SBSE News

Society of Building Science Educators

SBSErs can treat themselves to a California two-fer in July—PLEA and our annual meeting (below) in LA (Jul 11–13), then the Retreat (above & pg. 5) in SF (Jul 18–21).

PLEA 2016 in Los Angeles

PLEA 2016 in Los Angeles is rapidly approaching. We’ve received more than one thousand abstracts of which we have selected 570 for further development. We expect to have high-quality presentations in all tracks and are organizing panels on multiple topics, with several keynote speakers of note as well. We’ll create special editions of Architectural Science Review and, possibly, Energy and Buildings with selected PLEA papers. We are also planning social events including a dinner high above downtown Los Angeles. A student competition will be launched soon. Annual meetings of PLEA and SBSE will be at the same conference for the first time.

The conference registration system is online, and the registration fee is affordable. SBSE members will receive a discount. Also the SBSE web site features scholarship opportunities for faculty from developing countries and for students from any country.

Please plan to stay for some time before and/or after PLEA. In addition to the technical conference presentations we will have art and architecture tours and energy modeling training sessions before and after the conference open to all and affordable. We have a limited number of rooms with special rates at our conference hotel, the Biltmore, which you can reserve via a direct link from our web site. Hotel rates are very reasonable for a quality downtown Los Angeles hotel. We encourage you to reserve as soon as you can.


We hope to welcome you to Los Angeles in July! 🤹

—Pablo LaRoche, Margot MacDonald, and Marc Schiler

SBSE Scholarships

We’re pleased to announce an array of scholarships intended to support participation in two key events.

2016 PLEA Conference

Travel and registration support scholarships are available for students from North America, for students from outside North America, and for faculty members from developing countries.

2016 SBSE Retreat

Travel and registration support scholarships are available for up to 6 students and for one faculty member from a developing country.

For an overview of these opportunities, with links to specific details, application procedures, and application deadlines see <http://www.sbse.org/awards/index.htm>. Late applications will not be accepted. If you know of someone who would benefit from one of these opportunities, please point them in the right direction.

—Walter Grondzik

LETTERS TO THE EDITOR

Nice to see the AIA mentioned with regard to the 2016 Retreat, perhaps I had a small part in getting that started.
—Richard Hayes, gainfully unemployed

[Thanks, Richard, for making AIA aware of SBSE over the years... your legacy continues!—ed.]

A good looking, 35’ low-velocity boundary layer wind tunnel is looking for a good home. It was designed in consultation with Jack Ceremak who founded the Colorado State wind energy lab. Jack was arguably the father of wind engineering. It was also designed to be disassembled to components that could fit through a 3’-0” x 6’-8” door. It’s in great shape. Anyone who is interested should contact me at <Johnstsa@miamioh.edu> or 513.255.1472 for more pictures and details. We aren’t looking to make any money. We just want it to go to someone who will use it.
—Scott Johnston, Miami

[See the handsome beast on the next page!—ed.]

I have been a member of the SBSE community from March 2015. Recently I noticed that I am not receiving any e-mails from you, I was wondering how can I get on the list to receive e-mails.
—Nasim Shareghi Wisconsin–Milwaukee

[Sorry, Nasim, our system isn’t totally interconnected. We depend on our members to sign up for the list server. Instructions are on the SBSE web site <https://lists.uidaho.edu/mailman/listinfo/sbse>.—ed.]

IS THE SBSE RETREAT AN ACADEMIC EVENT?

Or Just an Excuse for Nerds to Hang Out (Or Geek Out)?

As anyone who has planned an academic event will tell you, the possible names for such an event are infinite. My own first interaction with other SBSEers was at a Summit! This event was a Carbon Neutral Summit held before the 2008 Greenbuild Conference. Why USGBC’s event was a very pedestrian sounding conference and this meeting in a large room next to the café in the University of Wisconsin–Milwaukee Student Union was on par with Nixon going to China or Reagan chilling (literally) with Brezhnev in Iceland was beyond my understanding.

