2010 Retreat in the Rear-View Mirror

Thirty participants from around the world gathered on May 14–16, 2010 at The Springs Preserve, Las Vegas, NV, to mark the 26th retreat for the Society of Building Science Educators. Theme organizers Cindy Urness and Mark Barnhouse (North Dakota State) and on-site logistics coordinators Alfredo Fernández-Gonzalez and Deborah Oakley (UNLV) provided venue and food for thought and body while orchestrating lively and interesting content over the two days. The event kicked-off on Friday evening with the traditional circle of introductions and teaching omiyage (pronounced OH-MEE-YAH-GEH, not OH-MEEJ) with offerings of syllabi and course materials on CDs, scratch-off testing sheets for instantaneous feedback to students, articles, presentations, an adaptive cooling tool (paper fan … it was 92°F in Las Vegas), DVD of the UNLV 2030 Challenge, Ethel M. chocolate, air flow tester (balloon), wine from Israel, pocket heliodon, and much more. SBSE welcomed two Jeff Cook Retreat Scholars—Nourredine Zemmouri, of the University of Biskra (Algeria) and Vanessa Gomez da Silva, University Campinas (Brasil)—and seven student scholarship participants (in addition to several avid self-funded students), Keith Bickford (Idaho), Daphna Drori (Technion), Jennifer Gill (Iowa State), Afzal Hossain (UNLV), Shamin Javed (Virginia Tech), Ted Shriro (Oregon), and Lauren Strang (Utah).

The water theme formed the basis for each presentation and we were delighted with facts, stories, case studies, design exercises, films, and invited lectures from colleagues. What better place for a backdrop to our discussions about the role that water plays in a state where it is illegal to capture water from the sky. Architect Jeff Roberts of Lucchesi Gallati described the design process for the Springs Preserve as stemming from a regenerative perspective, combining passive and active strategies. The 2,200 photovoltaic panels arrayed over parking comprise approximately 1 megawatt and provide 65–75% of the power on site, equal to creating enough power for 80 homes. The 12’ x 12’ cool tower area, functions as a pre-cooling system. All buildings are oriented on an east–west axis, have exterior shading devices, and use rammed earth and strawbale wall materials. Jeff says that one of the biggest barriers in to green building in Las Vegas, is that no one believes that it can be
LETTER TO THE EDITOR

Is there a way to set up our listserv subscription so we get only one e-mail a day with all the threads? If so, I’m guessing I’m not the only one who would opt for this! And I recommend you tell everyone about this option. Thanks for any info.

—Gail Brager, UC Berkeley

[Yes, there is! You can set up your account for “digest” subscription! If you can’t figure out how, I can help.—ed.]

As a first-time attendee of the annual retreat, I enjoyed every bit of the get-together. The informal nature of the event coupled with the easygoing SBSEers provided a lively setting for learning and sharing. Moreover, it was inspiring for me to meet peers, whose works I always have admired. The Springs Preserve venue was an excellent learning tool for desert living, and it well-complemented the topic of the retreat.

Ever since I first heard of SBSE, I have wanted to participate in one of the retreats. Now that I have enjoyed the experience, I look forward to continuing my participation in the coming years.

—Afzal Hossain, MArch student, UNLV

[I’m glad we could bring the retreat to your doorstep. It’s gratifying to hear that our efforts at providing scholarships to motivated students (and future educators) like you are well-received. We’re looking forward to continuing teaching/learning with you (and the other new members) at future SBSE events!—ed.]

2010 RETREAT IN THE REAR-VIEW MIRROR [cont.]

done in Las Vegas; and sure enough the cool towers were not in operation during the retreat even with 100-degree weather (we were told that it is a hassle for the facility managers to deal with them).

