

photo: Alison Kwok

SBSE officers' duties include the formal and informal. [left to right] Scholarship chair Walter Grondzik (BSU) and secy/treas Troy Peters (WIT) dine with ASES attendees Melissa Anderson (UO), Yingying Liu (UO), Jim Grady (NCSU), Heather Nelson (UO), Sophia Duluk (UO), and Alison Kwok (UO) [photog.] at Phillips' Crab Deck after the annual meeting.

SBSE ELECTION YEAR

Legend has it that Ed Arens and G. Z. "Charlie" Brown sat under an apple tree decades ago and invented gravity and SBSE. Both persist. Every two years you have the opportunity to add your personal gravity to the legend by running for office and/or voting for your candidates of choice.

To be eligible to run for office or to vote your membership must be current. Annual dues are due on the summer solstice [*We worship the sun, right Norbert?*]. Step one, go to <http://www.sbse.org/membership/> to renew your membership or to become a new voting member. Our list server seems to have more lurkers than members despite the fact that membership dues are a bargain—\$25 per year, \$15 for students, and free to those from emerging economies (see <http://www.sbse.org/membership/>). Only paying members have voting rights.

This year the offices of President-Elect and Secretary/Treasurer are open. Duties of these officers are described in the By-Laws posted at http://www.sbse.org/about_sbse/. Please consider nominating yourself or a qualified SBSE colleague to assume a leadership role. Forward your nomination(s) to President Ihab Elzeyadi <ihab@uoregon.edu>, Secretary/Treasurer Troy Peters <peterst2@wit.edu>, and Communications Chair Bruce Haglund <bhaglund@uidaho.edu> (all three!) as soon as possible but no later than August 15.

Candidates' statements will appear in September's *SBSE News*. The election will be conducted during October by electronic ballot. Newly elected officers will be announced and will assume their duties on November 1.

Pay your dues, nominate an SBSEer, and vote early and often. Oh, sorry, it's not Chicago, we'll count only your first ballot. 🗳

—Bruce Haglund

STAMP ISSUES

When will the Marc Mail 2-cent stamp be available at our post offices?

—Larry O. Degelman

Enjoyed the stamp immensely. I must be putting in my 2 cents wherever I go! Thanks for the smile.

—Marc Schiler

[*Walter Mail debuts with this issue. Nominate next issue's honoree! Note that EBN has also opted for all-digital production, but their stamps don't compare!—ed.*] 🗳

STAY TUNED!

The 2013 Retreat review will appear in the next issue. 🗳



photo: Alison Kwok

How did Gwynhwyfar Mhuireach supervise Mary Guzowski in a microbe exercise at Retreat 2013—all will be revealed in the fall *SBSE News*.

LETTERS TO THE EDITOR

I think we are the first (and only) school district in the nation to start the design process with passive solutions—designs that capture, store, and distribute free energy. Seattle School Board President Kay Smith–Blum’s Green Resolution passed the board vote 8 to 1. Along with Kay’s stewardship, architects Daniel Williams and Duncan Griffin from the Building Excellence Committee (BEX) presented the value of “passive design” as the initial step in designing and building green, sustainable schools. The resolution starts, “A RESOLUTION of the Board of Directors of Seattle School District No. 1, King County, Seattle, WA, to optimize public dollars by applying passive design and sound environmental standards in the construction and renovation of buildings and campuses ...” This resolution will lower the initial costs of school construction (a recent \$800 million bond passed) and reduce operating costs, not to mention create an architecture that knows where the sun comes up. Go figure.

—Daniel E. Williams

[HMMMMM! Fuelless in Seattle?—ed.]



We omitted mention in the spring *SBSE News* of an article by SBSEer Mary Ben Bonham, “Leading by example: new professionalism and the government client,” in *BR&P’s* New Professionalism issue. Apologies to Mary Ben. Her article explores the role of government agencies as key agents for positive change.

—Richard Lorch

[Mysincere apologies as well! I should have caught the omission.—ed.] 🖐

SBSE News is published quarterly by the Society of Building Science Educators, a not-for-profit corporation. Submit material for publication before the first of March, June, September, or December to Bruce Haglund, Editor; Department of Architecture; University of Idaho; Moscow, ID 83844-2451; tel 208.885.6781; fax 208.885.9428; e-mail <bhaglund@uidaho.edu>. Direct membership and mailing list inquiries to Troy Peters, Secretary–Treasurer; Wentworth Institute of Technology; College of Architecture, Design, and Construction Management; 550 Huntington AV; Boston, MA 02115; e-mail <peterst2@wit.edu>. To join our list server or to manage your account go to <<http://www.lists.uidaho.edu/mailman/list-info/sbse>>. For full membership info and more, visit our home page <<http://www.sbse.org>>.

