



photo: Pablo La Roche

To Groucho or not to Groucho, the semi-official 2013 SBSE Retreat group photo. Alison Kwok thought the noses would make up for ed. missing his first retreat ever!

## REMEMBERING SBSE RETREAT 2013

From June 21 to 23 SBSEers attended the annual retreat at the Mt. Baldy Zen Center nestled in the San Gabriel Mountains in Southern California, a fitting backdrop to the retreat. SBSEers shared knowledge on the measurement of the built environment, and, as always, mentored future faculty. Presentations included the LEED platinum academic buildings case studies project, case studies in carbon-neutral architecture, interactive digital test cells for use by faculty from all over the world, biology and buildings, vernacular buildings in Venezuela, fluxmeters, and teaching strategies for environmental control systems—all with plenty of time for a waterfall hike, morning meditation sessions, and friendly conversation. As usual SBSE funded several students and two Cook Scholars—Laura Martinez from Venezuela and Islam Abohela from Egypt.

—Pablo La Roche



photo: Pablo La Roche

SBSEers on the rocks at Retreat 2013.

### A COOK SCHOLAR'S POINT OF VIEW

Islam Abohela was awarded a Jeffrey Cook Memorial Scholarship to attend the 2013 SBSE Retreat. Invited to give a presentation at the retreat about his past and current teaching and research activities, he outlined three lines of research including the eViz project and the preliminary results from simulations of two test houses in Newcastle and Plymouth.

Among the retreat's concluding remarks were recommendations to use smart devices for visualizing energy consumption in buildings for informing occupants of potential energy savings, one of the main objectives of the eViz project. The attendees of the retreat showed interest in the eViz project and requested communication of further results. The retreat was a great opportunity to explore potential future cooperation with other researchers, especially from the U.S. and from Canada. 🙌

—Islam Abohela

## SBSE ELECTIONS

Elections will be held during October. It's not too late to nominate yourself or a colleague for President-Elect or for Secretary/Treasurer. E-mail <bhaglund@uidaho.edu>.

Prepare to vote by paying your annual dues! Only active, paid-up members have the right to vote! 🙌

—Bruce Haglund

## LETTERS TO THE EDITOR

I have about 15 pairs of those Groucho glasses in my attic now. Everyone handed them to me after the SBSE group picture because I have a costume box (it comes from living in SF). Sorry we missed you at the retreat.



photo: Adam Menter

—Adam Menter, Autodesk

[Hmmm! Honored or embarrassed?—ed.]



I expect SBSE members, especially the older crowd, will be interested in this article on the AIACC web site about the Bateson Building <<http://www.aiacc.org/2013/07/16/sacramentos-bateson-building-and-lincoln-plaza/>>.

—Bill Burke, PG&E

[I'm interested. Should I take umbrage?—ed. If the old fart shoe fits!—ed's ed.]



Have you seen this list of chosen stars of building science <<http://www.building4change.com/page.jsp?id=1976>>? A few SBSEers are on the list. It would make a good news item!

—Rajat Gupta, Oxford Brookes

[It's great to see Building Scientists honored and recognized for their work!—ed.] 🙌

## WHITHER NAAB?

[Our op-ed piece comes from a posting on the SBSE list server that generated a wide range of response, some captured here. The SBSE board is composing a response to NAAB and encourages each of you to chime in by Thanksgiving.—ed.]

Though the recently released 2014 NAAB Conditions for Accreditation show many minor changes (down to 24 SPCs apparently), the 5 perspectives have changed substantially. They are no longer focused on collateral organizations' interests (AIA, ACSA, NCARB, or AIAS). In particular, perspectives on Leadership and Collaboration as well as Stewardship of the Environment promise to address some of the issues to which SBSE has expressed sensitivity in the past. Integrated Architectural Solutions (previously Comprehensive Design) is its own realm now. I'd encourage anyone interested to comment on the first draft by going to <[http://www.naab.org/accreditation/2014\\_Conditions.aspx](http://www.naab.org/accreditation/2014_Conditions.aspx)>. There is a draft of the new conditions as well as a summary-of-changes companion document on the site. The writing team will benefit from feedback on language from SBSE membership during this 90-day comment period through late November.

**For example, Perspective D:**

“Stewardship of the Environment. The program must describe its approach for developing young professionals who are prepared to both understand and take responsibility for stewardship of the environmental and natural resources that are often compromised by the act of building and settlement. This includes not only individual courses that develop an understanding of climate, geography, and other natural characteristics and phenomena, but also the laws and practices governing architects and the built environment as well as the ethos of sustainable practices.”

**For example, the new Realm D Student Performance Criteria D.1:**

“D.1 Integrative Design: Ability to produce an architectural solution that demonstrates the ability to make design decisions about a single project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.”

The maximum term of accreditation has been lengthened to 8 years if you haven't heard. These 8-year terms have a reporting requirement in the 4th year among annual reporting requirements.

—Keelan Kaiser

## RESPONSES

Thanks to Keelan for alerting the SBSE list to the availability of a draft of proposed 2014 NAAB accreditation conditions.

