

# Society of Building Science Educators SBSE NEWS

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## Spring 1998



photos: Alison Kwok

Santa Fe's urbane civility and ancient Chacoan civilization—what's in store for summer retreaters.

### SBSE Taos Retreat—Space Available

Dust off those hiking boots, fly fishing rod, and your best teaching tricks-of-the-trade; get yourself ready for the high country of northern New Mexico. The 1998 SBSE Retreat will take place at the Taos Ski Valley, an alpine village twenty miles from the town of Taos, New Mexico. The Inn at Snakedance will be our home for three nights and three days of touring, talking, and taking in the sites. In between sharing stories and lessons about mastering the art of teaching, plan to eat some green chile, climb a mountain, and explore some of the treasures along the enchanting high road to Taos.

The retreat will begin immediately following the annual ASES conference in Albuquerque. Vans will depart from the ASES conference hotel and the Albuquerque Airport at 10:00AM on Thursday, June 18. We'll begin our tour with a visit to the Georgia O'Keefe Museum in Santa Fe before taking lunch at the beautiful Rancho de Chimayo. We'll visit the Santuario de Chimayo, Ortega's weaving shop, with additional stops along the high road to Taos, arriving at Ski Valley early in the evening. Our retreat will begin with dinner at the Inn.

Following breakfast, Friday and Saturday morning sessions will be devoted to workshop presentations from colleagues. Six different workshops will be offered during the four time slots:

**Ed Allen—Footbridge Design.** Using only pencils, scales, rolling rulers, and Ed's elegant instructions, participants will design a suspension or concrete arch footbridge spanning 120 feet between abutments at different heights on either side of a canyon. [*Knowing Ed, we'll have them built by noon.—ed.*] This exercise, refined through application in numerous highly successful design studios across the country, provides a powerful and compelling vehicle for helping students understand and exploit the relationships between form and forces in structures.

**Bruce Haglund—Physical Acoustic Models.** Participants will construct and test simple models of acoustically interesting spaces using kit-of-parts cardboard and foil-faced assemblies. Bring your laser pointers so Bruce can show you visual tests for acoustic designs.

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### SBSE Calendar

#### 1998

- Mar 13–14 ACSA Technology Conference; Cleveland, OH
- Apr 14–18 ARCC Research Conference; Raleigh, NC
- Apr 15–18 Borah Symposium; Moscow, ID
- Jun 13–18 ASES Solar '98; Albuquerque, NM
- Jun 17 Annual Meeting; Albuquerque, NM (4 p.m., dinner follows?)
- Jun 18–21 Summer Retreat; Taos, NM
- Jul 7–12 Vital Signs Summer Training; San Francisco/Berkeley, CA

### Annual Meeting

The SBSE Annual Meeting is scheduled for Wednesday, June 17, 1998, from 4:00PM–5:30PM during the ASES Conference in Albuquerque, NM. There may be a "no-host" group dinner after the meeting for those interested in prolonging the camaraderie. ■

—Margot McDonald

### Dues Due

Send your \$25 u.s. to Terri Meyer Boake. Or else.

—F r. Guido S arducci

## Letters to the Editor

Your latest *SBSE News* is one of the best ever, though not as rich as usual in the subtle Haglund humor. *Connector* surpasses your publication only in its total lack of selectivity. But I must confess that I find this lack refreshing in the uptight, peer-reviewed academic world. Having no permanent academic position, I can get away with this politically incorrect approach to unscholarly publication.

—E d Allen, Connector

*[I have a serious job that dulls my senses, but I thought my book review was hilarious. Not so? Also, I edit the heck out of submissions to SBSE News only because our contributors are so verbose (and grammatically incorrect). I do admire Connector, Ed.—ed.]*



Take note: the February *ACSA News* schedule for the Technology Conference lists the Panel Discussion on the Vital Signs Project with panelists Mike Utzinger, Jane Greenwood, and Alison QUARK. (I think she's a new physics professor at Cornell.) *[At least she's not the Anti-Quark.—ed.]*

—E ric Angevine, Oklahoma S tate

*[I can understand why ACSA got confused. According to The American Heritage Dictionary the term is derived from "Three quarks for Muster Mark!" a passage from a scurrilous 13-*

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## UCLA Critical? That's the Theory