OPINIONS

THE UNINTENTIONAL ENERGY UTOPIA

The ease of achieving NetZero design is too often an unintentional element in student work. These energy visions, unwittingly invoked, can dangerously reduce our sensitivity to the complexity in achieving NetZero buildings, communities, cities, and even cultures. Graduate-level projects regularly shy away from addressing how buildings consume energy and provide comfort, yet many still claim NetZero performance. We’re all too familiar with projects that sport iconic imagery of solar panels and fuzzy green façades. The mantra “Architects love glass!” is painfully apparent in soaring curtain walls, effusively applied without regard to orientation. Most students provide no evidence of any level of performance and can’t articulate an EUI goal that would put NetZero design within reasonable reach. Consequently, these students consistently produce undeveloped projects that can only exist in energy Utopias.

These projects could fully engage the theory of Utopia and use it as an exploratory instrument to bypass the torque required to overcome current politics, culture, and industry momentum. The conflation of these issues in the status quo consistently confounds our pursuit of a more resilient approach to energy in the built environment. Or students could fully engage high-performance design to provide glimpses of pathways to this Utopia. Though the theory of Utopia is rarely mentioned, these projects’ ideals are represented as realizable goals without critical thought on how to achieve such lofty aims. These projects reinforce a design process where NetZero ideals are the result of fiat, not through collaboration among multidisciplinary individuals who embrace a performance-based approach to building. The idea of making this level of design democratically ubiquitous—and a vehicle to change our culture—requires much richer engagement with energy performance from our students in every studio project. According to the Department of Energy, only ten proven NetZero commercial buildings exist in the United States.¹ NetZero design is extremely difficult and deserves more than an insensitive, cursory glance at performance.

• continued pg 7

AIA SUNSETS SUSTAINABLE DESIGN CE UNITS

Six years ago AIA was on a tear. It had new position statements on sustainability that acknowledged the role of the built environment in contributing to greenhouse gas emissions. AIA was among the first organizations to endorse the 2030 initiative and an encyclopedic resource describing 50 strategies for getting the U.S. to 50% energy reduction (AIA 50/50) appeared on their web site. In arguably the most significant act, AIA mandated that a percentage of Health, Safety, and Welfare CE units be devoted to Sustainable Design. This move guaranteed that all AIA members, and perhaps even all registered architects, would be exposed annually to the principles and practice of green building.

To many it seemed that AIA had turned a corner. After a decade of inactivity, during which the USGBC roared past the AIA on sustainability and market transformation, these moves, spearheaded by 2007 AIA President R. K. Stewart, demonstrated a change in course. Momentum from these events led to the AIA’s creation of the 2030 Commitment, whereby firms commit to tracking actual building performance in an attempt to meet the goals of the 2030 Initiative, and to sponsorship of the development of the International green Construction Code (IgCC), published in 2011 by the International Code Council.

So it came as a surprise to many that the requirement for SD CEUs was quietly retired late last year by the AIA Board. Was this change a signal of yet another shift in priorities? Board members deny it, asserting that the SD credits were always intended to be temporary. But the lack of communication to AIA members has left architects drawing their own conclusions. Have we learned everything that we need to know on the subject? Is sustainable design, like post-modernism, a passing fad? Or has the planet been cured of the threat of global climate change?

Sustainable Design isn’t a fad. It’s an evolving and multi-faceted field that’s likely to transform the built environment forever. Architects are in danger of becoming irrelevant if they ignore this likelihood. A groundswell of support from local AIA components for re-institution of SD CEUs could convince the board to revisit their decision. Whatever the reason for discontinuance, it was not in the best interests of the architectural profession [*nor our built environment!*—ed.]. There’s still time to correct this ill-advised act and restore AIA to a position of leadership on the most important issue of our time. 🖐

—Vernon Woodward

ANNUAL MEETING NOTES

[See complete Annual Meeting minutes on <<http://www.sbse.org/minutes/>>-ed.]

Welcome and President's Report (Ihab Elzeyadi): Passed around sign-in sheet, described SBSE as volunteer organization, encouraged membership support. 1,000 on the list serve: how do we encourage their SBSE membership? Round of introductions.

This year SBSE has dealt with how to increase membership, share resources, and conduct membership surveys.