Minutes after viewing a sobering video, Blue Gold: World Water Wars (DVD, 2009, 90 minutes), invited speaker Robert Glennon, Morris K. Udall Professor of Law and Public Policy at the University of Arizona, provided more crisis facts and in his lecture, “Unquenchable: America’s Water Crisis and What to Do about It” (also the title of his recent book). Numerous stories gleaned from research into hydrological cycles, city planning policies (or lack of), recent books (see list below), and personal observations have shown that people are moving from where the water is to where there isn’t enough; Lake Superior is 5 degrees warmer than it was 20 years ago; advertisements such as Kohler’s Power Shower or Glaceau’s Smart Water are deceiving the public; it takes 4 gallons of water to create 1 gallon of ethanol (not to mention the 2,500 gallons of water that it took to grow the corn); California wants to develop 100 billion gallons of ethanol which would take every drop of water currently diverted to California—these are just a few of the stories. A few solutions he describes are simply a menu: (1) desalination has its cautions. We end up with potable water but concentrated salts end up in the waste stream; (2) re-using and reclaiming water is taking hold in many states. The Grey Water Guerrillas in Oakland, CA is a collaborative group of educators, designers, builders, and artists who educate and empower people to build sustainable water culture and infrastructure; in Portland, OR grey water legislation (reuse of water for toilet flushing and irrigation) passed the House and Senate and was signed into law in June 2009; and in some locales tax incentives are given for double stub plumbing; and (3) conservation efforts. With some sarcasm, he tells the story of San Diego proclaiming “a new era” with reductions in watering gardens to 3 times a week. However, in some states it’s illegal to collect rainwater and it’s deemed to be stealing unless the rights to the watershed are owned (e.g. Nevada and evidently Utah, Washington, and until 2009 Colorado). Though he ended with optimism, I didn’t find the prognosis particularly uplifting. Perhaps there are more solutions in the following recommended resources:


And who can forget Mark Reisner’s Cadillac Desert, The American West and It’s Disappearing Water (Penguin, 1993).

How does all of this connect to teaching about water in design studio? Michael Garrison from University of Texas at Austin, presented his syllabus and process for a design studio taught in the Spring 2010 that directed students through a film: Food Inc. and series of readings (Julia Christiansen’s Big Box Reuse, Rem Koolhaas’ Harvard Design School Guide to Shopping, and Jack and Nancy Todd’s From Eco Cities to Living Machines) to increase awareness of food choices to reduce water use; conduct water analysis on the site, develop a series of retention ponds, and introduce the idea of eco-markets and food production. He has several slides of valuable facts and is willing to share his PowerPoint (beware it’s 185mb!)
Thank you to our organizers for a highly important retreat!
—Alison Kwok

—Terri Meyer Boake

A SCHOLARSHIP STUDENT’S PERSPECTIVE

I was honored to be among the participants of the SBSE Retreat. I came on a scholarship to give a presentation about my MSc research project “Design guidelines for water sensitive design in Israeli green architecture.” I was happy to take advantage of Alison Kwok’s offer to write down a few words about my participation in the retreat, because it presents me with a great opportunity to summarize it for myself and also say thanks to those who took part in organizing these three days full of new and enriching experiences.

The SBSE Retreat offered a wonderful professional learning opportunity. The presentations touched upon a variety of water-related subjects. It was particularly interesting for me to learn about water crisis policy in the U.S. as presented in the excellent lecture by Robert Glennon. Through other presentations, we had the opportunity to learn about the efforts being made to implement water-sensitive design principles, in the academy and in practice. Architect Jeff Roberts exposed us to the various considerations which had to be taken into account during the sustainable design and construction processes of The Desert Living Center in Springs Preserve. We were fortunate to be introduced to the planner’s objectives on one hand and to have the chance to appreciate the results as users on the other hand.

I would like to mark Michael Garrison’s lecture “Food + Water = Architecture,” which was really interesting, and showed us the widespread influence of water on our lives—far beyond direct water use. Virtual water or water footprint is bigger than we can imagine, which brought us once again to the conclusion that a holistic design approach is needed, and was then demonstrated through the studio projects planned by Garrison’s students.

Having no prior experience of attending an SBSE Retreat, I did not know what to expect. [So, she brought wine as omiyage!—ed.] I met a group of highly professional people, interesting and at the same time amusing, great interlocutors—professors and students from the U.S. and other countries around the globe. The conversations I had with other participants covered a wide variety of issues from our academic career plans to different ways to combine research, teaching, and a sustainable environment in our professional and private lives.