Some of you may have heard the rumor that the Architectural Technology program at UCLA, which has long been involved in energy-conscious and ecological design, is facing extinction. Baruch Givoni, Murray Milne, and Dick Schoen, who have worked with, or even taught, many of us, have written computer programs, conducted research, and built buildings dealing with the issues close to our hearts. Now they have been told that their courses no longer will be offered, the program no longer will be advertised, and graduate students no longer will be admitted to their program. There is no intention of offering courses in sustainability, climate-responsive design, lighting, or computer simulation of buildings. Only one individual will be hired to replace all three of them plus the empty structures position. *[You may recall Murray's sincere effort to advertise the structures position via the SBSE list server.—ed.]*

The former School of Architecture and Urban Planning was split, and the Department of Architecture was placed in a new School of Art and Architecture, whose dean is a musicologist. He appointed Sylvia Lavin as Chair of the Architecture and Urban Design Department. She is an excellent historian and is interested in critical theory. Unfortunately, she does not wish to continue the specialization in sustainable design, in spite of the supportive student petition presented to her. Budgetary constraints have been cited as the reason, but this clearly is not true; these three faculty members switched to emeritus status (paid from the retirement fund) specifically to ease the cost to the school.

There are students all over the world who have benefited from the program. We have seen Murray disseminate free teaching tools to young faculty around the country. UCLA has been a participant in ASES conferences and energy competitions (winning many of them) for as long as there have been such things. They are our primary competition here at USC, and I still think it would be a tragedy if the program ceased to exist! *[Marc called for a letter-writing campaign to the Chancellor before the deciding meeting on February 27. Many SBSEers responded.—ed.]*

Please let Murray <milne@ucla.edu> know that you are outraged. He needs all the encouragement he can get. It's difficult to have worked in good faith, only to get the shaft because of another agenda. If we all agreed that critical theory is more important to the world than sustainable buildings, it would be a different matter. Teach critical theory if you like, but do not eliminate environmental issues.

—M arc S chiler

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*[The following letters to the UCLA Graduate Council typify the response from SBSEers and are followed by Murray's report of the showdown meeting.—ed.]*

The following comment is respectfully submitted in response to the possible cancellation of courses in architecture taught by Professors Emeriti Murray Milne, Baruch Givoni, and Richard Schoen. Each is internationally known for accomplishments in the topics of architecture, bioclimatic design, sustainable design, passive solar design, and computer-assisted energy design. They are responsible for building the reputation of the UCLA School of Architecture to world pre-eminence on these interrelated topics. Their individual publications and related research and teaching are without peer. The fact that they have worked together as colleagues at the UCLA School of Architecture has created its true distinction. I cannot think of another school in the world where such is the case so clearly and distinctly. This point is well known, and, I am sure, of no small concern. It is the loss of continuity and transition in these distinctive topic areas that prompts my commentary. Let me add a few points that may deserve your continued consideration in reviewing and approving future faculty and curriculum directions.

1. In a recent international survey, "Significant Innovations in Architecture," conducted on behalf of the Architectural Research Centers Consortium (ARCC), 75% of the responses from international experts cited examples related to computer-aided design, energy and environmental technologies, and passive solar design—the very topics taught by Milne, Givoni, and Schoen. The computer programs of Milne (Solar-5 and Climate Consultant) were specifically nominated among the

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## Conference Forecast

### ARCC Special Focus Session

The ARCC Special Focus Session, "The Impact of Architectural Research on Architectural Education," will be held at the upcoming ACSA Annual Meeting in Cleveland on Monday, March 16, 8:30–10:30AM. Moderated by Walter Grondzik, the session will include presentations by: Alison Kwok, Cornell—the perspective of a recent graduate student and new faculty member; John McRae, Mississippi State—the perspective of ACSA; Michael O'Brien, VPI—the perspective of a large, research-oriented program; and Jonathan Reich and Sandy Stannard, Idaho—the perspective of a small, teaching-oriented program. This session should prove to be interesting—perhaps the precursor to a larger and even more diverse symposium or workshop on the topic.

–Walter Grondzik

### ARCC Spring Research Conference

Among the 27 papers accepted for the April 14–17 ARCC Spring Research Conference were "The Visual Experience in Architectural Lighting Design," Mohamed Boubekri, Illinois; "How Might the Artistic and Scientific Aspects of the Architectural Curriculum Be Better Bridged?" Paul Clark, Virginia Tech; "Opportunities: The Development of a Design Methodology," Lucien Fontein, Carleton; "Architecture as a Resource for Science Education," Richard Kellogg, Arkansas; and "Research Inspired by Design: The Vital Signs Project," Alison Kwok, Cornell.