Since SBSE has historically been a champion (among others) for increased emphasis on environmentally-responsible design in architecture programs, the draft appears problematic. Stewardship of the Environment has been elevated to a “perspective”—one of only five such perspectives. Although seemingly a positive move, it may in fact be a negative as compliance requires merely a narrative (versus student work demonstrating competency).

My question to the collective SBSE group is: Is there a sense that SBSE should be collectively concerned (either formally or informally) with this proposed NAAB change and, if so, how to proceed? While we are at it, it would be politic for NAAB to reword “artificial illumination” in SPC B.6. Not as weighty as the environment as a whole, but, geez. Soon we will need to deal with artificial heat, artificial sound, artificial insulation, maybe even artificial intelligence.

—Walter Grondzik

I would suggest that the SBSE would do the profession a misdeed through its silence. Participation is what shapes our world. Participation is what has shaped SBSE. Participation is what keeps me going into the office every day all over the world. I hope there is a leader in SBSE who will put together a few convincing paragraphs for NAAB. If SBSE does not, who will? 🙌

—Chris Luebke

[There's much more on this thread at <<https://lists.uidaho.edu/pipermail/sbse/2013-September/subject.html>>.—ed.]

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## RETREAT 2014 “ADAPTATION”

SBSE Retreat 2014 will be held at Biosphere 2 near Tucson, AZ, Thursday, Jun 19—Sunday, Jun 22.

Over the last three years, politicians have transitioned from climate change mitigation-driven policy to climate change adaptation-driven policy, an acknowledgement that anthropogenically-driven global warming is inevitable, and that the time is at hand for innovating resilient adaptation methodologies. Our students will practice architecture in a world where buildings not only will have to carefully manage carbon, water, and material cycles, but also will have to resiliently adapt to dynamic environmental conditions. This retreat’s theme, “adaptation,” frames the conversation around “adjustment in natural or human systems [*the built environment and infrastructure*] in response to actual or expected climatic stimuli and their effects, to moderate harm or exploit beneficial opportunities.” (Intergovernmental Panel on Climate Change (IPCC))

As many of us are involved with the 2030 Challenge and efforts to reduce our carbon footprint, the retreat will focus on tools, activities, innovations, ideas, research, strategies, and tactics that the SBSE community actively engage to foster adaptation and resilient design, especially on methodologies that translate “... anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation” (IPCC) into built form. Critical to this process are inclusive definitions of the relationships among mitigation, adaptation, and resilience—the ability of a system to absorb disturbance/events without failure of the structure/system (IPCC).

Our venue, Biosphere 2, not only will serve as a backdrop for constructed eco–socio–technological and desert explorations, but also as a device for framing this year’s conversations:

1. Biomimicry, Ecology, Greener Pastures—Activities, programs, and research on how these experiences inform teaching and practice.
2. Education, Pedagogy—Activities and programs that enhance understanding building effects on nature and ecology.
3. Regional Climates and Strategies—Projects and activities involving weather and climate analysis plus strategies that address potential building and socio–economic impacts.
4. Innovations—Exemplar tools, methods, and design strategies that enhance adaptation and resilience in building design and planning.
5. Roundtable Discussions and Working Groups—“Hot topic” perspectives from SBSE colleagues discussed in an informal setting.

Over four days we’ll share lessons, exercises, and experiences; listen to each other’s stories; and mentor students interested in teaching and research—all the while enjoying the views and wildlife of the Santa Catalina foothills.

Biosphere 2 is a large-scale Earth Systems Research facility owned by the University of Arizona since 2011. From 1991–94 it was operated as the tightest envelope ever constructed, housing two materially closed, energetically open, long-duration life support experiments. These experiments tested the design and application of sustainable architecture in novel hybrid ecological–technological–cultural modes provided useful insights and lessons for increasing adaptation and resiliency in sustainable design today.

SBSEers will stay on-site in comfortable casitas (with open kitchen/large living spaces conducive to group discussions) and partake in catered, restaurant, and self-prepared family-style meals. The tentative retreat schedule is structured to facilitate cool morning desert walks or hikes, formal presentations, discussions, evening programs, a possible evening visit to Mt. Lemmon Obser-

• *continued next column*

SEE [HTTP://WWW.SBSE.ORG/RETREAT2014](http://www.sbse.org/retreat2014)

## BESS-SB13



BESS-13 scholars Nataly Rojas and Melissa Anderson are backed by SBSEers Karen Kensek, John Quale, Pablo La Roche, Hofu Wu, and Juntrow Lin.