Ever since then, I have wondered why these various gatherings have these different names and how the wonderful (and tireless) people who organize these things decide what to call them. As I sat (snowed-in) trolling the internet, procrastinating from all the things I need to do to improve my academic life (such as reformatting my portfolio or creating yet another fictitious syllabus to impress prospective employers), I came across <http://www.phdcomics.com/comics.php?f=1704> from the wonderful people of PhD Comics, also known as Piled Higher Deeper. So I went through their chart and decided that SBSE is an academic event. I arrived at “Symposium” for the SBSE event. But it is called a Retreat. Why?

[Everyone come to the 2016 SBSE Retreat and find out why!—ed.]

—NJ Unaka

BUILDING SCIENCE SOFTWARE NOTES

SEFAIRA UPDATE

Great news on the sustainability front: Sefaira has been acquired by Trimble’s Buildings team, which includes SketchUp. What a fantastic way for us to expand the platform and make performance-based design tools available to many more architects.

I’ve included two links to the press release below:


Sefaira is at over 130 educational institutions worldwide and under our Trimble Buildings management we will continue our commitment to provide free educational access!

—Peter Krebs

WEATHER DATA UPDATE

DOE closed down their old weather data site without forwarding information, but we have just uploaded new versions of HEED and Climate Consultant that will now automatically download weather data from the EnergyPlus site. Both new versions are available on our Energy Design Tools web site. Please let me know if you have any problems.

[If you must know, DOE has moved their Energy Plus weather data to <https://energyplus.net/weather>.—ed.]

—Murray Milne
POCKETARCHITECTURE TECHNICAL DESIGN SERIES

The design and construction of buildings and facilities is no small feat. It requires a great deal of technical knowhow. Building professionals use rules-of-thumb to make many of these technical decisions, much of which is unwritten based on traditional approaches of adherence to cultural codes of practice and building regulations. Students and professionals in architecture, engineering, and construction have little scientific or fundamental physics knowledge as a basis for making these decisions. This lack of technical understanding and access to need-to-know information inevitably leads to inappropriate technical design decisions. SBSEers among the featured authors include Ana Jaramillo, Karen Kensek, Christopher Meek, and Kevin Van Den Wymelenberg. SBSEer Ryan Smith is editing this PocketArchitecture book series.


— Ryan Smith

DESIGNING SPACES FOR NATURAL VENTILATION

Buildings can breathe naturally without the use of mechanical systems if you design the spaces properly. This accessible and thorough guide shows you how in more than 260 color diagrams and photographs illustrating case studies and CFD simulations. You can achieve truly natural ventilation by considering the building’s structure, envelope, energy use, and form, as well as giving occupants thermal comfort and healthy indoor air. By using the scientific and architectural visualization tools included here, you can develop ventilation strategies without an engineering background. Handy sections that summarize the science, explain rules-of-thumb, and detail the latest research in thermal and fluid dynamics will keep your designs sustainable, energy-efficient, and up-to-date.

— Ulrike Passe

JOURNAL OF ARCHITECTURAL EDUCATION

Building technology and building science colleagues, please consider submitting a paper for the next issue of JAE, “Production,” edited by Ryan Smith. The deadline is Aug 1, 2016, at 5:00pm EDT. For more details see <http://www.jaeonline.org/pages/production#/page1/>.

Post-industrial architectural production benefits from a broader perspective of what it means to build. The efficiency and optimization promised by modernity, however, has had both positive and negative effects. How have buildings and their architects proved to be better for the advances in technological production? What, for example, are the unintended consequences of BIM-modeled, over-sized structures; triple-layered, gas-filled glass façades; complicated forced air handling; cellular restricted prefabrication; and self-negating renewable energy?

