



Issue 2  
January 2012

# IBPSA-USA Newsletter



*Aerial view of Madison, WI, venue of SimBuild 2012.*

## Upcoming Events

IBPSA-USA semi-annual meeting, Chicago, IL, January 21, 2012  
BEMBook Workshop, Chicago, IL, January 24, 2012  
BEMBook Workshop, NY, February, 2012 (date TBD)  
BEMBook Workshop, Raleigh, NC, April 2012 (date TBD)  
BEMBook Workshop, Nova Scotia, Canada, May 2012 (date TBD)  
SimBuild 2012 Conference in Madison, WI, August 1-3, 2012  
ASHRAE Energy Modeling Conf., Atlanta, GA, October 1-3, 2012

## About this Newsletter

The IBPSA-USA Newsletter will be published every 3 months to inform its membership about current and emerging events in building simulation. To submit articles, send email to [newsletter@ibpsa.us](mailto:newsletter@ibpsa.us)

## SimBuild 2012 Conference in Madison, Wisconsin, USA

IBPSA-USA's 5th biennial conference, SimBuild, will be held at the Madison Concourse Hotel in Madison, Wisconsin on August 1-3, 2012.

SimBuild is the premier building modeling conference in the US and the technical program features peer-reviewed papers, a student poster session and

seminars on selected industry topics with invited speakers. Over 150 abstracts have been submitted for inclusion in the conference with topics dealing with computer-based building performance simulation (BPS) with the scope ranging from individual building components to whole buildings and neighborhoods.

Specific topics covered by the papers include new developments in tools for modeling and simulation, automated optimization during design and operations, stochastic modeling and data visualization, the generation of climate datasets and successful applications of BPS in design practice (case studies), incentive programs, building operations and education. Other detailed topics include basic phenomena such as the modeling of heat and mass transfer, air movement, natural and electric

light, controls and occupant behavior.

In addition to the technical papers, a limited number of non-peer-reviewed oral presentations will be sought in order to enable practitioners and researchers to address simulation-related issues such as: the future of BEM software; modeling controls in BEM software; use of simulation in real-time to support building operation; dealing with uncertainty in building performance simulation; validation, calibration and verification of simulation using real-time data; model predictive control in buildings; use of BEM in a building system fault finding capacity; appropriate modeling for the different phases of a building design; and case studies of the application of modeling in building design.

Pre-conference workshops will be organized for the two days prior to



*Downtown Madison, WI.*

the conference. These will include both workshops on how to use specific simulation programs as well as more general educational workshops on the fundamentals of building energy modeling.

For students and conference sponsors, a job fair will be organized to match the best young modeling analysts coming into the job market from graduate programs with employers looking for new workers.

Madison, Wisconsin's capitol city, is one of the most naturally beautiful metropolitan areas in the country. Surrounded by five glacial

lakes and a world-class university, the city is an extraordinary blend of commerce, recreation and cultural opportunities. Set on an isthmus between two scenic lakes, Madison's Central Business District encompasses the heart of downtown Madison, where the famed State Street pedestrian mall links the Capitol square, seat of Wisconsin state government, to the University of Wisconsin campus. The central downtown is home to more than 1,500 businesses--from shops, boutiques, and restaurants to financial, law and communications firms--plus museums and cultural destinations. The Madison Concourse Hotel and Governor's

Club is located right in the heart of downtown Madison, near the State Capitol, State Street, Overture Center, lakes, University of Wisconsin campus and Monona Terrace Convention Center.

We hope you make plans to join your colleagues from across the US and the world in Madison next summer. Please visit [www.ibpsa.us/simbuild2012](http://www.ibpsa.us/simbuild2012) for updates on the conference.

For further information, visit <http://www.ibpsa.us>. For previous conferences and their publications, visit <http://www.ibpsa.us/publications.shtml>

## **IBPSA-USA Semi-Annual Meeting in Chicago**

IBPSA-USA will conduct its semi-annual meeting in Chicago on January 21, 2012, from 4-9pm at the Parthenon Restaurant. From 4-6pm, there will be a business meeting, followed by a happy hour and dinner. The after dinner speaker will be John House from Johnson Controls, who will be presenting a talk about "Better Building Controls Through Simulation." The meeting is open to anyone. For registration and further information, visit <http://www.ibpsa.us/meetings.shtml>

## BEMBook Workshops

IBPSA-USA organized several additional workshops about Building Energy Modeling. These workshops cover modeling fundamentals, ASHRAE 90.1 performance rating, modeling best practices, modeling to inform design and measurement & verifications. Slides can be downloaded from <http://www.bembook.ibpsa.us/index.php?title=Downloads>

The next workshops will be held at the following locations (see [http://www.bembook.ibpsa.us/index.php?title=Plan\\_and\\_Status](http://www.bembook.ibpsa.us/index.php?title=Plan_and_Status) for an updated list and links to registration):

January 11, 2012 – St. Louis, Missouri  
Sponsored by the St. Louis ASHRAE Chapter  
Instructors: Aleka Pappas, Kendra Tupper

January 24, 2012 – Chicago, Illinois  
ASHRAE Winter Conference  
Instructors: Erik Kolderup, Kendra Tupper

February, 2012 - New York, NY  
Sponsored by IBPSA-USA New York Chapter

April, 2012, Raleigh, North Carolina  
Sponsored by IBPSA-USA Raleigh-Durham Chapter

May, 2012 - Nova Scotia, Canada  
Sponsored by IBPSA Canada



## IBPSA-USA Regional Chapters

IBPSA-USA has provisionally approved six regional chapters throughout the United States. If you are a group interested in forming a local chapter in your area within the United States, please contact Michael Wetter at [mwetter@lbl.gov](mailto:mwetter@lbl.gov).