BESS-SB13 California was held Jun 24–25 at Cal Poly Pomona and organized by Cal Poly Pomona Department of Architecture and Simpson Gumpertz & Heger. BESS-SB13 California was one of sixteen regional SB conferences held in 2013 to be followed by the global conference in Barcelona, Spain, in October 2014. About two-hundred faculty, practitioners, and students from all over the world met to present innovative design work, strategies to improve building stock performance, affordable sustainability, and education. Tine Hegli (Snohetta), SBSEer John Quale (Virginia), and Jean Carroon (Goody Clancy) delivered fantastic keynote presentations that touched on several of the main issues of the conference—sustainability, preservation, design innovation, education, and affordability. The three keynote speakers reconvened at the end for a very enjoyable closing session moderated by Emilio Metre, SB14 coordinator. SBSE sponsored the conference and provided support for keynote John Quale and two students. Attendees also had the opportunity to visit the exhibit, “Technology and Environment: The Postwar House in Southern California” at the Kellogg Gallery in Cal Poly Pomona as well as a student work exhibit. 🖐

—Pablo La Roche

## RETREAT 2014 [CONT.]

vatory, and plenty of open time for informal networking and impromptu gatherings.

We’re also arranging an optional extended post-retreat stay that will include tours of Taliesin West, Arcosanti, Cosanti, and other significant Phoenix- and Tucson-area sites that engage whole-systems approaches with an emphasis on water scarcity. 🖐

—Meredith Sattler (LSU) and Alison Kwok (UO)

## SBSE PEOPLE

After a 10-year hiatus, **Chris Luebke** has been asked to lead Research at Arup. Stay tuned for some fun projects!

Effective July 2013, **Michael McGlynn** earned promotion to Associate Professor with tenure at Kansas State University. He wishes to thank the SBSE membership for the truly invaluable support he received throughout the past six years.

**Fionn Stevenson** is now Head of Sheffield School of Architecture at the University of Sheffield. 🖐



photo: Adam Menter

*Praveen Sehwat, an Autodesk summer intern and USC building science student, at the SBSE retreat during the omiyage circle.*

## CONFERENCE HEADS UP

The next PLEA will be in India, then in Milano or Bologna with the World Expo in 2015. I'm in conversations with them to see if we can do 2016 in California.

World SB14 will be in Barcelona <<http://www.wsb14barcelona.org/>>. I've been to the 2005 conference in Tokyo and the 2011 in Helsinki and found them to be excellent conferences attended by some 3,000 from all over the world (although with few attendees from the U.S.). I'm on the scientific committee and know the chair through BESS-SB13 which was part of the regional series. SB14 would be a good venue for SBSEers and our students. Let's participate in this enlightening program.

Regional SB13 conferences are ongoing. See <<http://www.wsb14barcelona.org/>>. 🖐

—Pablo La Roche

## ECOMOD SOUTH WINS R&D AWARD

ecoMOD South, a grant-funded initiative of UVA's ecoMOD Project, has won *Architect Magazine's* 2013 Research and Development Award. Led by John Quale, architecture, and Paxton Marshall, electrical engineering emeritus, the ecoMOD project has created a series of environmentally responsible and highly efficient housing units for affordable housing organizations. The project is engaged in two types of design efforts: prefab modular housing (ecoMOD projects) and renovated homes (ecoREMOD projects).



photo: University of Virginia

Sustainable residential design has long been a luxury reserved for the wealthy—the sustainable homes that grace the pages of design magazines are beyond the reach of most Americans. Our goal has been to create low-cost and low-impact homes for affordable housing organizations that serve the people who can benefit most from the reduced energy, water, and maintenance costs associated with environmentally responsive homes.

In 2011, the ecoMOD project received half of a \$2.45 million grant from the Virginia Tobacco Commission Indemnification & Community Revitalization Commission to commercialize an adaptation of a home designed by the ecoMOD4 student team in 2009 for Habitat for Humanity. The grant was structured to transform that design into a four-bedroom home that aspires to be the first truly affordable Passive House Standard modular home in the U.S., which requires rigorous energy simulation and analysis to reach a very low energy target for heating and cooling. To reach this target, it's necessary to install more insulation than a conventional building, as well as high-performance windows.

Over the last two years, the ecoMOD South design team (comprised of faculty and research assistants from architecture, landscape architecture, and engineering) embarked on an intensive collaborative process with a modular home builder, Cardinal Homes of Wyliesburg, VA, and two nonprofit affordable housing organizations, Southside Outreach of South Boston, VA, and People, Inc. of Abingdon, VA. The result is a commercially available version of the home. Construction of three houses was completed in June by Cardinal Homes, with local builders on hand to “button up” the modular homes. Two Passive House standard homes were built—one in South Boston and one in Abingdon. A third “control” house, which looks exactly the same, was built to meet the standard building code and placed next to the home in South Boston. All three homes will be occupied this fall. Their energy use and indoor comfort will be monitored to allow the research team to assess performance of the homes.

The Passive House homes were built for \$105 per square foot (this cost includes everything above the foundation) and the “control” home was built for \$70 per square foot. The Passive House standard cost is well within the appropriate range for affordable housing in most areas of the country and significantly below a custom site-built home of the same quality and performance specifications. The most recent blower door tests and inspections indicate the homes remain on track for Passive House certification, although final certification is pending due to a necessary adjustment to the mechanical systems. In addition to Quale and Marshall, the research team included Michael Britt, Project Manager; Beth Bailey; Erik de los Reyes; and Elizabeth Rivard. Nancy Takahashi, Distinguished Lecturer in Landscape Architecture, and Eric Field, Insight Lab Director, advised the team. The Passive House consultant was Barbara Gehring. A UVA Jefferson Public Citizens team of undergraduate engineering students designed and installed the monitoring systems.