I came back home to Israel feeling that the experience was beneficial and enjoyable and I’m definitely planning to attend next year’s SBSE Retreat. I’m thankful for the scholarship that was granted to me and enabled me to take full advantage of this wonderful opportunity.
—Daphna Drori

MORE FROM MAC

A couple of books by the late Malcolm Wells have been made available on Lulu.com by his wife, Karen North Wells.

Mr. Manners: a brief story, illustrated by Mac’s cartoons, humorously describing anecdotes of annoying habits and behaviors he encountered during his life.

<http://www.lulu.com/content/paperback-book/mr-manners/8653816>

Perspective: easy-to-understand illustrations and photographs of how to draw people, building exteriors, and building interiors in proper perspective. Every school and library should have a copy of this book!

<http://www.lulu.com/content/paperback-book/perspective/8653765>

Karen continues to keep his spirit alive where his other books are available, <http://www.malcolmwells.com>. And there are a number of obituaries about Mac (in no apparent order), including his own!
—Alison Kwok
**Reports from Academia**

**A SUNDIAL FOR SKETCHUP**

This illustration shows the base SketchUp model we used in the spring semester Energy class to study shading systems. The model is based on a house in Northern California belonging to the family of William Turnbull. We “transported” the house to the Dallas–Fort Worth area and modified it to respond to the Texas climate. Once shading requirements were determined, an image of a sundial with seasonal shading needs plotted was imported into the file, and the gnomon was constructed in SketchUp. This method is useful for studying solar access and the performance of shading devices when simulating and analyzing daily and seasonal sun paths in SketchUp.

—Truett James

**HORIZONTAL HYBRID SOLAR LIGHT PIPE**

Liliana Beltran and her TAMU team was one of the winners of this year’s EPA P3 Phase II awards ($75,000) to continue the development and implementation of their Horizontal Hybrid Solar Light Pipe, an Integrated System of Daylight and Electric Light, which will test the feasibility of an advanced energy-efficient perimeter lighting system that integrates daylighting, electric lighting (i.e. LEDs, HIDs), and intelligent lighting controls to offset the use of conventional light sources in the core of buildings, mainly during peak demand hours. The team believes that technology is currently available to produce a hybrid solar lighting system based on the efficient design of a horizontal light pipe and the intelligent use of materials. It will be possible to passively introduce adequate light levels to illuminate areas between 15 and 40 feet from the perimeter of the building. Preliminary evaluation of the light pipe has shown that it can provide high illuminance levels, 300–1,500 lux at the back of the space (15–30ft), for more than 7 hours (between 8:45am and 4:15pm) under clear skies. More information about the project can be found at <http://archone.tamu.edu/epap3>. Check the 360-degree view of the test room!

The Horizontal Hybrid Solar Light Pipe forms the ceiling of the unilaterally daylighted test cell.

This year EPA added a Green Public Forum during two days, where faculty had a chance to give presentations. It was a great experience for the whole team! Also it has been good to have SBSEers participating in EPA P3 competitions over the years: Bruce Haglund’s, Scott Johnson’s, and Pablo LaRoche’s teams going before mine.

—Liliana Beltran
Annual Meeting Notes

May 19, 201, Phoenix Convention Center, Room 201

[For full meeting minutes see <http://www.sbse.org>.—ed.]

In attendance: Al Olayan, Hamad; Attia, Shady; Baker, Lindsay; Black, Chris; Carbonnier, Eric; Dent, Stephen; Elzeyadi, Ihab; Essig, John R.; Felver, Katie; Fernández-Gonzalez, Alfredo; Grondzik, Walter; Kakoo, Drahim; Kirchhoff, Jason; Kwok, Alison; Lockyear, Brian; Milne, Murray; Overeby, Daniel; Pease, Allyson; Peters, Troy; Ravetto, Alicia; Reynolds, John; Schuler, Marc; Wadey, Jim; Wolfe, Paul.

Welcome (Terri Meyer-Boake standing in for Leonard Bachman): Pass around sign-in sheet, described SBSE as volunteer organization, encourage membership support.

Scholarships (Walter Grondzik): Approximately $9,000 awarded this year with dedicated funds from donations and the Pilkington Sun Angle Calculator sales. Walter is proud of SBSE as an organization; we give out more scholarships than ASHRAE or AIA. Everyone concurred.