Treasurer's Report (Troy Peters): December 31, 2012—\$17,382.16. This year SBSE operated at a loss which was accommodated by the budget's reserve. *SBSE News* will be digital-only, and Bruce donated the last print issue. Most of the income was from the PSACs (\$4,500 over the past 8 years for a total profit of \$30,000); membership dues (\$2,275 covered newsletter, mailing, Paypal charges from membership, retreat, and misc. expenses). Donations (Reynolds gave \$2,000 for ASES travel). Retreat expenses not known yet, but should balance. Overall, the treasury is in good shape.

Communications Committee (Ihab for Bruce Haglund): Newsletter is now digital with cost savings dedicated to scholarships. Web site kudos to Martha. List server enrollment is 957: Paid membership is about 80.

Resources Committee (Alison Kwok for Michael McGlynn): Alison reported on 3 committee teleconferences to discuss syllabi and web development. Looking for new ways of content management. Need to be more centralized for access to high resolution images [see p. 7.-ed.].

Scholarship Committee (Walter Grondzik): Details of scholarships awarded [see next column.-ed.]. About \$9,550 awarded this year with dedicated funds from the Pilkington Sun Angle Calculator revenue and donations from Laura Briggs, Bruce Haglund, Jonathan Knowles, and John Reynolds as well as the Cook Charitable Trust. Walter is proud of SBSE; we give out more scholarships than ASHRAE or AIA. Awards were announced at the meeting and recipients presented with checks. Walter will send books and certificates; Alison will take photos after the meeting. The Board has approved equally aggressive 2014 funding for scholarships.

Retreat Report 2013 (Ihab Elzeyadi/Juintow Lin): Retreat to take place in June at Mt. Baldy. Alfredo: Why doesn't the retreat get scheduled earlier (semester schools are out for a month and a half)? Retreat for 2014: solicited ideas and interest for the 2014 retreat. Ihab described split of tasks into planning for content and for logistics. Alison mentioned proposal with Meredith Sattler (LSU) on Adaptation and Resilience.

Discussion clips: Next year's Solar Conference is really up in the air: one board member said it would join with a PV show in Anaheim or as a reconstituted passive conference. John R: Need for convention center venue for trade show. Ihab: Should SBSE take over the role and organization? John R: David Panisch is on ASES board and member of SBSE and would likely support a move to a university locale. John R: ASES staff is a fraction of what it used to be; asking them to step up and organize a second conference is not likely. Jim G: ARCC? Alfredo: Link with regional ACSA or BTES?

Meeting adjourned 1:15 pm. 🖱

—Troy Peters

—Walter Grondzik



photo: Alison Kwok

SBSEers Alfredo Fernández-Gonzalez (UNLV), Karen Kensek (USC), and Yingying Liu (UO) enjoy, perhaps, the last supper at ASES.



photo: Alison Kwok

SBSE-ASES Travel Scholarship recipients Yue Liu (USC), Alicyn Henkhaus (USC), Sophia Duluk (UO), Heather Nelson (UO), and Lucas Witmer (Penn State) pose with scholarship donor John Reynolds (UO).

SBSE AWARDS UPDATE

SBSE-ASES Best Paper Awards for Solar 2013 student-driven technical papers. Best Paper Award (\$500 plus book and certificate) Tighe Lanning et al. (USC), "Designing for the Human Factor: Economizer Efficacy and the Consideration of the User." Honorable Mention (\$250 plus book and certificate) Sophia Duluk and Heather Nelson (Oregon), "Comparison of Solar Evaluation Tools: From Learning to Practice."

SBSE-ASES Travel Scholarship for participation in Solar 2013, Baltimore, MD (\$600 each). Mesude Bayracki (Penn State), "Using Avoided Cost Metrics to Communicate Present Value in PV Systems;" Alicyn Henkhaus (USC), "Solar Access Zoning + Building Information Modeling;" Tighe Lanning (USC), "Designing for the Human Factor: Economizer Efficacy and the Consideration of the User;" Yue Liu (USC), "Comparison of Five Window Shade Strategies;" Heather Nelson and Sophia Duluk (Oregon), "Comparison of Solar Evaluation Tools: From Learning to Practice;" and Lucas Witmer (Penn State), multiple papers, including "Retrocommissioning a Small Commercial Building to Achieve Net-Zero Energy."

SBSE Jeffrey Cook Charitable Trust Retreat Scholarships (\$1,300 each) to developing country faculty Islam Abohela, British University in Egypt, and Laura Isabel Rodriguez Martinez, University of Zulia (Venezuela), for 2013 SBSE Retreat participation.