— Ryan Smith

OPPORTUNITIES

ANOTHER EVENT IN LA

If you loved California in July, it’s even climatically better in October! The Façade Tectonics Institute will hold its 2016 Annual Conference and inaugural World Congress October 10–11 in Los Angeles. The event will include speaking and poster presentations, panel discussions, workshops, and exhibitors. A minimum of 5 tracks are planned over 2 days, including 25 sessions and 75 speaker presentations.


— Pablo LaRoche

INTERNSHIPS

Autodesk has several summer internship positions available that would be a great fit for architecture or engineering students interested in building science and sustainability. Position description links are below, and students should apply directly via the web site.

• Green Buildings Intern: <https://www.linkedin.com/jobs2/view/97667924>
• Healthy Building Intern: <https://www.linkedin.com/jobs2/view/97668821>
• Sustainable Design Education Content Development Intern: <https://www.linkedin.com/jobs2/view/93817627>

Please share with any interested students! I would advise them to apply ASAP, as hiring managers are already interviewing for several of the positions.

Important qualifier: Intern must be a full-time student at an accredited program in the United States with at least one academic term to complete post-internship.

— Stephanie Egger

THE HANDSOME BEAST
SBSE PEOPLE

○ SBSE founding father G. Z. “Charlie” Brown, who stepped down in September 2015 as ESBL director, but continues in his role as architecture professor and principal investigator, is being honored in two ways—(1) by a new endowment, the G. Z. Brown Fund, to carry forward Charlie’s legacy and (2) in a Festschrift scheduled at UO on May 14 at the Lillis Business Complex, a Brown collaboration with SRG Partnership. For more info see <https://aaa.uoregon.edu/news/gz-brown-fund-honor-uo-professor>.

Lisa Heschong has officially, totally, retired from TRC and has a new teaching gig with UCSC this spring quarter, so will become a teaching member of SBSE. AND she’ll try to get to the retreat this summer, working around the due dates for grandchild #2. Hope to see you all in SF!

Harvard Graduate School of Design Assistant Professor Holly Samuelson was awarded a grant from the university’s Climate Change Solutions Fund, which is geared towards multidisciplinary climate-change research. Samuelson will study building performance using data collected by an algorithm developed by T. H. Chan School of Public Health’s Jose Guillermo Cedeño Laurent. The duo “aim to develop and apply a framework to assess a building’s performance on indoor environmental quality and energy use.”


COMPETITION NEWS

HAMMER & HAND’S perFORM 2016 BUILDING DESIGN COMPETITION

This competition challenges emerging architectural professionals to design a net zero-energy building in Seattle’s diverse Rainier Beach community.

The perFORM Building Design Competition, now in its third year, asks architectural students and interns to explore the nexus between “high” design and high-performance building for a net zero-energy project that responds to the community priorities of an economically and culturally diverse neighborhood in fast-growing Seattle.

Architecture students and interns in the U.S. and in Canada are eligible to participate in perFORM 2016 (details: <http://hammerandhand.com/perform/design-competition/guidelines/>). Both group and individual entries will be judged by a jury consisting of practicing architects, design educators, and builders. Once net zero-energy performance has been verified entries will be judged based on the criteria of resourcefulness, replicability, beauty, and community response. Rob Peña returns as perFORM 2016 Advisor. The perFORM jury will distribute $6,000 in cash awards, and award winners will be published online and in print, as well as enjoy public display of their boards in Seattle and in Portland.

Registration for both individuals and teams is now open. Entry submissions are due by Friday, June 17, 2016, at 5:00 p.m. (Pacific Daylight Time). For competition details and to see past years’ perFORM winners visit <http://hammerandhand.com/perform/design-competition/>.

—Laura Grange

STUDENTS COMPETE TO IMPROVE PERFORMANCE OF BUILDING ON SOUTH AFRICA’S MOST FAMOUS STREET

A student competition has been announced that will see university teams from English-speaking Africa compete to improve the performance of a small building located on South Africa’s most famous street, also home to two Nobel Laureates—Archbishop Tutu and Nelson Mandela.