• SBSE-ASES Travel Scholarship: ($500 each) Shady Attia (Louvian), David Bartley (Oregon), Christopher Black (Waterloo), Eric Valentin Issertes Carbonnier (Cal Poly Pomona), Katie Felver (Oregon), Carolyn Lafprade (Cal Poly Pomona), Allyson Pease (Oregon), and Lindsey Stuvick (Cal Poly Pomona).

We also awarded 7 SBSE Student Retreat Scholarships: $100 travel, plus retreat registration and 2 SBSE Cook Retreat Scholarships: $500, plus retreat registration. [See Retreat in the Rearview Mirror, p.1, for details.—ed.]

• Malcolm Wells Memorial Award: developed by Walter Grondzik, Bruce Haglund, John Reynolds, and Alison Kwok, seeking design work that exudes the greenness of Wells to celebrate his life and body of work. One submission this year that did not meet the criteria. Will activate again for next year.

Treasurer’s Report (Troy Peters): December 31, 2009, $31,010.84

Most of the income from the PSACs; then membership $2,235; donations (Moore, Reynolds, Tool Days) $5,000. Retreat had a positive balance of approximately $800: discussion about using the balance to take care of the PayPal percentage surcharge. Suggestion for future retreats to give a ‘discount’ to people who use a check and include a surcharge for the folks that use PayPal. Other uses: refund Erin Moore’s registration because of hardship/travel due to pregnancy. And/or put the money towards student scholarships.


Communications Committee (Bruce Haglund not present, boycotting Arizona): no report

Resources Committee (Michael McGlynn not present): Alison reported that we have had 3 teleconferences to discuss syllabi and web development. Recent informal discussions at the Retreat included the joint journal by BTES/SBSE Journal of Architecture, Technology and Education, an online digital publication. Some SBSEers are interested in working on it. Wiley might put up funds, though other publishers would be approached. SBSE would put together an editorial board and reviews with volunteer support.

Discussion: Several journals are active now (Energy and Buildings, Solar Journal, etc.). We should provide links to journals on the SBSE web site. Lots of journals to publish in right now. Desire by some to include education/pedagogy articles; problems mentioned about JAE. ASSE will continue to peer review papers for future conferences and to tap SBSE for reviewers.

Retreat for 2011: Twenty eight at this year’s retreat—usually 40–50 people. May is a problem for many schools. Discussion of decoupling the retreat from ASES events and holding it in the third week in June. Next year’s theme is education/teaching. Stephen Dent and Kuppu Iyengar from UNM will look into site logistics to host it at Los Poblanos (organic farming, environmentally committed, built in the 1940s, architect did many UNM buildings) agriculture complex near the Rio Grande, around 5,000 ft. above sea level.

Discussion: Informal discussion at the retreat about moving the SBSE Annual Meeting from the ASES conference to the retreat (Terri Boake).

• Walter Grondzik: it’s important and impressive that SBSE is on the cover of the ASSE program.

• John Reynolds: this move would make us more insular, concentrating power.

• Terri Boake: can still meet at ASES.

• Ihab Elzeyadi: doesn’t we need a vote of the membership to change the bylaws?

• Jim Wasley: can we have two meetings?

• Murray Milne: If Board wants to do that, must be done sustainably/financially.

• Troy Peters: easier for faculty to get funding if paper is delivered.

• Jim Wasley: don’t make it all or nothing. We need to reach out and create more interaction with federal government and funding agencies. Use our presence here to build connections.

• Murray Milne: If Board wants to do that, they must change bylaws. Suggest that the SBSE meeting could have special themes, e.g. ASSE has three: strategic development, finances, and ??.

—Troy Peters

Alfredo Fernández-Gonzalez gave a personal tour of the Springs Preserve to appreciative SBSEers.
After the forum, attendees enjoyed plentiful daylight and sun feedback.

and I would greatly appreciate your valuable comment of members of this distinguished forum design practice. I appreciate the encouragement where sustainability has not yet taken hold in hot humid climates. The web site attempts to fill a discourse void in the Middle East region, how design can address hot dry and focus on sustainable design in the Middle East and how design has been developing over the last few months. It focuses on sustainable design in the Middle East and how design can address hot dry and hot humid climates. The web site attempts to fill a discourse void in the Middle East region, where sustainability has not yet taken hold in design practice. I appreciate the encouragement of members of this distinguished forum and I would greatly appreciate your valuable feedback.