SBSE Student Retreat Scholarships (\$580 each) to Melissa Anderson (Oregon), Ayesha Batool (Oregon), Halit Beyaztas (Oregon), Sophia Duluk (Oregon), Lauren Garvey (Oregon), Sara Tepfer (UC Berkeley).

SBSE-BESS Travel Scholarships for two students to BESS-SB13 (\$500 each, pending).

SBSE Jeffrey Cook Charitable Trust PLEA Munich Scholarships for three students' travel to PLEA 2013 (\$800 each, pending). 🖱

SBSE PEOPLE

☞ **Terri Meyer Boake** will be officially promoted to Professor of Architecture at Waterloo effective July 1. Meanwhile, she's just working away at writing her next book on diagrids.

☞ **Ulrike Passe** was awarded tenure and promotion to Associate Professor at Iowa State University. Her briefbio is at <<http://www.design.iastate.edu/news.php?ARTICLEID=562>>. "I would like to thank SBSE for its warm welcome to a fantastic community and for all their great support!"

🏠 There are four new centres of excellence in the UK, linking engineering and architecture teaching. **Fionn Stevenson** is co-directing the one at Sheffield see <<http://www.sheffield.ac.uk/architecture>>. "It's exciting to see the Royal Academy of Engineering reaching out across disciplines and great for UCL (Chris Wise), Heriot-Watt (Lynne Jack), Sheffield (Fionn Stevenson and John Davison), and Loughborough (Jackie Glass) Universities to be working together. It's nice to see so many women directors (60% of those named above) from Engineering and Architecture!"

✦ **Judy Theodorson's** creative scholarship, a conceptual poetic [*see excerpt below*] titled, *Light, Like Water*, took top honors for Design as Idea at the 2012 IDEC Conference. The project explores the analogous relationship between light and water by coalescing verbal, constructed, and visual vocabularies. 🐾

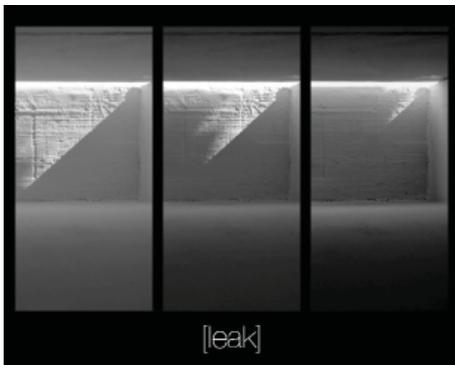


image: Judy Theodorson

A modest geometry of morning light lay on the floor, a small rhombus falling through the grate ... The geometrical shape began to leak light, became shifty, exited slithering up the walls.—K.Desai

The light's all leaking away. I wished the day stayed longer so it wouldn't be night.—E.Donoghue

TEACHING/RESEARCH REPORTS

CAL POLY POMONA



photo: Pablo LaRoche

Fourth-grade students looking at Ray Kappe's house under our heliodon. Norbert, you would have enjoyed it so much!

As part of the exhibit, "Technology and Environment: The Postwar House in Southern California," Pablo La Roche, Eera Babiwale, and Leina Naversen gave a workshop for elementary school kids from Pomona and from Claremont in the Cal Poly Pomona Kellogg Gallery on April 23. They learned about energy and climate change, built an aquifer, and ate food from solar cookers. The exhibit featured a 3-D representation of the illuminance level in the garden house (3pm on June 21) and a room-sized heliodon that we constructed with theater lights, fixed for summer and winter positions (9am, noon and 3pm), shining on Ray Kappe's house in Pacific Palisades. It was incredible to see the kids' faces when they understood the relationship of the sun with the model and how an overhang in the right position worked differently in the summer and in the winter. Nothing beats seeing those "aha" moments in real time. It was so much fun! Maybe we should focus more of our energy on teaching younger kids. [*Ditto!—ed.*]

—Pablo La Roche

UNIVERSITY OF IDAHO IDL (UI-IDL)

A Gateway to Energy Modeling Resources. This year UI-IDL revamped its Building Simulation Users Group (BSUG) program, transforming it from a passive lecture series into an aggregation of energy modeling knowledge. The initial goal of the project was to create an energy modeling community in Boise, ID, which was successfully established over five years ago. The new program, dubbed "BSUG 2.0," now actively strives to better serve and foster this community through drawing on the wisdom of its members and guest speakers to create resources on building simulation. Such resources include:

- a web site <<https://sites.google.com/site/idlbsug/modeling-resources>> to serve as a gateway to energy modeling resources
- calculation spreadsheets used to aid simulation inputs, outputs, and QAQC
- a building simulation protocols document that explores specification methodology and modeling protocols for baseline and advanced building specification
- a video archive of its presentations to capture knowledge and make it more widely accessible to a larger audience.