Read the full story at *Architect Magazine* <<http://www.architectmagazine.com/affordable-housing/ecomod.aspx>>. 🖐

—John Quale

## AUTODESK BPA CERTIFICATE LAUNCH

On August 30 Autodesk launched the Building Performance Analysis (BPA) Certificate, a free, online, self-paced course on building science and Autodesk's tools for building performance analysis. You can learn a lot more about it and our complementary programs, such as the design competition created with Architecture 2030 and AIAS.

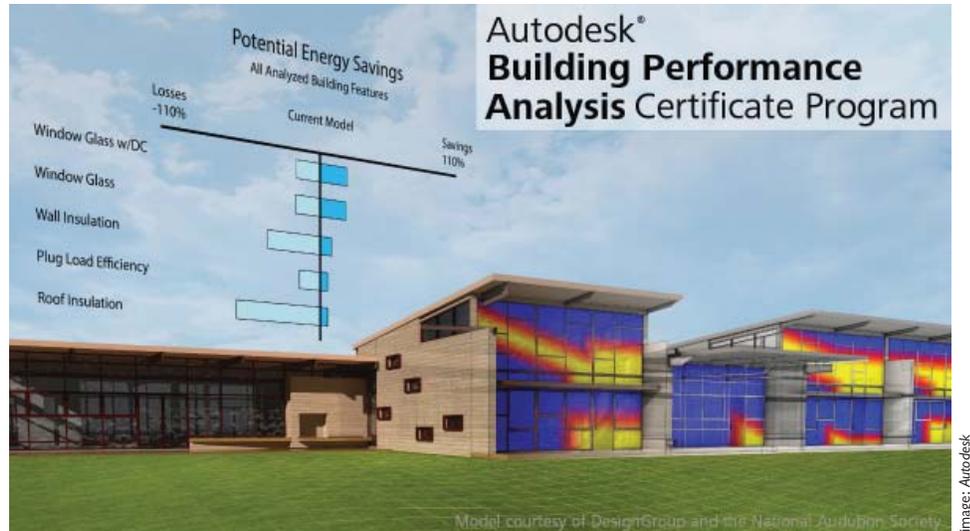
Autodesk has worked hard to make building performance analysis easier and more streamlined. One danger is that people use the tools without a solid understanding of what's behind the analysis, how to measure success, and how to act on the results. There are university courses in CAD and BIM, and there are courses on sustainable design, yet none address analysis tools well—due to a lack of time within an architecture curriculum, and, in some cases, due to a lack of expertise. At the same time there are mandates for Net-Zero Energy buildings and industry demand for sustainable design. Who's equipped to do this work well, and what can Autodesk do to help them be better equipped? From those questions came the idea for an online course presenting the fundamentals of building science alongside the Autodesk tools and workflows that could help designers test the effectiveness of their designs.

The online BPA Certificate course covers a range of topics including energy literacy, climate analysis, whole building energy analysis, solar studies, and daylighting. The lessons for each topic include articles, videos, tutorials, quizzes, and software exercises. Our intent is to present a recommended end-to-end Autodesk-based workflow for building performance analyses. We plan to update the course continuously as tools evolve. The course content was written by external consultants and internal subject experts. There's more information about the program at <http://sustainabilityworkshop.autodesk.com/bpac>, including the Educator's Guide <http://sustainabilityworkshop.autodesk.com/educators-guide-autodesk-bpa-certificate>.

A driving force behind the program has been my colleague Stephanie Egger, a graduate of USC's master of building science program. The course pilot has been reviewed by students, educators, and a group of practitioners from HOK. We've structured the program so that SBSEers may easily incorporate it into courses as a mandatory or extra-credit component with admin privileges to track the progress of students.

When I started working on building design projects, people told me I had to join the SBSE list server. What an impressive level of dialogue. When we piloted the BPA Certificate course, I pinged the SBSE list and was amazed by your response. Soon we had about 600 students and a dozen educators piloting an early version of the course that provided many insights and led to improving the course. We've tried to engage an open dialogue with the educators and students who we're trying to help; we hope to carry forward that user-centric spirit of continuous improvement.

Thanks SBSE, for the openness, honesty, and passion you bring to building science education. It's clear that most people in this field care deeply about their work, and on making a positive impact in the world. Being able to help and support folks like you helps us connect to a deeper purpose that gives our work meaning and us the strength to navigate the daily hurdles of our jobs. I've learned from SBSEers how hard it is to get things done in an academic setting. Each of you is struggling to get administrators, other faculty, and students to give building science the credence it deserves. We hope the work we're doing at Autodesk will make your life easier and you more powerful agents of change. At the risk of over-quoting, I offer Margaret Mead's famous saying, "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has." The reality is that those small groups of



images: Autodesk

citizens need support networks from which to draw encouragement and inspiration. SBSE is one of those networks and the field of building science is more important than ever. I'm proud to be a part of it.