–Walter Grondzik

### Borah Symposium on Planetary Stewardship

This year's symposium features three architecture sessions and a keynote by Malcolm Wells. The sessions have a distinct SBSE flavor with Thursday, April 16 presentations by Rula Awaad–Rafferty on "Learning Firsthand;" Tom Bartuska and Bashir Kamizee, "Design Strategies for Kyoto;" Dale Brentrup, "Public School Building;" Candace Gossen, "Eco-Culture and Survival;" Joel Loveland, "Light of Paradox;" Wendy McClure and Fred Hurand, "Sustainable Templates;" Victor Olgyay, "Integrating Sustainable Design into Architectural Education;" Kurt Rathmann, "Resource-Efficient Building in Princeton, ID;" Jonathan Reich, "Poetic Engineering and Invention;" and Jim Wasley on "The Sublime Difficulty of Being Green."

–Bruce Haglund

## Conference Review

There was a small, but active, contingent of SBSEers at the ASHRAE Winter Meeting in San Francisco (Ed Arens, Gail Brager, Larry Degelman, Walter Grondzik, Richard Kelso, Alison Kwok, Moses Ling, Dave Scheatzle, and Hofu Wu).

The tour that Ed, Cris, and Gail gave of UC Berkeley's Building Science Lab inspired a morning-after buzz around the coffee and donuts about the quality of the facility and the work. What puzzled many of the visitors was that such a world-class lab was housed in an architectural program.

Another highlight was Larry Degelman's public session in which Art Rosenfeld (formerly of LBL, now at DOE) gave a detailed overview of the *Five-Lab Study*, a recent DOE-funded project that examines a host of carbon reduction strategies for the U.S.. It highlights the large part buildings can play in carbon reduction. In my ECS course the first lectures are on the "Big Picture" (i.e., how buildings impact planning and policy issues), and I'm always looking for good references on the subject. The *Five-Lab Study* is just that: Not only does it have the most up-to-date energy numbers, but also the global warming numbers (I've already started to make slides). The study is broken into three parts—buildings, industry, and transportation—and is very similar to SERI's famous "A New Prosperity" study of the early '80s. It can be downloaded from <http://EandE.lbl.gov/EE.html>; it's over 200 pages, however, the first three chapters (about 80 pages) are the important ones if you're only interested in buildings. Let me know if you also find this study of interest. ■

–Harvey Bryan

## SBSE People

🐼 **John Reynolds** has been named an ACSA Distinguished Professor and will be honored at the Annual Meeting awards luncheon in Cleveland on Monday, March 16. JR rocks! [*What next, King of France?—ed.*]

☆ Founding SBSEer, Associate Dean at Arizona State, and all-around nice guy, **Dave Scheatzle** has been elected to the AIA College of Fellows. [*Will FASHRAE be next?—ed.*]

🐼 **Veronica Soebarto** just accepted an offer from the University of Adelaide to teach a building science class for a year. She starts fall term this spring. [*Southern hemisphere, folks!—ed.*]

## Notes from The LRC

The Lighting Research Center at Rensselaer Polytechnic Institute in Troy, NY, recently facilitated a workshop on exit signs [*How exciting!—ed.*] hosted by Consolidated Edison and funded by the New York State Energy Research and Development Authority (NYSERDA). Representatives of 21 manufacturers participated. Discussion revolved around UL 924 and the revised exit sign requirements as well as the EPA DOE Energy Star program specifications for exit signs.

At a roundtable convened by the LRC and Lawrence Berkeley National Labs and hosted by NEMA, representatives from lighting controls and related industries worked to gain consensus on future lighting controls research, demonstration, education, and market transformation activities. Roundtable participants identified current strengths and deficiencies in lighting control technologies, applications, and commissioning procedures.

The first Landscape Lighting Institute held at the LRC brought rave reviews. Even the LRC graduate students—who participated by opening hundreds of boxes of lighting equipment donations, sorting many lamps and luminaires, and untangling miles of wire—were very enthusiastic and felt the institute had been very valuable. The final project was lighting the landscape at the home of the President of Rensselaer Polytechnic Institute. Teams, assigned specific areas of the yard, made final presentations to the President and his wife. ■

–Kevin Heslin

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## Letters to the Editor [cont.]

