



nection

1st International Conference on I3CON – 14-16 May 2008

by *Dr Jilin Ye, Loughborough University*

The first international conference on Industrialised, Integrated, Intelligent Construction (I3CON) was successfully held on 14-16 May 2008 at Loughborough University, UK.

33 scientific papers from 13 countries were presented and have been included in the conference proceedings, which are available to download from the I3CON website (www.i3con.org/conference.htm). I3CON partners contributed with 13 papers, reporting on initial results from the project. The conference attracted over 100 delegates (from more than 16 countries) and generated interest in a number of leading-edge areas, resulting in a varied programme of paper sessions and workshops associated with relevant initiatives

including the ECTP (European Construction Technology Platform), TERMES (Termite Emulation of Regulatory Mound Environments by Simulation) and Adaptable Futures.

Another session – introduced by Mr. Brice Lepape from the European Commission – highlighted projects in ICT for Energy Efficiency, ongoing activities and plans for the future.

The delegates' feedback on a variety of aspects (including conference registration and management, conference proceedings and website, paper sessions and workshops, and conference venue and social events) was very positive and confirmed that the event was a big success.



Dr Jilin Ye

The next international conference on I3CON will be held in Madrid, Spain, in 2010. Further information will be available soon at www.i3con.org.



WP6* – Modelling for a small planet

by Per Sahlin, EQUA Simulation AB

Few will argue that radical innovations are required to meet the global challenges that lie ahead. Buildings use almost half of the world's energy and much of this is wasted. Gradual improvement of traditional approaches to building design does not seem to be sufficient.

Current design practices and tools must be altered in two major respects:

1. A model based design process must be adopted, where a digital model of the design object is the single information repository for all actors and that allows frequent estimation of performance and cost. In many projects today, the same measurements are manually extracted from 2D drawings over and over. Performance simulations are often done, but usually as an afterthought, to prove that some criteria have been met, rarely as a step in a design optimization process.

2. Current simulation tools may represent the building fabric with acceptable resolution and it may even be possible to import geometry directly from a CAD model. But when it comes to representing even slightly innovative acclimatization or control systems, they will be insufficient. If even possible, adding a new system type to a traditional building simulation tool is normally a PhD-size effort. This does not exactly fit into the optimization process of an ongoing design project.

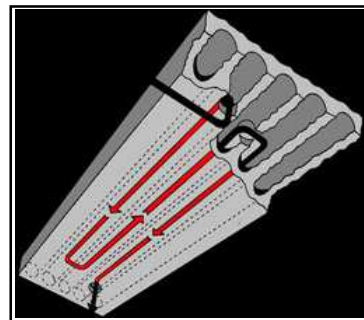
WP6 in I3CON addresses both these problems. The Virtual Building Model is intended to accommodate not only static information but also to respond to requests for what-if type questions that require simulation of building dynamic response.

The inclusion of the new Modelica language for mathematical modelling into a building simulator enables access

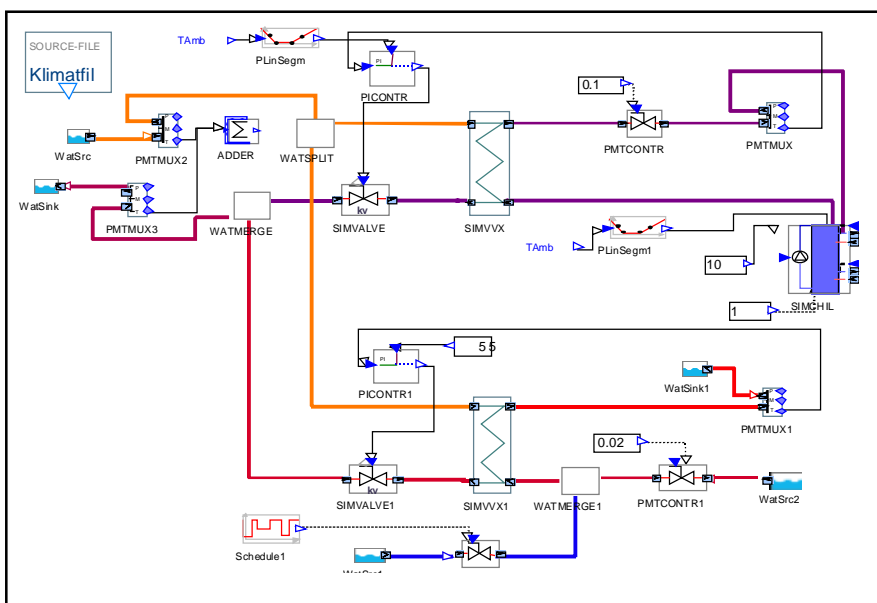


Per Sahlin

to an ever-expanding body of ready-made models of physical components that is being developed on an open-source basis all over the world. Using equation based Modelica technology, it is possible to develop models of new system types in weeks or days rather than in years.