My colleagues and I look forward to continued positive interactions with SBSEers. Keep in touch [adam.menter@autodesk.com](mailto:adam.menter@autodesk.com) or 315-663-6238. 🙌

— Adam Menter

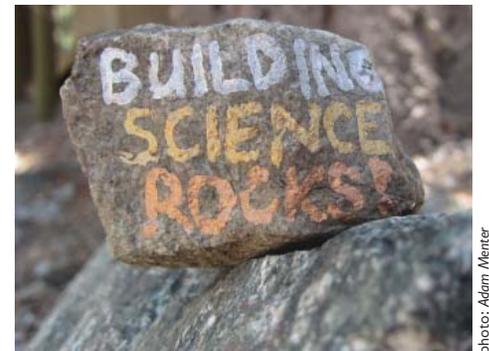


photo: Adam Menter

Created as omiyage at the Retreat, this rock now graces Stephanie Egger's desk at Autodesk.



photo: Richard Hayes

AIA Research Summit participants including SBSEers Leonard Bachman (upper left) and G. Z. “Charlie” Brown (lower right).

## REVIEWS AND REPORTS

### THE PRACTICAL EDGE OF RESEARCH—2013 AIA RESEARCH SUMMIT

Some twenty representatives from research leadership in the AIA, NIBS, practice, and academia convened Aug 18–20 in Detroit, MI, for this year’s annual AIA workshop on the development of architectural research. Three large firms sent their “Director of Research” to the event, which fortified the agenda on the connections between practice and research. Charlie Brown and I were there to keep the SBSE light shining, although my official role was to represent ARCC. Thanks to Laurence Technological University College of Architecture for generously hosting the event and for the evening tours of Wright’s Affleck House and the Cranbrook Institute. Last year’s Summit Report is available at <http://www.aia.org/aiaucmp/groups/aia/documents/pdf/aiab097361.pdf>. The INK FACTORY provided graphic documentation of the conversations for both 2012 and 2013; and the 2012 “research pyramid” served as a rhetorical device to launch the 2013 conversation.

The 2013 summit charged to “enhance the value propositions of firms; investigate a common practice/academy language of research metrics, and new ideas relevant to practice,” sought to identify value propositions of research in practice, the language nurtured by that value, and current trends in architectural research. Fundamental distinctions in professional practice between doing research and using research continually welled up throughout the discussions. Service to the researcher and the designer were thus equally highlighted, and the usual intersections between practice and academia took a nice twist or two.

Accessibility of research was a concluding focus, centering on the Building Research Knowledge Database <http://www.Brikbase.org>. BRIK is a collaborative effort of the AIA and NIBS to provide an on-line access “portal” to all facets of building research. About 1,000 items are currently in the pilot BRIK database, and MOUs with EDRA, ARCC, and others continually expand the collection. A considerable amount of effort at this workshop was spent envisioning the BRIK database organization and its search interface. Stay tuned for the final Summit Report and further details.

—Leonard Bachman



graphic: INK FACTORY

### BTES CONFERENCE 2013 “TECTONICS OF TEACHING”

The BTES 4th Conference, “Tectonics of Teaching” chaired by Bob Dermody (Roger Williams) and Andrzej Zarzycki (NJIT) was held in July at Roger Williams University. Our decision to hold a conference came from serious discussion of the demise of the ACSA Technology Conference and the need to provide junior technology faculty, in particular, an opportunity for publication and presentation of peer-reviewed papers. Hence, this year’s conference focused on the “Tectonics of Teaching.”

We were fortunate to have Ed Allen in attendance, who shared insights and experiences. With 60 attendees and parallel sessions, discussions were lively. Keynote speakers Jonathan Ochsendorf took us through the amazing vault work of Guastavino, while Eric Hines shared detailed information on his engineering work.

It was great to have lots of new members sharing fabulous papers. One of the breakout sessions at lunch provided an opportunity for mentoring junior faculty, organizing research strategies, and providing feedback. New this year was a panel discussion on research organized by Franca Trubiano (Penn). Research has been cited as one of the more difficult aspects of teaching responsibilities, so it was great to share ideas with panelists successful in varied research methods.



photo: Terri Boake

BTESers at Roger Williams University for BTES IV.

BTES has established an Emerging Faculty Award. This year’s recipient was Marci S. Uihlein, (Illinois at Urbana–Champaign). The jury thought her work inspiring and energetic. She demonstrates excellence in teaching across all “scales” from introduction of conceptual ideas to design and analysis of complex structural systems. Her teaching is marked by an exemplary devotion to the integration of technology and design, and her students’ design work demonstrates a high level of achievement in architectural technology.

• continued next page

## REVIEWS AND REPORTS [CONT.]

Proceedings were distributed at the conference. Others may obtain proceedings through the BTES web site soon. For more conference info see <[http://www.btesonline.org/Website/BTES2013\\_ConferenceHome.htm](http://www.btesonline.org/Website/BTES2013_ConferenceHome.htm)>.