Finally, the group is in the process of conducting an assessment and statistical report of the market penetration of building simulation in local architecture and engineering firms. The UI-IDL will publish its report by the end of 2013. 🐾

—Jacob Dunn



image: IDL web site

INTERACTIVE RESOURCES

LIGHTING PATTERNS FOR HOMES



The Lighting Research Center (LRC) at Rensselaer Polytechnic Institute has launched the first interactive web site <<http://www.lrc.rpi.edu/patternbook/>> to help homeowners, contractors, and builders choose the appropriate light bulbs, fixtures, and controls to maximize energy savings, calculate lighting costs, and achieve lighting effects to meet a wide range of needs in their homes. *Lighting Patterns for Homes* helps homeowners and others navigate the increasing number of lighting options in today's marketplace, including light-emitting diodes (LEDs), and allows them to see how various options will actually look by viewing photo-realistic illustrations created by 3-D modeling software (above). The site includes an interactive economic calculator to determine how much money consumers can save with a new lighting design, along with initial costs, payback period, energy savings, and pollution reduction.

Lighting designs are provided for 36 of the most common single- and multi-family residential rooms and spaces, including living rooms, kitchens, dining rooms, home offices, bedrooms, basements, bathrooms, entries, hallways, and exteriors. The rooms are shown both with traditional lighting and with 134 improved lighting designs. These designs were created by the LRC's professional lighting designers, and the improved designs provide the same or better lighting quality than traditional lighting, almost all use less electricity, and many provide economic payback within several years. Despite having much information to offer through lighting designs and guidance, the web site is easy to navigate with a clean, visually-driven interface.

The authors of the new web site are Jeremy Snyder, LRC director of energy programs; Jennifer Brons, LRC research scientist; and Russ Leslie, LRC associate director and lead author of *The Lighting Pattern Book for Homes*, first published in 1993, the basis for the new web site.

—Rebekah Mullaney

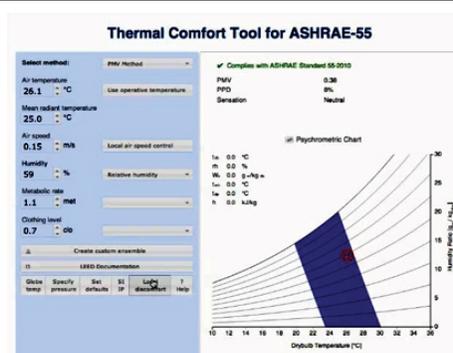
UPDATED WEB-BASED THERMAL COMFORT TOOL

The Center for the Built Environment has updated the web-based thermal comfort tool for ASHRAE 55, <<http://cbe.berkeley.edu/comforttool>>. This free, on-line application is useful for performing and visualizing ASHRAE Standard 55-2010 comfort calculations. It can be used for design, research, and teaching. Video tutorials are available both in the help and in the dedicated page on the CBE web site.

We welcome your feedback. We're looking for Visiting Scholars at any level, including graduate students (master's or doctoral), university faculties, and building industry professionals who are interested in further developing the tool or adapting it to different thermal comfort standards. For more info about our Visiting Scholar program, please read <<http://cbe.berkeley.edu/aboutus/visiting-scholars.htm>>.

The tool works in Safari, Chrome, Firefox, and Opera. Some features do not work in Internet Explorer. 🖱

—Stefano Schiavon



CAVIN FAMILY TRAVELING FELLOWSHIP

Lauren Folkerts, a 2010 graduate of the University of Oregon, was selected as the 2013 winner of the \$10,000 Cavin Family Traveling Fellowship. Lauren is currently working for Mosaic Architects in Boulder, CO. She'll study social housing in Europe this summer.

The jury appreciated her scheme first and foremost for its considerable sensitivity to the site. The plan resolution and the siting are very direct. The stone wall, which bisects the building lengthwise, effectively anchors the building to the site and unifies the spaces of the program. The curved geometry makes an enclosing backdrop for the activities on the south-facing public terrace. This scheme makes a place that feels both inevitable and authentic.



The jury was impressed with the graphic clarity of the presentation, but was ultimately persuaded by a poetic and compelling oral presentation that revealed a fundamental attitude toward building and the environment that fully resonated with the spirit and intent of the Cavin Fellowship.