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line poem in James Joyce's *Finnegans Wake*. The poem and the accompanying prose are packed with names of birds and words suggestive of birds. Thus, Joyce uses the word "quark," meaning "to caw, croak," similar to the dialectal verb "quawk" (Kwok?!?!), meaning "to caw, screech like a bird." Don't mix Alison, Joyce, and subatomic physics!—ed.]



I just read the latest issue of *SBSE News* before I received it thanks to the PDF on the new SBSE website. Really neat! Kudos to all involved.

—Cris Benton, California

[Actually, the *SBSE News* is posted on the old site, but the new site's connected to the old site's connected to the hambone's connected to the trombone's connected . . . —ed.]

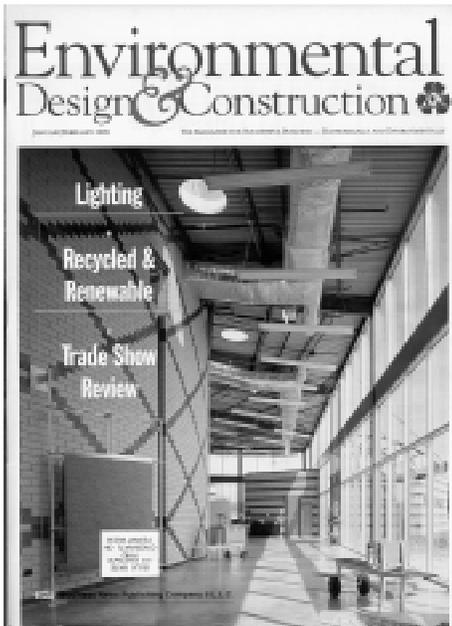
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## New Magazine

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Thank you for your offer to supply the mailing list of the Society of Building Science Educators to *Environmental Design & Construction* magazine. We are happy to offer your members an opportunity to receive our magazine for free. [I loved the first issue of the magazine, so I took the liberty of making it available to you all. I hope you won't be disappointed or disappointed.—ed.]

—John Sailer



premier issue cover

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## Vital Signs Update

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### 1998 Vital Signs Training Session

This year's training, co-sponsored by ACSA, is planned for July 7–12. As in the past, activities will be based in the Bay Area, but with a day-long [long day!—ed.] field trip for hands-on building performance evaluation at the Real Goods Solar Living Center in Hopland, California. This building and its site were designed to provide a high-quality environment while minimizing their environmental impact.

The training will include a session to increase your familiarity with the use of measurement equipment, especially Vital Signs toolkit instruments. Then, before the Real Goods visit, members of the project design team will describe their work and sustainable design strategies. Working with experienced team leaders, training session participants will then plan investigations of different aspects of performance, which they'll carry out on-site the next day. Team leaders and their topic areas will include Walter Grondzik (site planning, HVAC systems), Alison Kwok (thermal comfort), Tang Lee (indoor air quality), Marietta Millet (lighting), and Mike Utzinger (energy flows in and out of the building). If you weren't mailed an announcement and application, check the Vital Signs website <<http://www.ced.berkeley.edu/cedr/vs/>> for more information. An application can also be found in the April issue of *ACSA News*. **Applications are due by May 1 via mail, fax, or e-mail.**



Alison Kwok's students (yawn) investigate daylight in Audubon House.

photo: Walter Grondzik

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### Toolkit Loan Program

Vital Signs makes equipment kit loans for a year, semester, or quarter via Requests for Proposals issued annually. Your students can use these instruments to measure environmental conditions and evaluate the performance of different design strategies. Imagine lecturing about lighting or thermal comfort, and then asking your students to measure and evaluate these conditions in your own architecture building. If you are teaching studio, students could perform a quick evaluation of physical conditions in a building of the same type they are designing. Or an advanced seminar could perform a case study of an interesting building on or near your campus. Take advantage of this opportunity. **Proposals must be received no later than April 3, 1998.** We'll respond to all applicants via e-mail on April 17, 1998. If you didn't receive a copy of the Equipment Toolkit Request for Proposals, it's available at the Vital Signs website.