—Terri Meyer Boake

### ICSA CONFERENCE, 24–26 JUL 2013, GUIMARÃES, PORTUGAL

Since a number of BTESErs had returned from the first ICSA conference on Structures and Architecture in 2010 raving so loudly, more of us decided to submit papers for the sequel. BTES also served as an academic sponsor for the event, and several of us participated in the Scientific Committee. There were close to 300 attendees at the conference at Minho University. The chair of the conference was Paulo J. S. Cruz, who had also organized the first conference.

The content of the conference was very rich. Most days were divided into 5 or 6 parallel tracks, each with a specific theme pertaining to structural design, teaching innovation, applications, case studies, or sustainability. The organizers used a high-tech video display to track the sessions, and presentations adhered to strict time limits to allow attendees to switch between rooms seamlessly. Each day had at least two keynote speakers. In spite of the very international flavor of attendees and venue, the language of the conference was English, much to the relief of BTESErs.

If you are interested in sharing research and teaching in the area of structures and architecture and want to meet colleagues from around the world, the dates for the third ICSA Conference are Jul 26–30, 2016! It will be held again at the University of Minho in Guimarães.

—Terri Meyer Boake

**Postscript: Terri's Rant.** A negative trend I've noticed in the larger conferences I've attended this year, ICSA included, is the disturbing incidence of absentee authors. With conferences moving towards a model of making proceedings available at the event and requiring paid registration in order to be included in the proceedings, authors seem to see the registration fee (~\$600) as a cheap way to get published. Given the sheer numbers, I suspect many missing presenters have not suffered a "personal loss or health issue," but have simply decided to save money and forego the flight and hotel. This absenteeism is antithetical and has a terrible effect on many of the paper sessions where presentations may be reduced from 6 to 2, undermining the energy in the room and insulting to the authors and participants who attend the event as an opportunity to share and discuss ideas. Although I greatly appreciate having the proceedings in hand at the event, it seems that we might need to return to a model that requires attendance to publish. Alternatively, virtual attendance, such as via Skype, might become a regular part of presentation methods. Thoughts? 🖐



BTESErs at ICSA 2013, left to right: Bob Dermody, Deborah Oakley, Terri Boake, Marci Uihlein, James Doerfler, and Kevin Dong.

## TABLE-TOP HELIODON AVAILABLE AT COST



photo: Norbert Lechner

To encourage faculty, students, and architects to use a heliodon on their design projects, I had a local cabinet maker construct 10 heliodons that I will sell at cost. A table-top heliodon, a reflector lamp, a clip-on lamp holder, a ribbon with marks for the months of the year, instructions, and sun dial charts are available for \$138. The average postage in the continental U.S. is \$22. Thus, the complete package costs \$160. Elsewhere, it will be \$138 plus postage.

The table-top heliodon is of very high quality, and 12" x 12" x 9" high when stored. If you would rather make your own table-top heliodon, construction drawings and directions are in Appendix I in my book, *Heating, Cooling, Lighting: Sustainable Design Methods for Architects*. The book also has sundials in Appendix E for any place on the planet.

All the time I am spending assembling and shipping the heliodons is my contribution to a more sustainable planet. If you would like a heliodon, send me a check for \$160 and your address printed on a separate sheet of paper. If you have any questions, don't hesitate to contact me at <[lechnnm@auburn.edu](mailto:lechnnm@auburn.edu)>. 🖐

—Norbert Lechner

## JOB OP

Oklahoma State invites applicants for a full-time, nine-month, tenure-track, Assistant Professor position beginning fall 2014. The successful candidate will teach design studios every semester and offer specialty courses in the areas of sustainable architecture (building systems and technology integration), digital fabrication, and/or computer applications as well as develop a creative and scholarly agenda in one of those areas of specialty. The school fosters a collegial atmosphere in which faculty team-teach all design studios, and its new state-of-the-art facility offers faculty and students many opportunities for growth and success in areas of both architecture

and architectural engineering. OSU is an Affirmative Action/Equal Opportunity/E-verify employer committed to diversity. Application requirements and a complete position description are posted at <<http://www.okstate.edu/arch-ceat>>. 🖐

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## INTERLOCK HOUSE VIDEOS

Funded by the Iowa NSF EPSCoR project, “Harnessing Energy in the Biosphere to Build Sustainable Energy Systems,” Ulrike Passe’s Building Science Research team designed and produced a new series of online videos to teach high school physics students about using the sun’s rays and wind to naturally heat and cool buildings.

Inspiration for the video project stemmed from an Iowa NSF EPSCoR-funded energy workshop for teachers in summer 2012, where Passe presented a webinar on the Interlock House and her research team’s work. Workshop participants asked if there were a video about the house. There wasn’t one. However, this question led Passe and her research team to start designing the online video series for anyone interested in the Interlock House at Honey Creek Resorts on Rathbun Lake, especially those who cannot make an actual visit.



photo: Iowa EPSCoR

Ulrike Passe’s team members Shan He and Suncica Josarovic guiding a tour of the Interlock House.