—Richard Lorch

COMPARE RESIDENTIAL ENERGY USE

The new Microsoft Hohm web site lets you model your home energy use and compare it to your average neighbors’ use. See <http://www.microsoft-hohm.com/>.

—Khaled Sallal

ENERGY MODELING SUMMIT

IBPSA–USA will hold SimBuild 2010, a national conference on building simulation, Aug 11–13, 2010 at New York University. It’s the fourth in a series of biennial conferences. Participants of SimBuild 2010 will learn how to improve the design and operation of buildings through advances in modeling and simulation of building performance. We believe SBSEers would be interested in learning about the conference. For details see <http://ibpsa.us/simbuild2010/>.

—Nora Sherman

MIDDLE EAST SUSTAINABILITY

Encouraged by a few members of SBSE, I invite you to visit a sustainable design advocacy web site <http://www.carboun.com> that I’ve been developing over the last few months. It focuses on sustainable design in the Middle East and how design can address hot dry and hot humid climates. The web site attempts to fill a discourse void in the Middle East region, where sustainability has not yet taken hold in design practice. I appreciate the encouragement of members of this distinguished forum and I would greatly appreciate your valuable feedback.

—Karim Elgendy

Daylighting Forum Review

Immediately following LightFair 2010 on May 14–15 about 90 daylighting experts and industry representatives gathered at the Springs Preserve Conference Center in Las Vegas, for Daylighting Forum 2010. Attendees included leading researchers from national laboratories, universities, and private companies, along with representatives from software companies, code development committees, professional organizations, manufacturers, and leading practitioners in daylighting. They discussed recent developments and necessary next steps to support the accelerated adoption of daylighting as an integral energy efficiency strategy to help meet the national goal of net-zero energy commercial buildings within the next decade. The event was hosted by Southern California Edison (with help from a number of other organizations) in support of the development of new daylighting codes, standards, and efficiency programs at both a state and national level.

The forum was organized into four sets of presentation panels, followed by lively group discussions. Each panel looked at a different aspect of development in daylighting research and practice. The presentation and discussion topics at these panels included an overview of progress made by the IES Daylighting Metrics Subcommittee (DMsC) in developing daylight performance metrics, codes, and standards; simulation of complex fenestration systems and dynamic blinds operation; and strategies for moving forward. The forum brought attention to the latest developments in complex fenestration simulation, which now makes it possible to quantify annual energy benefits from nuanced daylighting strategies. The attendees recognized a strong need to bring this research into common architectural practice through broader application in various simulation tools. Presentations on national and state daylighting codes and standards showed the progress being made in efforts to prescribe well-daylighted buildings, which point to the urgency of establishing consensus-based daylight metrics that can be universally referenced. There was also extensive discussion of human factors, such as visual comfort, understanding manual blinds use patterns, and aspects as essential as delight and the creation of quality spaces.

This meeting provided an unprecedented opportunity for industry-wide interaction and conversation. A wide variety of issues and perspectives related to daylighting were presented and discussed. It will be important to keep all perspectives involved as daylighting research and practice evolve. In order to maintain the momentum generated by the Forum, the organizers and attendees expressed the need to meet to further discuss these topics.

—David Douglass, Lisa Heschong, and Mudit Saxena

After the forum, attendees enjoyed plentiful daylight and sun light hiking Las Vegas’ Red Rock Canyon.
REPORTS FROM SBSE-LED WORKSHOPS

PHOENIX TOOL DAY
On May 22 Walter Grondzik, Alison Kwok, and Troy Peters conducted the tenth annual SBSE/ASES Tool Day at ASU’s Walter Cronkite School of Journalism and Mass Communications with the enthusiastic participation of three teams of performance investigators. Participants were introduced to the instruments by the facilitators and everyone was introduced to the building via a talk and tour by Howard Shugar of HDR Architecture. After the introductions the teams got busy hypothesizing, testing, and presenting their investigations of building performance issues. You can view all the teams’ presentations at <http://www.ca.uidaho.edu/sbse/PhoenixToolDay/PhoenixToolDay.htm>.
—Bruce Haglund