The other three finalists were Jeremy Brunel, Zack Morgan, and Thomas Schmidt. Full info is at <http://www.cavin fellowship.org/?page_id=55&myPodYear=2013>. 🖱

—Brooks Cavin

JOB OP

UNIVERSITY OF MINNESOTA

Position Title: Center for Sustainable Building Research Director and Associate Professor/Professor, College of Design, University of Minnesota. See posting/online application <<http://employment.umn.edu/applicants/Central?quickFind=110540>>. 🖱

—Carrie Vigen

ARCC CONFERENCE REVIEW

This year's conference received 287 abstracts that went to 117 reviewers. Some 88 papers and 27 posters were presented in 30 paper sessions and an open poster exhibit. In summary, 6 countries and 29 states were represented.

The annual Haecker Award for lifetime achievement in architectural research was given to Lisa Hescong. Her acceptance lecture was a retrospective, focused primarily on daylighting and her ground-breaking work on the relation of daylight to learning in schools and to sales in retail facilities. The Hescong Mahoney Group has now joined with TRC to further expand their work.



photo: Leonard Bachman

Lisa Hescong delivering her acceptance lecture at ARCC.

The conference session themes this year were Construction, Culture, History, Pedagogy, Policy, Sustainability, Urbanism, and Open Submissions.

Proceedings of this and six previous ARCC and ARCC/EAAE conferences are available for free download from <http://www.arccweb.org> where contents are searchable. A select number of paper presenters were invited to submit a refined and further developed version of their papers to the *ARCC Enquiry Journal*.

Next year's conference will be held in Honolulu, HI. See the ARCC web page for details. A surprise announcement on the 2015 conference is forthcoming. 🖐

—Leonard Bachman

OREGON BEST GRANTS

These grants are part of \$1 million in Commercialization Grants that Oregon BEST has awarded during the past 18 months to speed mainstreaming the state's most promising clean technologies being developed by university researchers and private businesses.

BREWING RENEWABLE ELECTRICITY WHILE CLEANING WASTEWATER: OSU MICROBIAL FUEL CELL AT WIDMER BROTHERS BREWING

Waste2Watergy was launched by a pair of OSU researchers teaming with Widmer Brothers, one of Oregon's largest beer crafters, to test a microbial fuel cell that could help the brewery simultaneously clean its wastewater, generate electricity, and reduce the effluent sent for treatment. The project is an ideal fit for a state that is a mecca for craft brewers, promotes renewable energy use, and prides itself on clean water.

Brewing is a water-intensive industry, its wastewater contains an optimal mix of organic ingredients for the microbes in the W2W fuel cell, and costs Widmer a significant amount of money annually for the City of Portland to treat its wastewater. This technology uses electrodes impregnated with a proprietary combination of microbes that generate electricity when consuming organic matter suspended in wastewater. The process lowers the wastewater's biological oxygen demand (BOD) level which is often the basis for treatment charges. The grant will help Waste2Watergy install a small-scale, 1-cubic-meter fuel cell at Widmer's Portland brewery to treat about 1,000 gallons a day while generating electricity.

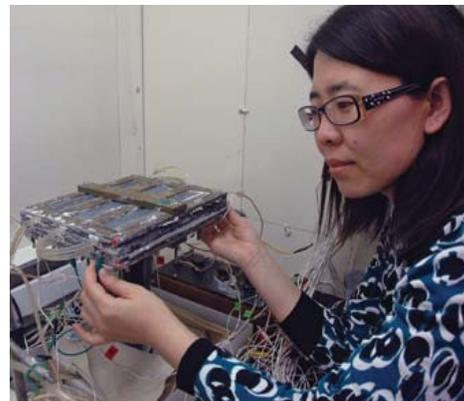


photo: Oregon BEST

SOLAR-ACTIVATED STORMWATER TREATMENT TECHNOLOGY

Puryalytics is an industry–university team developing a floating, solar-activated stormwater treatment device that can be deployed in retaining ponds or ditches along roadways and parking lots to keep contaminants from reaching streams. The technology could also be used to pre-treat stormwater, helping reduce overflow at municipal treatment facilities during severe weather events.

The funding will enable Puryalytics to work with faculty and students affiliated with OSU's Institute for Water and Watersheds (IWW) to evaluate the new system, establish key design parameters, and generate third-party test data. The OSU research team will construct artificial ponds or tanks where prototypes of the water treatment devices will be tested.