The video series is not about building your own solar panels, and it’s not about purchasing the latest, greatest heating and cooling equipment. It is about buildings and the way we build. It’s about your personally-built environment and how you interact with it. See <<http://io-waepscor.org/news/features/2013/energy-util-videos>>. 🖐

—Ulrike Passe

## INTRODUCING FLEXLAB

A NEW LBNL FACILITY FOR FIELD TESTING PERFORMANCE OF INTEGRATED BUILDING SYSTEMS

In the global effort to dramatically reduce the energy and carbon footprint of buildings, we are turning to a greater reliance on systems integration solutions and more complex interfaces among occupants, controls, and passive and active energy management strategies. Our tools are better, our AEC community is more experienced, and our technologies are improved, but the “gap” between design/performance expectations and the reality of measured data from occupied buildings is often uncomfortably large. Studies of building operations provide some answers, but it’s often difficult and expensive to monitor performance at a level of sufficient detail to help formulate improved solutions for the next building cycle.



image: Steve Selkowitz

LBNL is now completing FLEXLAB (Facility for Low Energy eXperiments in Buildings) to address this set of issues. Construction of the facility is supported by a competitive award from the U.S. DOE Building Technologies Office. FLEXLAB consists of a series of four dual-room, outdoor test beds, each fully reconfigurable in terms of envelope/façade, HVAC and controls, lighting and daylighting, and office interiors/plug loads. Two indoor facilities—an occupied lighting/plug load test bed and a virtual design studio—complement the outdoor facilities. Three of the outdoor test beds are one story (40' wide x 30' deep, with a removable interior dividing wall), and one is two stories high (two side-by-side 25' x 25' high-bay spaces with reconfigurable façades, skylights, etc.). The four test beds face south on the LBNL site, and one of the complete units can rotate 270 degrees to test orientation effects. All test beds are heavily instrumented, with an internet-based data acquisition system accessible remotely by collaborators and partners. The test beds can be operated in an “occupied” mode (with warm-blooded or virtual occupants) or “unoccupied” mode to address a wide range of occupant and building systems issues. The initial fit-out (envelope/lighting/HVAC) of the three one-story test beds will include three design vintages—a 1980s code-compliant solution, a 2010 code solution, and a net-zero solution.

FLEXLAB is a user facility, which means it can be used by collaborators with an interest in undertaking compelling building studies that address the challenges outlined above. Projects might range from collecting two weeks of quick mock-up data to a 24-month comprehensive R&D study. FLEXLAB is designed to deliver useful outcomes ranging from state-of-the-art engineering or technical data to manufacturers, researchers, academics, as well as providing pragmatic performance outcomes (e.g., energy, load shape, comfort, and occupant response) for utilities, building owners, and AEC professionals. Construction of the indoor spaces is complete, and the outdoor test beds will be completed by the end of 2013 with start-up in early 2014.

A 12-page overview and more background information is available at <<http://flexlab.lbl.gov>>. An internship program for students and a visiting faculty associate program are under development. Contact us for more information. 🖐

—Steve Selkowitz

## OPPORTUNITIES

### PERFORM DESIGN COMPETITION

Hammer & Hand, Pacific Northwest builders of high-performance homes and commercial buildings, are sponsoring a design competition for students and emerging professionals. The competition, called perFORM, is aimed at demonstrating that high performance and “high design” are inherently complementary. Individuals and teams are to design a single-family house for a family of four, for a site in Seattle that meets a specified energy performance target. Designers will be supplied a spreadsheet tool to estimate the design’s performance or alternative means of performance analysis will be permitted. The competition is open to students in NAAB- or CACB-accredited programs as well as architectural interns (in Intern Development Program) based in Washington, Oregon, Idaho, Montana, Alaska, or British Columbia. For more information, go to <http://hammerandhand.com/perFORM-design-competition>.

—Rob Peña

### ENVIRONMENT DESIGN GUIDE

The Australian Institute of Architects is calling for proposals for papers or design notes (3,000–5,000 words) on sustainable design-related matters for the *Environment Design Guide (EDG)*, an Australian on-line journal. Paper topics should be based on research and tailored (or easily customizable) for an audience of architects, designers, and other professionals involved with the built environment. If interested, submit a proposal outlining subject and scope, significance, and expected date of delivery to [edg@architecture.com.au](mailto:edg@architecture.com.au). The institute pays for published design notes.

—Noy Hildebrand

### NET-ZERO BUILT ENVIRONMENT WORKING GROUP

The first meeting of the iiSBE Net-Zero Built Environment Working Group at the 17th Rinker International Conference will be hosted by the University of Florida. Currently, the event is slated

• continued next column

for two days, Mar 6–7, 2014, but could grow to three days if interest is high. The theme of the conference and the working group meeting is, “Nature-Based Building Performance: Net-Zero Energy, Water, Carbon, and Waste.”

Contact us for more information via our web site <http://www.cce.ufl.edu/iisbe-net-zero/> or Facebook page <https://www.facebook.com/groups/179247212131950/>.

We’re looking forward to meeting everyone in March!