AIA ZERO-NET ENERGY CHARETTE
In a June 9 preconvention all-day workshop, Walter Grondzik, Bruce Haglund, Muscoe Martin, Margot McDonald, and Anna Maria Orru led nine teams of five architects in the second SBSE/AIA zero-net energy design charette. Each of the presenters gave a fifteen-minute introduction to various principles of low-energy and low-carbon design, then challenged the teams to develop a schematic design for a mid-rise integrated design office on an urban lot in an assigned climate—Atlanta, Los Angeles, Minneapolis, New York, or Portland.

Between the talks and the design process, teams engaged in a team building exercise—moving the furniture to transform the lecture hall set-up to an integrated design studio, where each team sits around the table to work out the solution. After about five hours of intense design work, including a working lunch, the teams had the opportunity to present their schematic designs to all in attendance.

We believe that the workshop was a great success. The teams were enthusiastically engaged in the process, developed camaraderie, and expressed gratitude after the presentations. It was a long day, but worth it! We’re following up with a resource info sheet for the participants and a short questionnaire aimed at finding out how valuable and transformative the charette was. We’ll also keep an eye on the AIA web site to see how they record the event. Stay tuned for next year in New Orleans? —Bruce Haglund

JOB OPS

DALHOUSETIE UNIVERSITY
The School of Architecture invites applications for a full-time, tenure-track Assistant Professor position in architectural design teaching, with an additional concentration in building technology, in one or more of the following areas: structural design, sustainable environmental systems, and/or building components. Applications must include: (1) statement of teaching and research orientation; (2) curriculum vitae; (3) portfolio of design work, teaching, and publications; and (4) at least three original letters of reference, sent under separate cover. The process will continue until the position is filled. Send application packages to: Chair, Search Committee 2010-1586; School of Architecture; Faculty of Architecture and Planning; Dalhousie University; P.O. Box 1000, 5410 Spring Garden Road; Halifax, Nova Scotia, Canada B3J 2X4. For more info about the School see <http://www.architecturaneplaning.dal.ca>. Direct general inquiries to Martha Barnstead, Admin Secretary to the Dean, by e-mail <martha.barnstead@dal.ca> or telephone 902.494.3210.

KIERANTIMBERLAKE
Our internationally recognized, Philadelphia-based architecture firm seeks a building performance specialist to join the KieranTimberlake Research Group, a trans-disciplinary team interrogating and advancing building design practices through material-, system-, process-, and environment-driven questions. See <http://www.kierantimberlake.com/contact/employment_1.html>.

LAWRENCE BERKELEY LABORATORY
LBL seeks a Senior Scientific Engineering Associate to work in our Environmental Energy Technologies Division on a full-time, one-year term appointment (with the possibility of renewal or conversion to career). As a part of the China Energy Group within our Energy Analysis Department (EAD), this person will plan, manage, provide technical support, and coordinate projects focused on building energy efficiency in China. Strong command of the Chinese language (Mandarin) is required. Apply directly at <http://www.jobclub.com/banman/a.aspx?ZoneID=0&BannerID=378&AdvertiserID=38&CampaignID=1411&Task=Click&SiteID=1&RandomNumber=958183> and submit a single attachment that includes both your CV and a statement of your research interests. Be sure to note where you found out about the position. —Bruce Haglund

Tool Day participants employed tools and technology to investigate the Cronkite School’s performance.

AIA Charette participants worked in the analog mode to design, draw, and present their zero net energy buildings.
Another SBSE Author

Joining the ranks of SBSEers who write books, Marian Keeler and Bill Burke have co-authored Fundamentals of Integrated Design for Sustainable Building (Wiley 2009).

Are Your Teaching Assistants Incredible?

These Oregon folks seized a comparative photo op at ASES 2010. From left to right: Alison Kwok, Paul Wolfe, David Bartley, Katie Fiver, Christopher Nelson, Krystan Menne, Hank Warneck, Allyson Pease, Sara Verna (not pictured Masaye Harrison, Caitlin Gilman, and Serina Adams).

Fall Issue Submittal Deadline—September 1

First Class Mail