The building is based on the original 1944 design that was used for houses on Vilakazi Street, Orland West, many of which are still occupied today. This house is similar to the original Mandela home.

The aim is to provide a competitive forum for student members of the Southern and East African Architectural and Engineering Community. It is expected that tutors of relevant courses in universities in Africa could use this competition as part of their teaching material or as a case study in environmental and sustainability building design.

Entries will be judged by a panel of judges led by Dru Crawley and comprised of members of IBPSA and the CIBSE Building Simulation Groups. The results will be finalised at the IBPSA-England Building Simulation and Optimization Conference (12 Sep 2016), and awards presented at the SAEE Conference (Nov 2016). Details will be posted on the SAEE, IBPSA, SAIEE, and CIBSE web sites.

—Mike Barker
Project ERIC, a UK Government-funded research initiative (worth £1.2 million), has brought solar PV and smart electricity storage to Rose Hill, Oxford, with the aim of linking these technologies in a virtual, localised energy grid, reducing household energy bills and CO2 emissions. The 27-month project was launched in 2015, and is led by Moixa Technology (supplier of Maslow battery systems) with the Low Carbon Building Group of Oxford Brookes University acting as academic lead, responsible for independent monitoring and evaluation of the systems performance. Other partners are Bioregional, Oxford City Council, ReEnergise, SSE PD, British Gas, Oxford City Council, and Sustainable Chale.

During 2015, solar PV systems and 2kWh Maslow battery systems were installed in 77 households and a new community centre to create a localised energy grid. The Maslow units are the smart energy storage units which store excess solar energy during low-use periods (e.g., during the day when residents are at work) for use when needed. Innovative software is being developed and tested to optimise the use of the smart battery to ensure that the maximum amount of solar generated is used within the community. The overall aim of the project is to demonstrate how the installed technology can be managed to reduce peak grid electricity load by 65% and increase self-consumption of the local PV-generated electricity across the community by 50%.

As part of project evaluation, a first round of household surveys was conducted to understand the residents’ baseline electricity use and attitudes towards energy use. Residents are found to be concerned about rising energy prices and believe it is important to reduce their household energy use. The residents also agreed that it was important for the community as a whole to reduce its energy use.

An assessment of the household electricity use and solar PV systems revealed a wide variation in the amount of electricity used by each household, whilst all PV systems are performing significantly well and generating significant amounts of renewable energy. Feedback reinforces the opportunity for a community energy share scheme in Rose Hill. Rigorous academic evaluation of the project seeks to provide the evidence for this opportunity in 2016–17. Furthermore, through workshops and community events, ERIC is fostering a greater understanding of energy issues.

For further information please contact Rajat Gupta <rgupta@brookes.ac.uk>.

FULL-TIME RESEARCH POSTS IN THE LOW CARBON BUILDING RESEARCH GROUP, OXFORD BROOKES UNIVERSITY, OXFORD, UK

We are pleased to announce two new exciting full-time research opportunities (Research Fellow and Research Associate) based in the OISD Low Carbon Building Group at the School of Architecture in Oxford Brookes University (Oxford, UK).

1. Research Fellow in Building Performance Evaluation. This new post is part of our EU-funded ZERO PLUS project and Innovate UK funded HERON project. For further information — job description and application — please visit: https://cloud.corehr.com/pls/obulivehrrecruit/erq_jobspec_details_form.jobspec?p_id=003842.

2. Research Associate in Low Carbon Building. This new post is part of our EU-funded HERON project and Innovate UK funded HAPI project. For further information about job description and application, please visit <https://cloud.corehr.com/pls/obulivehrrecruit/erq_jobspec_details_form.jobspec?p_id=003822>.

Closing date for both posts is 23 March 2016.