As environmental regulations tighten, city and state budgets shrink, and severe weather events increase stormwater runoff from buildings, parking lots, and elsewhere is a growing issue. Bioswales, semi-permeable surfaces, and self-cleaning coatings for buildings are large-scale, expensive engineering projects. Puryalytics' device is simple, small, and has promise for cleaning up trace chemical contaminants. The technology has the potential to keep highway surface contaminants such as petrochemicals, copper, and other metals, as well as biological waste from entering nearby streams. And it could lead to decentralized treatment of stormwater, potentially diverting millions of gallons from water treatment facilities during high-water events. 🖐



photo: Oregon BEST

—Gregg Kleiner

OPINIONS [CONT. FROM P. 2]

Desensitization to the process of NetZero design obfuscates the tenuous balance between performance and aesthetics. It is all too common to encounter a profound lack of understanding of climate-responsive design and basic energy code requirements. External shading and orientation-specific strategies are typically absent from the building façade. Wide expanses of glazing are conceived from purely formal aspirations with little regard for climate, thermal or visual comfort, or energy consumption. Assembly drawings rarely address issues of moisture control, infiltration, or insulation value. Airflow pathways through the building are idealistic graphical arrows, rarely grounded in physics and climate data. Students commonly fill out LEED checklists and select 50% better than ASHRAE 90.1 energy code (worth 15 points!) without knowing what it takes to get there. That such fundamental problems can exist in graduate work proves the need to retool our pedagogical approach to performance and design.

As educators we can effectively teach students the relationship between performance and design in innovative ways with a tool that is rapidly evolving and gaining renewed interest in both academia and the profession—building performance simulation. Simulation provides the opportunity to understand performance and aesthetics simultaneously through an iterative approach applied throughout the design process, from conceptual massing to radiant systems exploration. Simulations can empower designers to achieve synergistic balance between inevitable conflicts between architectural ambition and energy concerns. This constant interpretation of data can start to foster an embodied knowledge of the dichotomy that reaches far beyond typical rules of thumb, which usually never make it out of the typical ECS class. Comprehensive simulation is paramount to the success of NetZero projects in the profession, which warrants its larger role in architectural curricula and NAAB accreditation requirements.² The energy Utopia has a critical role to play in conceptualizing alternative realities that spark our imaginations and inspire our work. If we hope to realize some form of the energy Utopia and make it relevant to architecture, we must overcome the desensitization to energy issues caused by its unintentional creation. Embracing performance simulation in architectural education is only one of many solutions. Something, anything, everything must be done to ensure that NetZero is not merely confined to a utopian realm; it is too important for our future. 🖐

¹ “Zero Energy Buildings.” U.S. Department of Energy—Energy Efficiency and Renewable Energy, last modified June 28, 2008, <<http://zeb.buildinggreen.com/>>.

² Torcellini, Paul, “Zero and Net Zero Energy Buildings + Homes,” *Building Design + Construction Supplement*, (March 2011): WP4-61, <http://twg.com/downloads/NetZeroWhitePaper_BDC.pdf>.

—Jacob Dunn and Kevin Van Den Wymelenberg

SBSE EDUCATIONAL RESOURCES COMMITTEE

The ERC is working to develop a digital file repository to facilitate information sharing using these criteria to determine the appropriate content management platform:

1. Cost (preferably open source): Definitely feasible, there are some 100+ open-source content management solutions available.
2. A single repository or portal: Lowers the number of solutions to a couple dozen.
- 3). Allow curatorial functionality by SBSE members and the ERC: Needs to be better-defined so solutions can be evaluated, or alternatively, applicable solutions should be categorized by curatorial requirements.
4. Scalability: Some guidance on possible active user numbers and access requirements (100 or 10k?) is required (need for file repository or also chat functionality?).
5. Minimal maintenance and management (see 1): Is shared maintenance possible?
6. Does not duplicate existing systems (Could link to Flickr/Picasa account etc.): Could be a challenge if we are talking about embedding and not just simple web links (e.g., in terms of security and cross-scripting).
7. Short learning curve: Subjective—some will get it intuitively, and some won't.
8. Copyright and ownership sensitivity: Can be covered by restricted access and acceptance of “terms and conditions.” A generic agreement would be most desirable.

Once a suitable content management platform has been identified, the ERC will initiate a pilot project to test the viability of the platform. 🖐

—Sam Jensen Augustine, Alison Kwok, Michael McGlynn, and Georg Reichard

STUFF FOR YOU

NEW VERSION OF AECOSIM ENERGY SIMULATOR RELEASED

New features include:

- Conceptual design modeling
- ASHRAE Standards 90.1–2010 and 62.1–2010 requirements and data
- HVAC manager with graphic HVAC components
- 31 preconfigured HVAC and SWH systems (16 graphic HVAC systems)
- 48 preconfigured HVAC components (chiller, boiler, fan, pump, coil, and more).

