SBSE NEWS

SBSE CALENDAR

2005
Apr 6–9 ARCC Research Conference; Jackson, MS
Apr 8–10 HOPES 11; Eugene, OR
May 12–13 Bldg. Science and Tech. Conf.; Ottawa
Jun 9–12 SBSE Retreat; Savannah, GA
Jun 25–29 ASHRAE Conference; Denver, CO
Aug 4–6 AoC Workshop; New Smyrna Beach, FL
Aug 7 Tool Day at FSEC; Cocoa, FL
Aug 8–12 Solar World Congress; Orlando, FL
Sep 15–17 Greening the Campus 6; Muncie, IN
Nov 13–16 PLEA Conference; Beirut, Lebanon

Waiting to meet Clint in St. Bonaventure Cemetery.

RETRIEVE 2005—STEAM-POWERED IN SAVANNAH

Join us in Savannah as we contemplate the relationship between beginning design education and environmental technology. Our premise is that change must be initiated at the beginning of our students’ education if we are to overcome the preconceptions and biases that pervade much of architectural education. Our concern for “ecological literacy” in architectural education continues to grow (we devoted a retreat to the subject in 2002). If we expect students to become “ecologically literate,” shouldn’t we make sure their early experiences include content aimed at that goal? Our focus on beginning design and environmental technology stems from a belief that ecological literacy must include an applied component. As David Orr points out in his book Ecological Literacy, “The study of environmental problems is an exercise in despair unless it is regarded as only a preface to the study, design, and implementation of solutions.”

We received more proposals for presentations related to this subject than we could accommodate in the retreat program. Those SBSEers selected will cover a wide range of approaches from conceptual frameworks to very specific projects. The presenters include “old hands,” experienced educators who will share their insights, and “young (-ish) Turks,” with new approaches. All presentations will serve to get our creative juices flowing so we can direct our collective wisdom toward generating new ideas to introduce environmental issues in exciting and innovative ways to students at the beginning of their professional education.

These ideas will take the form of project statements that we will generate in small groups. All retreat participants will be asked to bring a beginning design studio project (or other beginning design exercise) that is typical of their institutions and that they feel might be easily modified to include learning objectives related to environmental technology. Or, ideally, bring a colleague who teaches beginning design courses! Our goal is to generate a dozen or so appropriate beginning design studio projects (or other course exercises) that will be posted on

SEE HTTP://WWW.SBSE.ORG/RETREAT2005 FOR FULL RETREAT INFO
I’m giving away CAD construction drawings for building a conceptually clear heliodon of any size. I’m also giving away two images that were designed to be posters. All the above is on my new web site (<http://www.cadc.auburn.edu/sun-emulator>), but apparently history is cyclical. [Or cynical.—ed.]

I don’t know if you have seen this web site (<http://www.livejournal.com/users/athelind/163306.html>), but apparently history is cyclical. [Or cynical.—ed.] Sunlight reflected from the Walt Disney Concert Hall in downtown Los Angeles has “roasted the sidewalk” to 140°F, enough to melt plastic and cause serious sunburn to people standing on the street.”

[Generous to a fault. I’m hoping the CAD drawings are at least multi-lingual.—ed.]

A follow-up on the issue of moisture/mold problems or rumors at the Merrill Center (Chesapeake Bay Foundation)—a paper dealing with moisture intrusion problems at this building was presented at the recent Buildings IX Conference (Clearwater Beach, FL—DOE/ORNL/ASHRAE): The paper, by Daniel Lemieux and Paul Totten, “The Importance of Building Envelope Commissioning for Sustainable Structures,” does not use the words “mold” or “mildew,” but does mention uncontrolled rainwater penetration and that portions of the façade were beginning to deteriorate within a year of being constructed. It’s not appropriate to draw the conclusion that where there’s smoke there’s fire (where water, mold) given the POE results discussed in recent list server postings. The paper is well done and is recommended to those interested in this building and/or commissioning. An aspect of this building that has not received much press is the use of high-quality iconic images of the design intents for the project as public artwork in the building. Those who use and visit the building see the intent, understand it, and act or react accordingly. This intriguing concept is worthy of future consideration by designers. As with all designs, we’ll each have to judge this project holistically. But without a doubt, it is a poster child for the importance of post-occupancy evaluation. Much of the good and the bad would not be in the public realm and available for consideration on future projects if this project were simply evaluated on the basis of glossy pre-occupancy photos and press releases.