The OISD Low Carbon Building (LCB) Group at Oxford Brookes University has an international reputation in the field of carbon counting (RIBA award-winning DECoRuM model), building performance evaluation, climate change adaptation of buildings and neighbourhoods, and low carbon communities. Further information about the LCB group is available at http://architecture.brookes.ac.uk/research/lowcarbonbuilding/resources/LowCarbonBGv4.pdf and http://architecture.brookes.ac.uk/research/lowcarbonbuilding/.

For any questions, contact Rajat Gupta, <rgupta@brookes.ac.uk>.

— Rajat Gupta

CHALLENGE FOR 21ST CENTURY ARCHITECTS

Doesn’t architecture in this millennium require balancing the traditional demands of beautiful architecture with the pressing demands of mitigating, rather than aggravating, climate change? How much easier that should be than Mioko Shida’s balance challenge!

— Alison Kwok

2016 RETREAT UPDATE

Design for energy, water, and waste? Join us for an incredible 2016 SBSE Retreat in San Francisco at the Pacific Energy Center, July 18–21, 2016, to share teaching materials, learning exercises, course designs, and design projects that link technology topics with design intent. We have a generous venue where we will discuss the future of environmental technology teaching, how we establish research agendas, and promotion and tenure procedures. In parallel sessions, colleagues will present workshops and sessions on diverse topics such as: thermal delight, carbon values, acoustics, design competitions, urban heat mitigation simulations, seeking grants, writing books, net zero strategies, and much more. Local practitioners will share their work and expertise. Ample “between times” will allow faculty, students, and invited guests to develop new ideas, collaborate, and have conversations about how we’re moving forward in our stewardship of the environment. Come learn about best practices and advanced management systems in buildings in California. Meet local practitioners and understand design strategies that are appropriate for different locations. Join us for a post-retreat behind-the-scenes tour of Renzo Piano’s Academy of Science and the new 330,000-square-foot Exploratorium, the first net zero energy museum in the country by EHDD. 🌿

— Peter Papesch
KWOK AMONG 25 MOST-ADMIRED EDUCATORS

DesignIntelligence reports, “With an inspiring energy to educate students about sustainable design principles, Alison Kwok encourages them to expand on what they have learned through research. She constantly seeks to better her students’ experiences and to create well-informed architects.”

Kwok says she tries to create real design experiences that “connect textbook principles, theory, and standards. I hope such experiences will provide an internal, almost instinctive understanding about the performance of buildings and the consequences of design decisions.”

For example, all lab sections of her lecture courses include “mini-design experiences” that incorporate core principles, such as solar tracking, shading device design, and heat transfer. Her studio exercises connect hand drawing, scale daylighting models (physical and digital), online tools, and evaluation of design against basic passive principles.

“Alison Kwok has made an extraordinary contribution to sustainable design education for students and professionals in architecture,” says Judith Sheine, head of the UO Department of Architecture. “Her influence has spread far beyond the University of Oregon, with her Agents of Change project and The Green Studio Handbook, which have brought a new understanding of sustainable design principles and practices to architects and architecture students in both the U.S. and abroad.”


—UO A&AA Communications

SBSE CALENDAR

2016

Mar 22–24 Sustainable Energy and Environment Conf, Dubai, UAE
Jun 16–19 EAAE/ARCC 2016/Lisbon, Portugal
Jul 11–13 PLEA2016/Los Angeles, CA, USA
Jul 11? SBSE Annual Meeting at PLEA/Los Angeles, CA, USA
Jul 18–21 SBSE Retreat/San Francisco, CA, USA
Aug 30–Sep 2 Sustainable Futures Conf/Nairobi, Kenya
Sep 19–20 SBE16 Toronto/Toronto, Canada
Oct 10–11 Façade Tectonics Conf/Los Angeles, CA, USA
Oct 12–14 Getting to Zero National Forum /Denver, CO, USA

2017

Sep 11–13 PLEA2017/Edinburgh, Scotland, UK ♦

SUMMER ISSUE SUBMITTAL DEADLINE—JUNE 1

SBSE NEWS
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