TermoDeck ventilated hollow core slabs act both as structural and thermal elements in a building. EQUAs IDA Indoor Climate and Energy (IDA ICE) is used to optimize TermoDeck buildings.



A model of a district heating substation in IDA ICE. HVAC engineers without simulation expertise can configure models from ready-made Modelica components.

*WP means Work Package



An isotherm around a ground thermal storage facility using multiple slanted bore holes. Computed in 3D using IDA ICE.

WP11 – Training

by Dr. Farid Fouchal, Loughborough University

The I3CON training team – WP11 – has developed an outline concept for the training tasks (industrial and academic) to be undertaken, in preparation for the content development work. It addresses the identification and prioritisation of key training and education areas related to the new, open building service systems and the appropriate target audiences. Furthermore, a review was conducted on the most efficient and effective teaching and learning methods, including modern ICT media, that can be used to present knowledge created by the project to 'learners'. The training concept is representative of the views of the I3CON consortium, having been guided by consultation with all project partners. The training concept will now guide the content development and presentation work for the rest of the project.

A training plan has also been developed, which links the priority areas for training to the expected project outputs. Individual I3CON task leaders provided detailed information on the expected / possible learning areas that may result from their tasks and their views as to which stakeholders would need to receive training in those areas.

The identified potential training areas were also reviewed in relation to the stakeholder needs that were identified through stakeholder interviews to ensure the relevance of the selected training areas in meeting the described needs. From this information, the delivery team defined broad training areas aligned to project outputs that appeared to be novel and for which, training material for industry and educational stakeholders does not currently exist.



Dr. Farid Fouchal

This, combined with the use of internationally acceptable ICT standards and best-practice professional training methods, should ensure that the training material developed will be highly relevant and easily applicable for the introduction of new methods and materials in the I3CON industry of the future. It will also be readily adoptable by professional training organisations across Europe.

Forthcoming Events

Date	Title	Format	Location
2 October 2008	Smart Homes	Trade fair	Eindhoven, NL
8-9 October	The M&E Show, Total Workplace Management., Energy Solutions Expo, AMPS - Power Expo	Exhibition, Conference, Seminars	Olympia, London
21-22 October	Rapid Manufacturing (RM), Time Compression (TCT)	International Conference	Ricoh Arena, Coventry, UK
Late October 2008	Sustainable Innovation	International Conference	Farnham Castle Conference Centre, Farnham, Surrey, UK
November 2008	Integrated Building Systems GlgaCon	Intelligent buildings, Integrated systems (IT conference)	Warsaw, Poland
16-19 November	Intelligent Buildings	Conference / Exhibition	Building Research Establishment, Watford, UK
17-18 November 2008	WorkTech London	Conference	British Library, London, UK
26-28 November 2008	Civils 2008	Industry Exhibition	Earls Court, London, UK
10th January 2009	Building and Prefabrication - BOUW & RENO	Industry Exhibition	Bouwcentrum, Antwerp, Belgium
12th January 2009	Architecture, Materials, Systems - BAU	Industry Exhibition	Munich Trade Fair Centre, Germany
11th February 2009	Building and Construction Exhibition	Exhibition	Convention and Exhibition Centre, Vancouver, Canada
19th February 2009	Home Building Renovation Energy Saving - BAUEN & ENERGIE	Exhibition	Messe Wien, Vienna, Austria
3-5 March 2009	Futurebuild	Industry Exhibition and conference	Earls Court, London, UK
1-4 April 2009	ASC 2009 Annual International Conference	International Conference	Florida, USA
30th April 2009	Architecture Construction Design - FORM & FUNCTION	Exhibition and Conference	Melbourne Exhibition and Convention Centre, Australia
12th May 2009	The Facilities Show	Exhibition	NEC Birmingham UK
16th May 2009	Scottish Homebuilding and Renovating Show	Exhibition	SECC Glasgow, Scotland
3rd June 2009	Building and Construction Exhibition - Southern Building Show	Exhibition	Atlanta GA, USA
15-19 June 2009	3rd CIB International Conference on Smart and Sustainable Built Environment (SASBE 2009)	International Conference	Delft, Netherlands
22nd September 2009	Building - BYGG REIS DEG	Exhibition	Lillestrom, Norway
23rd September 2009	Machine Building Construction of Equipment	Exhibition	Helsinki, Finland
24th September 2009	Energy Efficient Construction and Renovation RECONSTRUCT 2009	Exhibition	AFAG Augsburg, Germany
25th October 2009	Building Construction - INTERBUILD 2009	International Exhibition	NEC Birmingham UK

I3CON Newsletter

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