[This quarter’s notable list server thread began with an innocent question about natural ventilation and ended with dispelling a rumor and applauding clarity in design intent! See the whole train in the list archives. I marvel at SBSEers’ collective candor and wisdom.—ed.]

Adrian Leaman and I have found clarity of design intent a very important influence on occupant satisfaction and forgiveness as reported in self-completion questionnaires. Things that work best where one or more of these is present:

1. The intent is completely obvious, as with standard approaches found in traditional houses. Conversely, you lose occupant satisfaction and forgiveness big time if things don’t work very well and nobody knows or understands what they are supposed to do about it (or maybe there is nothing they can do). Diane Haigh at Cambridge had similar findings in her studies of 1970s schools: teachers became apprehensive and critical if they knew that the environment would sometimes hit their “crisis of discomfort,” and there was nothing they could do about it, not even take the class outside. So, we now include visibility of design intent as one of our “killer variables” for occupant satisfaction in buildings.

2. The designer had made the design intent ergonomically clear so that it informs the user about what they need to do, even if the solution is original (see Don Norman’s “The Design of Everyday Things” for more on this). Or, at worst, the user has to be told only once, and then it becomes obvious.

3. Things are explained properly to the users (maybe as at Chesapeake).

4. The users are designers. We have recently found unusually high occupant satisfaction levels by several design firms in their own newish offices, even when the actual occupants did not design them (somebody else in their firm did), were not consulted during design development, and monitoring showed that the buildings (and their innovative ventilation and cooling systems) weren’t working quite as well as had been intended—a surprise (and a relief) to the designers themselves, who had expected to be much criticised by their peers. Instead, it seems that because their colleagues understood how things were supposed to work, they felt more in control and less critical of any shortcomings.
BOOK REVIEW CORNER

365 IMPORTANT QUESTIONS TO ASK ABOUT GREEN BUILDINGS

Authors Alan Whitson and Jerry Yudelson (2003); publisher Corporate Realty, Design & Management Institute, Inc. <http://www.squarefootage.net>. The notion that designing good (read “green”) buildings is as much a process of issue seeking as it is a process of problem solving is nicely articulated in Bill Reed’s foreword to this green building primer aimed at both building owners and their designers. Bill suggests that good questions can re-frame a problem, revealing insights that may have otherwise been missed. Establishing a fresh context for a project can facilitate both good questions and active engagement in the process of design.

This 3-ring-bound resource guide is organized into three parts beginning with a primer, a collection of articles, cautionary tales that make the case for the value of designing and building green, and some pitfalls to avoid. Next come the “365 Questions” organized by the stages of design and construction from project definition to building occupancy and operations. Columns accompanying the questions identify each question’s relevance by Project Type (new or existing construction, and interiors) and by Category (site, water, energy, materials, human factors, and process). The third section is a green resource guide to books, magazines and newsletters, software, organizations, and initiatives at the state and municipal levels. Far from a checklist of the steps for making a green building, the message is that sustainability is a process that encompasses the entire length of the design, construction, commissioning, and operational life of the building. The resources section alone makes for a valuable reference. For the experienced green designer and builder the questions will be familiar, but in their asking or organization new approaches and solutions may be revealed. For the client or student, they suggest both the breadth and complexity of realizing a good building and may serve to facilitate communication among the players in the design and construction process. “An expert knows all the answers—if you ask the right questions.”

—Rob Peña

SBSE SCHOLARSHIPS

All the 2005 SBSE Award and Scholarship announcements are now posted on our web site—<http://www.sbse.org/awards/>. Please help spread the word to students and international faculty who may be interested. [Remember that these scholarships are available annually, so think ahead to next year and beyond as well as this year.—ed.]

1. The SBSE Student Retreat Scholarship—The application deadline is Monday, March 28. [Sorry, I was so slow on the red pen this year.—ed.]