To see AECOSim Energy Simulator in action, visit <<http://www.youtube.com/user/EnergySimulator>>. We'll be updating and expanding the number of videos to cover the new version in the near future. More information is available at <<http://www.bentley.com/en-US/Products/AECOSim+Energy+Simulator/>>.

Bentley has a program with many universities that gives faculty and students free access to Bentley software, including AECOSim Energy Simulator <<http://www.bentley.com/en-US/Engineering+Architecture+Construction+Software+Resources/Academic+Educators+Students/>>. If you don't know whether your university participates, e-mail <becareers@bentley.com>.

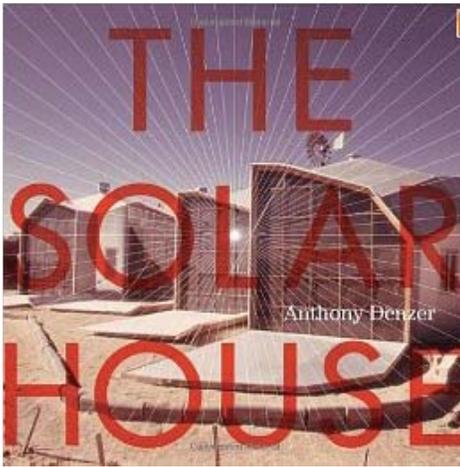
If you're interested in a demonstration of the new features in AECOSim Energy Simulator SS3, a copy of the workshop tutorials, or a 30-day free trial, contact <Dru.Crawley@bentley.com>. 🖐

—Dru Crawley

NOT FOR YOU

Check out this excellent list of “predatory publishers” <<http://scholarlyoa.com/2012/12/06/bealls-list-of-predatory-publishers-2013/>>. I am getting lots of invitations from online journals to submit papers and expect you are as well. Most of them are frauds and will charge you huge sums to publish papers. Check out their editorial boards and actual published issues to-date. They may say their service is free, but it usually is not. If the offer is too good to be true, it likely is! 🖐

—Terri Meyer Boake



cover: Rizzoli

My new book, *The Solar House: Pioneering Sustainable Design*, has been released. See <http://www.amazon.com/The-Solar-House-Pioneering-Sustainable/dp/0847840050/>. It's a history book, tracing the development of both passive and active technologies, focusing on the period before 1973. I've also created a web site with more content <http://solar-househistory.com/>.

Please share liberally! 🙌

—Anthony Denzer

THE PATH FORWARD

BALL STATE GOING ZERO-CARBON

BSU has received the remaining \$33,000,000 support for completion of the campus-wide geothermal project. Our campus will no longer burn any coal by March 2014, if not earlier!

Currently two of the four main coal-fired boilers have been decommissioned. All 47 BSU buildings are cooled by the geothermal system, and 23 buildings were on line this past winter for heating. The remaining 24 will soon be connected for heating.

—Robert J. Koester



photo: Bob Koester

Interior of BSU's District Energy Station North. Not shown: It has a green roof!

OXFORD BROOKES ENCOURAGES ZERO-CARBON

We've organized a high-profile Oxford Institute for Sustainable Development summer seminar series with visionary speakers (<https://docs.google.com/a/brookes.ac.uk/viewer?url=http://architecture.brookes.ac.uk/media/resources/OISD-Summer2013-v5.pdf>). We've had two talks already, and everything is available for download. See <http://oisd.brookes.ac.uk/seminars/2013.html>.

Our Retrofit for the Future project (<http://architecture.brookes.ac.uk/news/items/150413-oisd-retrofit-homes.html>) achieved 80% CO₂ reductions in reality and was profiled nationally (<https://docs.google.com/a/brookes.ac.uk/viewer?url=http://www.retrofitanalysis.org/retrofit-revealed-by-technology-strategy-board.pdf>). 🙌

—Rajat Gupta

SBSE CALENDAR

2013

- Jul 11-13 BTES 2013 Conference/Bristol, Rhode Island, United States
- Jul 15-16 BIM Futures 2013/USC School of Architecture, Los Angeles, California, United States
- Sep 10-12 PLEA Conference/Munich, Germany
- Oct 30-Nov 2 PLDC 2013/Copenhagen, Denmark
- Nov 3-7 ISES World Congress/Cancun, Mexico

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 🙌



SBSE NEWS
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FALL ISSUE SUBMITTAL DEADLINE—SEPTEMBER 1

TO: SBSE MEMBERS & FRIENDS
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