Welcome notes (Prof Novakovic)

09:15-10:15   session 1 – parametric studies
Chair: Prof Christensen

Time	Title	Name	Affiliation
09:15 – 09:35	Assessment of Climate Change Robustness of a Deep Energy Retrofit Design of an Existing Day Care Centre	Moazami	NTNU
09:35 – 09:55	Influence of energy-efficient renovation on energy use and thermal comfort in Swedish single-family residential buildings from the Million Program	Blomsterberg	Lund University
09:55 – 10:15	A tool for multi-parameters assessment of environmental impact in buildings	Lolli	SINTEF

10:15-10:30   coffee break

10:30-11:30   session 2 – occupant behavior
Chair: Prof Novakovic

Time	Title	Name	Affiliation
10:30 – 10:50	Influence of occupant behavior and operation on performance of a residential Zero Emission Building in Norway	Tereshchenko	NTNU
10:50 – 11:10	Occupant distribution detection in residential buildings	Dziedzic	NTNU
11:10 – 11:30	Roadmap and Initial Findings of an International Occupant Behaviour Survey Study	Belafi	LBNL / Budapest University of Technology and Economics

11:30-12:30   Lunch

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Monday 26.09. afternoon

12:30 – 13:30   session 3 – heating models
Chair: Dr. Haase

Time	Title	Name	Affiliation
12:30 – 12:50	A Thermal Model of an Active Chilled Beam	Filipsson	Chalmers University
12:50 – 13:10	Simplified space-heating distribution using radiators in super-insulated apartment buildings	Georges	NTNU
13:10 – 13:30	Heat Pump Systems Adapted to Energy-Flexible and Highly Insulated Buildings in Cold Climate	Clauss	NTNU

13:30 – 13:45   Coffee break

13:45 – 14:45   session 4 – new advances in building simulation
Chair: Prof Blomsterberg

Time	Title	Name	Affiliation
13:45 – 14:05	Using Dynamic Simulations to Analyze the Control of an Integrated Thermal Energy System for a Building Complex	Rohde	NTNU
14:05 – 14:25	An interactive methodology for selecting a suitable window design	Jalilzadehazhari	Linnaeus University
14:25 – 14:45	Flow interaction between diffuse ceiling ventilation and thermal plumes	Lestinen	Aalto University
14:45 – 15:05	Renovation of shopping centres in Norway	Haase	SINTEF

15:05 - 15:20   Coffee break

15:20 - 15:50   IBPSA-Nordic General meeting (open for all members)

15:50 - 17:50   IBPSA-Nordic Board meeting (only for board members)

19:00 - 21:00   Dinner

Restaurant: Frati http://www.frati.no/
Kongens gate 20, 7011 Trondheim
Meeting place: Google link
Monday September 26th, 19:00.

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Tuesday 27.09.

08:30 – 09:30   session 5 – optimization
Chair: Dr. Roseth Karlsen

Time	Title	Name	Affiliation
08:30 – 08:50	A genetic algorithm for generating optimized typical meteorological years in any climate	Schild	HiOA
08:50 – 09:10	ZEB supporting tool: A supporting tool for the early design phase analysis of energy systems in ZEBs	Skeie	SINTEF
09:10 – 09:30	Towards practical optimization approach for investigating computationally-expensive integrated building designs	Hamdy	NTNU

09:30 - 09:45   coffee break / BuildSim-Nordic award meeting (board members only)

09:45 – 11:45   session 6 - workshops

software	Topics *	
IDA ICE	IDA ICE	Mika Vuolle, equa
COMSOL	Introduction to comsol	Erlend Kristiansen, comsol
	How to handle Occupant behavior in BS	Zsofia Belafi, LBNL

* more information in the back of the programme

11:45 – 12:00   BuildSim-Nordic award ceremony

12:00   Closing of BuildSim Nordic 2016

12:00-14:00   Site visit of ZEB test cell and ZEB living lab / guided by Prof Francesco Goia, NTNU

Session 6 – detailed information

Tool	IDA ICE
Topics	Mika Voulle can share his hints, suggest suitable approaches, share models I have made etc. to tackle 'simulation challenges'. Rest of the time we could use for tip & tricks and also I can show some becoming features, for example parametric run, which will be a dynamite feature especially for researchers. And the link between IDA-ICE and _free_ full fledge CFD software could be interesting as well.
Introduction	You can send your questions and models beforehand or bring them with you. Pls don't hesitate to take contact to me.
Presentations	We could discuss the 'simulation challenges' that you have faced or will face in the future. I can share my hints, suggest suitable approaches, share models I have made etc.
Aims	The aim of the two hours clinic session is smooth your future IDA ICE modelling work.

Session 6 – detailed information

Tool	comsol
Topics	COMSOL Multiphysics simulation Discuss your application area and get assistance from a COMSOL engineer.
Introduction	You are invited to join us for an opportunity to advance your skills in multiphysics simulation. At this workshop, you will see the capabilities and workflow of the COMSOL Multiphysics® software* and learn through a guided hands-on exercise.
Presentations	- COMSOL Multiphysics® Software & Application Builder Get an introduction to the capabilities of COMSOL Multiphysics and the fundamental modeling workflow. Watch a live presentation of the entire analysis process via a practical example. Learn how you can benefit from expanding the power of simulation to a wider audience with the Application Builder. See how quick and easy it is to turn your sophisticated COMSOL model into a specialized application that any engineer can use. - Doing Building Physics in COMSOL A few models specific for building physics will be presented: Heat transfer, structural mechanics, building acoustics, moisture transport. - Hands-On Tutorial Set up and solve your first COMSOL Multiphysics simulation on your own computer with step-by-step guidance. Discuss your application area and get assistance from a COMSOL engineer. Start your free two-week trial* and work through your own simulations with help from our applications engineers. To participate in the hands-on session, we recommend bringing a laptop to the event in order to get the most out of it
Aims	You will leave with new skills to work on your own applications using your free two-week COMSOL Multiphysics trial*.

* We would like to register the participants in our system to be able to send out a trial license. For this we have a registration webpage:

https://www.comsol.no/events/workshop/Introduction-to-COMSOL-Multiphysics-11691

Session 6 – detailed information

Tool	
Topics	How to handle Occupant behavior in BS
Introduction	Occupant behaviour (OB) in buildings refers to occupants' comfort preference, presence and movement, and interactions with building systems that have an impact on performance (thermal, visual, and IAQ) of buildings. The interactions include adjusting thermostat settings, opening or closing windows, dimming or turning on/off lights, pulling up or down window blinds, switching on or off plug loads, etc.. Energy-related OB in buildings is one of the six influencing factors of building performance, including climate, building envelope, building equipment, operation and maintenance, and indoor environmental conditions. Daily interactions between building systems and occupants drive total energy use. Over the past four decades, a substantial body of literature has explored the impacts of occupant behaviour (OB) on building technologies, operation and energy consumption.
Presentations	A standardized modelling framework of occupant behaviour Investigations on the differences in occupant behaviour in different countries Design guideline about occupants, practical use of research findings tbd
Aims	Discuss research gaps and possible future directions of research