3. SBSE Student Travel Scholarships to ASES. The application deadline is Friday, April 15.

4. The Jeffrey Cook Student Travel Award to PLEA—a $1,000 travel stipend for any student with an accepted paper at the Passive and Low Energy Architecture Conference in Beirut, Lebanon, in November. The PLEA paper submission date is long past, unfortunately. If you don’t have students attending, perhaps this will spur you to have them submit abstracts next year.

5. The Jeffrey Cook Memorial Scholarship—provides funds for a faculty from a developing country to attend the SBSE retreat in Savannah, GA. Application Deadline May 2, 2005. Please recruit interested and interesting faculty into the SBSE family!

Thanks once again to Fuller and Jane Moore, John Reynolds, the Jeffrey Cook Memorial Trust, and to the members of SBSE for making these opportunities possible!

—Jim Wasley

RETREAT 2005—STEAM-POWERED [CONT. FR. P.1]

the web site for anyone to use. We also hope to identify someone who would be interested in sharing our outcomes at next year’s Conference on the Beginning Design Student.

We’ve tried to allow for several opportunities for participants to explore the charms of historic old Savannah. We will be housed in Savannah College of Art and Design facilities located in the heart of the old city, with the retreat sessions located in another SCAD building just a short walk away. We can’t guarantee that you’ll run into Clint Eastwood in Bonaventure Cemetery, but who knows? Information on registration will be posted soon on the retreat web site <http://www.sbse.org/retreat2005>. The deadline for registration is April 18, 2005 (or until filled). Register early and often! (Sorry, I’m from Louisiana.) [My Chicago upbringing sympathizes!—ed.]

—Chin Chau

Logistics coordinator Charlie Brown taking care of business at the 2004 retreat.
SBSE PEOPLE

Leonard Bachman is on academic leave until September 2005, to focus on two writing projects: a book manuscript on Strategic Design (with Kurt Neubek, FAIA) and to serve as chapter editor for Element D (MEP) of Architectural Graphic Standards, 11th edition. Send thoughts, ideas, and spare inkjet cartridges to <LBachman@UH.edu>.

There’s a new NCARB Monograph, Building Envelope, by Randall Stout and Michael Garrison. “The envelope offers much more than shelter—it is unquestionably a signifier of our technology and our society. Our treatment of building envelopes conveys our collective priorities and aesthetic preferences.” Explore and learn the building envelope. No longer limited in design, the outer shell of a structure provides basic needs—shelter, external image, and interior perception of light and space—while offering technologically savvy functions. The Building Envelope online quiz is coming soon!

Judy Theodorson and her WSU–Spokane colleagues have been granted funding for the fifth Better Bricks daylighting lab. Check out <http://www.betterbricks.com/>.

NEW SBSE CD

The new Arup Image CD is now integrated into the SBSE web site, in the production stream, and available for purchase. [It’s the same CD I gave as omiyage to participants at Retreat 2004.–ed.]

Jeff brought the CD back to my desk, and I finally took some time to browse. What a wealth of useful material! More important, it is well annotated and easily browsed. A great addition to the collection!

ACADEMICS

A SOLAR WORKSHOP FOR COLLEGE STUDENTS

[This article is in the spirit of the 2005 Retreat as it focuses on a great project for beginning design and interdisciplinary courses.–ed.]

For many years I have taught energy classes at United States International College of Business at Alliant International University in San Diego and more recently sustainable operations and production courses (more focussed on industrial and commercial applications). To drive home the importance of solar design (orientation, shape, window placement, insulation, thermal mass, solar control, evaporation) on building performance, students form teams that design, build, and monitor a solar “home.” The assignment allows for a week of design time. Students then have an outdoor lab where they are given a 4’x8’ sheet of 1” or 2” foil-faced polyurethane foam insulation (depending on my budget for the year), small pieces of acrylic sheet and bubble pack for windows, caulk, tape, and sheet rock screws for assembly (these just push into the foam by hand and seal seams effectively). Big metal straightedges, razor knives, and a couple of serrated kitchen knives allow for relatively safe cutting. Students also use a foam caulk can to experience the permanence of polyurethane on their hands! Foil tape is available to finish the seams and tidy up the models.