Approved Provisional Chapters include Boston, Houston, New York City, Raleigh-Durham, San Francisco and Washington DC. For contact and link to these chapters, visit <http://www.ibpsa.us/chapters.shtml>

The regional chapters provide an opportunity for local people to meet and discuss issues that arise in building simulation.



## Building Simulation Conference 2011 in Sydney, Australia

IBPSA-World, the parent organization of IBPSA-USA, held its bi-annual Building Simulation conference from November 14 to 16 in Sydney, Australia. From 481 submitted full papers, 392 were accepted and presented at the conference. All of these papers are available for free from <http://www.ibpsa.org>, together with more than 2000 papers that have been presented at the 13 Building Simulation conferences since 1985. At this link, also available are the three keynote speeches by John Mitchell about building information modeling and building simulation, Ellen Franconi, a board member of IBPSA-USA, about the introduction of a framework for advancing building energy modeling methods and processes, and of Ardeshir Mahdavi about the human dimension of building performance simulation.

Nathaniel Jones and Donald Greenberg from Cornell University received the Best Paper Award for their paper "[Fast Computation Of Incident Solar Radiation From Preliminary To Final Building Design.](#)"

The Young Contributor Award has been granted to Kristina Orehounig from the Technische Universitaet Wien, Austria. Kristina Orehounig's achievements range from teaching energy simulation in multiple international workshops, teaching undergraduate and graduate classes, and conducting research in energy simulation for design, operation and urban heat island effects which resulted in close to fifty mostly peer-reviewed publications.



*Sydney Harbor Bridge and Opera House.*

The Distinguished Service Award was awarded to Tom Maver from the Mackintosh School of Architecture at the Glasgow School of Art. Tom Maver is also an Emeritus Professor of the University of Strathclyde, Glasgow. Tom Maver's notable contributions include the establishments of (i) the simulation-based Energy Design Advice Scheme (EDAS) for which he was awarded the Royal Society ESSO Energy Award in 1989, (ii) the ESP-r system as Joe Clarke's PhD Supervisor and facilitator for the establishment of ESRU in 1987 and (iii) ABACUS Simulations Ltd, which later became Integrated Environmental Solutions (IES), a provider of commercial building simulation solutions.

IBPSA also formally approved fellows to their new Fellows program, which consists of George Walton, Philip Haves, Joe Clarke, Per Sahlin, Curt Pedersen and Ed Sowell.

A total of four student scholarships were awarded to Shady Attia from Universite Catholique de Louvain (Belgium), Rizki Armanto Mangkuto from the Technische Universiteit Eindhoven (the Netherlands), Qian Jin from the University of Cambridge (UK) and Robina Hetherington from The Open University (UK).

IBPSA-USA also funded eight students through a student scholarship competition with a \$2,000 award each to attend the Building Simulation 2011 conference. Participants had to contribute at least three pages to the Building Energy Modeling Body of Knowledge wiki <http://bembook.ibpsa.us/>. Submissions included articles about energy modeling, computational fluid dynamics, daylight simulation, model calibration and measurement and verification.

The awardees are Holly Wasilowski Samuelson and J. Alstan Jakubiec (both from the Harvard Graduate School of

Design), Fei Zhao, Yuming Sun, Sang Hoon Lee and Yeonsook Heo (all from the College of Architecture at Georgia Tech), Dana Etherington (University of Massachusetts, Lowell) and Brian Coffey (School of Architecture, UC Berkeley).

## Model Predictive Control in Buildings Workshop 2011 in Montreal, Canada



*Workshop participants.*

IBPSA-USA and IBPSA-Canada co-sponsored a workshop on model predictive control (MPC) in buildings last summer. The workshop was held in Montreal on June 24-25, 2011, directly preceding the IBPSA-USA meeting at the ASHRAE conference and was attended by more than 70 people from around the world. The workshop brought together leading experts

in the field, with 22 presentations packed into the Friday afternoon and Saturday morning sessions, followed by a roundtable discussion to define future research needs and to highlight opportunities for collaboration and business applications. The scientific committee has since selected a smaller group of presenters to prepare manuscripts for publication in a

2012 special issue of the Journal of Building Performance Simulation on "MPC in Buildings." The workshop program, presentations and a summary of the roundtable discussion are all available at [www.ibpsa.us/mpc2011](http://www.ibpsa.us/mpc2011).