—Lantz Holtzower

### 2014 WINDSOR CONFERENCE

I hope a number of you are going to join in the 2014 Windsor Conference on the big issues about affordable and sustainable comfort. For lots of pictures of Katy Janda (and one of Walter Grondzik) see the new conference web site <http://windsorconference.com>. Visit and enjoy!

Submit your abstract for W2014 through the web site call for papers. 🖱

—Sue Roof

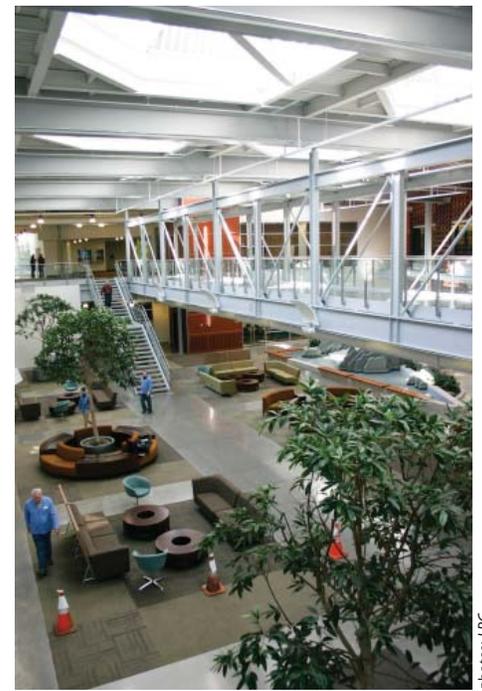
## LRC SKYLIGHT SCOOPS DAYLIGHT, SAVES ENERGY

The Lighting Research Center (LRC) at RPI has released a guide for designing light scoops—an innovative type of skylight designed by the LRC with funding from the New York State Energy Research and Development Authority. These light scoops provide optimal levels of daylight throughout the changing seasons and daily fluctuations in weather by capturing and strategically redirecting daylight into buildings. They provide less light in summer and more light in winter, accounting for the sun’s path. In overcast conditions, a light scoop receives light from the brightest part of the sky, the zenith. They are most appropriate for spaces where direct sun is desirable such as lobbies, cafeteria, and hallways. They also work very well in frequently cloudy and overcast locations such as Seattle, Portland, Detroit, and Buffalo. Using light scoops and controls, electric lights can be turned off or dimmed when adequate daylight is available, thus saving heating, cooling, and lighting energy as well as operating costs.



Not only does this new design save energy and operating costs, but it provides occupants with a more pleasant environment. Light scoops provide “patches of sun” where occupants can enjoy the health benefits of sunlight. In 2012, 14 light scoops were installed on an expansion of the Welch Allyn corporate headquarters in Skaneateles, NY. Several months later, 48 occupants completed a survey—almost 90 percent “like” or “strongly like” the patches of sun in the atrium, with responses such as, “sometimes I like to take a mental break, sitting in the sun,” and “it’s very relaxing.” More details of the Welch Allyn installation and case study can be found in the light scoops design guide available for free download from the LRC at [http://www.lrc.rpi.edu/researchAreas/pdf/LightScoopsDesignGuide\\_Final.pdf](http://www.lrc.rpi.edu/researchAreas/pdf/LightScoopsDesignGuide_Final.pdf). 🖱

—Rebekah Mullaney



The Welch Allyn LRC skylight scoops from above (left) and below (above).  
photos: LRC

BRUCE'S EXCUSED ABSENCE



photo: Tisha Egashira

Hey! I had really important stuff to prepare for in the UK, like networking with Grommit in Paddington Station.

ONE PLANET LIVING

Grow Community is a successful One Planet Living (OPL) neighborhood on Bainbridge Island, WA, just a 35-minute ferry ride from downtown Seattle. [BedZED translated to Washington's BIZED?-ed.] With beautifully designed solar-powered homes, shared community gardens, and healthy transportation options, Grow allows all generations to enjoy a high-quality lifestyle without the high price. Phase one is "sold out" and phase two is about to break ground. I think OPL criteria hits all the buttons (A+). The OPL Grow team had a really effective participatory design/planning process with the community. More info can be found at <http://growbainbridge.com/>. 🖐

—Tom Bartuska



photos: Tom Bartuska

Wendy McClure's Idaho students touring the Grow Community phase one.

SBSE CALENDAR

2013

- Oct 30–Nov 2 PLDC 2013/Copenhagen, Denmark
- Nov 3–7 ISES World Congress/Cancun, Mexico
- Dec 1–5 Buildings XII/Clearwater Beach, Florida, United States

2014

- Jan 22–24 International Conference on Sustainability/Split, Croatia
- Feb 12–15 ARCC/EAAE Conference/Honolulu, Hawai'i, United States
- Apr 10–13 Windsor Conference/Windsor, United Kingdom
- Oct 28–30 World SB14 Conference/Barcelona, Spain 🖐

WINTER ISSUE SUBMITTAL DEADLINE—DECEMBER 1



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G Z B & J R M A I L