In one lab session of 2–3 hours teams usually can finish their house. They then have to find solar north, review the site for solar access, and orient the model. They provide an operable door to place a HOBOTM temperature recorder inside. The models are monitored for a week or two (depending on the weather), and the data are downloaded and graphed. The teams then meet to discuss the results and develop a remodeling plan to improve performance. The house is monitored for another week or two, and then the students have to review the “lessons learned.”

Although the physical modeling at this size is imperfect (not as scalable as daylighting) the exercise is effective. Students enjoy designing, building, and naming a home. With our large international student presence we usually have very multinational design teams that adds to the fun. They always learn a great deal from the solar models they build. The natural tendency is to add too many windows (the solar oven trap many designers fell into in the 1970s). We always get some dramatic overheating in one or two models. They also learn that buildings can be dramatically improved with relatively simple changes. They are much more knowledgeable after this very simple exercise than they are after a number of lectures, quizzes, and videos. Hands on really helps! <dbainbridge@alliant.edu>.

Thermal models prove to be just as ugly as daylighting models, but the performance graph (below) is divine.

Solar model performance, AU

—David Bainbridge

—Bob Koester

The Eden Project seen from above.
Agents of Change is pleased to announce its final FIPSE-funded training workshop. During August 4–6, 2005, your faculty–TA team can explore ways to integrate teaching environmental technology in your curriculum using the Vital Signs field-based, case-study methodology. You will learn this energizing and fun way to teach your students to critically assess the performance of actual buildings through a highly compressed exercise in discovering how well the award-winning buildings on the Atlantic Center for the Arts (ACA) campus in New Smyrna Beach (FL) meet their designers’ intentions.

To maximize your access to the latest and greatest handheld data acquisition equipment, encourage full participation, provide effective training, and increase your networking opportunities enrollment will be limited to 20. Teams from schools without prior AoC experience will be given priority. Non-U.S. applicants will be considered and are welcome to attend the workshop at their own expense if space is available (sorry, FIPSE restricts our funding to support only teams from U.S. schools).

AoC provides double-occupancy housing, two team-building dinners, and workshop materials. Your out-of-pocket costs cover transportation to and from the workshop site, incidentals, breakfasts and lunches at ACA (~$35); your time to complete the application; and your commitment to full participation at the workshop, agreement to implement the case-study methodology in your classes, and dedication to fully participate in the project’s implementation evaluation study.


APPLY NOW! DON’T DELAY! The application due date is 19 April 2005. The workshop application is on the AoC web site <http://aoc.uoregon.edu/workshops/smyrnabeach2005.shtml>. For further information see <http://aoc.uoregon.edu>. E-mail or call: Project Investigator Alison Kwok <akwok@uoregon.edu> 541.346.2126. —Alison Kwok

PARTICIPANTS HAVE SAID:

“...In teaching design studio and ECS courses I find a missing link between theory of ECS and practice of architecture. This workshop addressed that missing link in a very effective way.—Emad Afifi

“I have had a hard time using case studies in required, large lecture courses. After the workshop, however, it would be great to do given the amount of learning and fun this short case study provided.” —Jim Wasley

ARSE/ SBSE STUDENT POSTER CONTEST

SBSE is sponsoring a contest focusing on architectural applications of solar and renewable energies, energy efficiency, and green design for the ASES/ISES Solar Congress in Orlando (FL) in August.

Poster presentations should address topics related to the integration of passive design strategies in buildings (heating, cooling, daylighting), the use of renewable resources in buildings (solar, PV, wind, geothermal, bio–mass, daylighting), energy efficiency through architectural design, and/or “green” practices for buildings (indoor air quality, resource conservation). We are interested in recognizing case studies, studio projects, and other student research, analysis, and/or design work that demonstrates the integration of these progressive building technologies and design and/or addresses building and building system performance.

This poster competition is open to students in any program (e.g., architecture, landscape architecture, engineering, construction, interior design, physics) as long as the focus of the work is applied rather than theoretical and relates to building design, construction, and/or performance.

1st place—ASES membership for one year + $300
2nd place—ASES membership for one year + $200
3rd place—ASES membership for one year + $100

Contestants studying in programs of architecture will also receive free SBSE membership for one year. For specific requirements and submittal instructions please go to the ASES web site <http://www.ases.org>.
AIA COMMITTEE ON THE ENVIRONMENT (COTE)

Inspired by David Orr who wrote, “All education is environmental education,” and other influential thinkers and educators, the Ecological Literacy in Architecture Education (ELAE) project was originated by national COTE officers Dan Williams and Mark Rylander. A 2004 grant from the Tides Foundation funds their effort to research and document best practices that are fostering ecological literacy in architectural education.

A selection team including members of the COTE Advisory Group (Rylander and Kira L. Gould) and volunteer educators and architects will review submitted programs that foster ecological literacy in three areas: environmental foundations in architecture, integrated systems design, and sustainable community design. Outstanding programs will be recognized and documented as case studies whose methods and approaches are replicable models and innovators in the field. The documentation will be anchored with “voices” of the change-makers.

A critical aspect of our report is the visioning component, and we need your help. We are trying to identify the areas where change is most needed in education and research. To that end, we ask you to think about these issues, and let us know about your experiences.

You SBSEeers are in the trenches. What do you think needs to change in order for us to move towards true ecological literacy in architecture education?

- There is still separation between the quantitative and qualitative in design schools. What tools and strategies can we develop to address this gap?
- Sustainable design issues frequently do not find their way into design studios. What are the barriers, and how can we dismantle them?
- Design theory often does not include environmental theory. Is this oversight being addressed substantively?
- Gaps remain between the needs of firms and what education is delivering. How can sustainable design help solve this problem rather than exacerbate it?
- There’s a schism between industry product development and education. Where can sustainable design make links?
- What effect have critical land use–transportation issues had on education?
- Work in the sustainable design arena can be a barrier to tenure for some educators. How can this problem be addressed?
- Ecological literacy is not reaching other disciplines such as business. Where are the opportunities to push this outreach?

To share your comments please contact me <kira.gould@gouldevans.com>, 617.867.0032.

—Kira Gould

LETTERS [cont.]

[Hey, don’t you teach students to learn from precedents? I do. Maybe we’re all culpable.—ed.]

Fuller and I are preparing for London, and I have to send you a card worthy of all your advisement! Thank you so much for your detailed highlights: we plan to use your suggestions to the best we’re able. I especially haven’t thanked you for running my photo in SBSE News: I know that now I have made it to the big time! Just remember, a rematch in Savannah!! (I’ll bring my own ball!) Even with your eventual hoops defeat, I hope you will still welcome us in Savannah.

—Jane Moore

[Jane forgets that she’s a former SBSE News cover girl. I’ll toast her in Savannah, even with her ball!—ed.]

ECOLOGICAL LITERACY IN ARCHITECTURAL ED

TOOL DAY IN THE HOT, HOT FLORIDA SUN

The annual Tool Day will be offered as an official ASES/ISES Solar World Congress workshop on Sunday, August 7, at the Florida Solar Energy Center in Cocoa (near Cape Canaveral). FSEC occupies a highly-regarded green building, so Tool Day participants will be able to investigate some intriguing summer comfort issues. What works in August in Florida? See <http://www.fsec.ucf.edu/> for more about FSEC.

The workshop fee is $75, and includes an early morning bus ride from Orlando to Cocoa (about 45 minutes) and back at day’s end. Lunch isn’t included, but we’ll arrange for economical box lunches to order from a nearby deli to help fuel your working lunch. Register for Tool Day through the Solar World Congress site <http://www.swc2005.org/>.

—Walter Grondzik, Bruce Haglund, Alison Kwok

Ed.’s current favorite mag offers free subscriptions; see <http://www.eco-structure.com/>.
RESOURCES

SUBSCRIBE TO BUILDING AMERICA

We have a new web subscription service for the Building America Research Program. Keep up to date on our latest findings related to construction of healthy, sustainable, energy-efficient, green, and zero energy homes!


--Ron Anderson

JOURNAL DISCOUNT FOR SBSEERS

SBSE has endorsed Building Research & Information (BRI) <http://www.rbri.co.uk> based on many years of the journal’s excellence, relevance, depth, and interdisciplinary approach to buildings and the built environment. In return, BRI’s publisher, Taylor and Francis, extends a generous discount to SBSE members (US$99 instead of US$422) and asks in return that SBSE annually announce this fact to its members, distribute leaflets about the journal at annual meetings, as well as bringing highly relevant articles published in BRI to the attention of SBSEers on an informal basis. In addition, as editor I always welcome feedback on the content of the journal and suggestions for papers, special issues, and more.

--Richard Lorch

BUILDINGGREEN CONTINUES TO OFFER VALUABLE RESOURCES

BuildingGreen’s web resource, the BuildingGreen Suite, provides a full spectrum of reliable material on sustainable design. Professors and students can have access to hundreds of articles on green design issues, strategies, and practices. The suite also offers unbiased descriptions of over 1,800 green building products as well as in-depth information on 100 case studies of high performance buildings.

Gaining a strong reputation in the educational community, the suite offers professors background information for course preparation, facile curriculum resource for students, in addition to an opportunity to familiarize students with a resource widely used by professional designers, architects, and builders engaged in sustainable design and construction.

In the past year, ten university libraries, have signed up for campus-wide access. Professors, students and facility managers can log on easily through the school’s libraries at the Clackamas Community College, Cornell University, Dalhousie University, Emory University, New York School of Interior Design, University of Florida, University of Nevada—Las Vegas, University of Tennessee, and University of Virginia. Campus access costs $995/year. Interested? Call Jim Newman at 800.861.0954 x0 or <jim@BuildingGreen.com>.

If your library’s budget is tight, there is another way of gaining access to the BuildingGreen Suite for you and your students. When a professor requires suite access for a course, BuildingGreen offers semester access to the students for only $39/each. In addition, the professor gets free access for a full year and each student receives a free EBN Archive CD 7.0 (EBN back issues 1992–2002). Interested? Call Jerelyn Wilson at 800.861.0954 x102 or <jerelyn@BuildingGreen.com>.

Interested in checking out the BuildingGreen Suite? You can subscribe for a week’s access for only $12.95 by going to <http://www.BuildingGreen.com>. Or call Jerelyn and sweet talk her into free temporary access.

--Jerelyn Wilson

E-LIBRARY RESOURCES FROM THE PACIFIC ENERGY CENTER

SBSE members familiar with the education, training, and consultation programs at San Francisco’s Pacific Energy Center (PEC) also may be aware of the resources and information services provided by the Energy Resource Center library. For those unfamiliar with the PEC, it is a highly regarded energy-efficiency training center geared to training building design professionals in current and cutting edge building energy systems technologies and applications.

The Energy Resource Center library provides reference materials, research information, and support to the PEC staff and to building design professionals—architects, lighting designers, mechanical engineers, and energy consultants.

The on-site collection of books, conference proceedings, and journals is unique in its focus on energy-efficient technologies and design applications. During recent years, our collection has grown to include materials on green and sustainable design as well as renewable resources titles.

The library’s web catalog, the e-Library, now offers access to the bibliographic records of the collection as well as to a growing collection of edocs, electronic files of energy-efficiency and sustainable design related reports. New information is highlighted in the left sidebar under Additional Resources.

Special Titles, under the pulldown menu across the top of the page, are specific collections of reports or subject information. This section features the course handouts and resource lists from selected PEC classes. The Emerging Technologies collection features reports on the energy-efficient design of data center and a report on instantaneous (tankless) water heaters.

Although the full services of the PEC are restricted to California utility customers, the information and resources on its rich web site are available to all.

Got a minute? Take a look. Visit the library at 851 Howard Street in San Francisco. I’d be delighted to hear from you. E-mail <Msv6@pge.com>.

--Marlene Vogelsang

• continued next column
NEW ARRIVAL

Michael and Jada Garrison are proud to announce the birth of their new home. The 20-foot-wide, 100-foot-long house weighs 60 tons, is powered by a 3.6 kW PV system, and sports a 7,000 gallon cistern. The galvalum-clad house is finished on the interior with maple wood floors and beams reused from an old Texas basketball court. [I like that!—ed.] Mother and father are doing fine, and are now looking for native Texas xeriscape plants to help the house settle into its old inner city neighborhood.

—Mike Garrison

SUMMER ISSUE SUBMITTAL DEADLINE—JUNE 1

FIRST CLASS MAIL

SBSE NEWS
C/O BRUCE HAGLUND
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