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### Vital Signs Student Competition

**Reminder:** The second Vital Signs Student Case Study Competition is currently underway. All entries require a faculty advisor, where SBSE members come into play. Please encourage your students to enter. And remember, we've established separate undergraduate and graduate categories this year. It's not too late to make a class assignment that students can develop into a case study competition entry. The competition is open to students from any ACSA architecture school or ABET architectural engineering school, and is made possible by the Educational Foundation of America. The competition program, which provides more information, is on the Vital Signs website. **Entries are due by June 15, 1998.**

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### Case Study/Teaching Support Grants

In January eight educators who have received Vital Signs Teaching Support Grants met in San Francisco with the Vital Signs staff and our guest advisor, Marietta Millet. After Marietta described

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## Vital Signs Update [continued from p.4]

some of her experiences with the pleasures and pitfalls of field investigation, the eight outlined their own planned studies. The meeting helped participants establish a realistic set of goals for student studies conducted within a time span of one semester or less. We can look forward to a number of interesting case studies on the website by next fall.

As part of this program, students are currently conducting field investigations of the Aronoff Center at the University of Cincinnati; Audubon House in NYC; the Logan House in Tampa; the Menil Gallery in Houston; the Robie House in Chicago; the Rotunda at the University of Virginia; and St. Ignatius Chapel in Seattle. With top notch educators like you SBSEers guiding student investigators, these studies can't miss! As these studies appear on the website, we'll let you know via the SBSE list server.

If you have questions about any Vital Signs activities, contact <[bburke@ced.berkeley.edu](mailto:bburke@ced.berkeley.edu)>. ■

—Bill Burke

## SBSE Taos Retreat [continued from p.1]

**Marietta Millet—Sketch Lighting Fixture.** Simply make 3 "sketches" of suspended lighting fixtures with distinctly different light qualities from scrounged materials, a 100-watt A-lamp, socket, cord, and plug, and then measure them photometrically. The dazzling display of twinkles and glows when they're all plugged in is full of discovery, delight, and useful lessons on electric lighting.

**G. Z. Brown—Energy Scheming in the Studio and Classroom.** Charlie and his team will show us ways that *Energy Scheming* is being used in classrooms at four different universities to inform design and reinforce conceptual understanding of energy use in buildings. Coursework developed by G. Z. Brown, Paul Clark, Mark DeKay, and Lance Levine and coordinated by the University of Oregon Energy Studies in Buildings Laboratory will demonstrate the use of this powerful design tool in our studios, seminars, and lecture courses.

**Cris Benton—Tricks of the Trade: Four Making-and-Doing Workshops.** Cris will describe his Architect's View of the Sun series at the Pacific Energy Center, a highly successful quartet of three-hour workshops for teaching solar geometry, solar radiation, shading devices, and horizon shading masks. He'll share the materials and techniques for these hands-on workshops that demonstrate in a clear and compelling manner how these concepts can be readily engaged in early design scheming.

**Michael Garrison—The Sound Building Studio.** Michael will describe the teaching process for an advanced course in which students apply learning from their three prior years and integrate issues of construction technology, environmental controls, form and experiential factors, sociological and humanistic design concerns, architectural theory and ideology, and site-building relationships into their studio projects.

On Friday afternoon Carrie Danielson, a drama teacher who teaches acting to non-actors, will conduct a workshop on the art of presentation. Saturday afternoon we'll tour some of the "Earthships" of Michael Reynolds in and around Taos. Thursday and Friday evening programs may feature Michael Reynolds and Anne Marshall, who has been studying the siting of Chacoan pueblos. Before, after, and in-between events there will be time to wander in the mountains, eat fresh-baked muffins, and soak up the New Mexico sunshine.

On Sunday, June 21, vans will depart for Albuquerque or an optional trip to Chaco Canyon via Taos Pueblo. Those going to Albuquerque will arrive mid-afternoon, while the Chaco group will return to Albuquerque the following day after a summer solstice campout under the stars.

So saddle-up (or buy that plane ticket) and get ready to hoot, holler, and tell stories and lies with your SBSE pals in the brilliant sunshine of New Mexico. ■

—Rob Peña

## Events

### Climate of Hope

*HOPES 1998 Eco Design Arts Conference*, sponsored by the students of the UO School of Architecture & Allied Arts and featuring James Wines, Sim Van der Ryn, and Sharon Sutton, **April 17–19, 1998**. For information e-mail <[hopes@laz.uoregon.edu](mailto:hopes@laz.uoregon.edu)> or check the website <<http://gladstone.uoregon.edu:80/~hopes/>>.

### Cold Climates

*Renewable Energy Technologies in Cold Climates '98*, sponsored by *e-design online*, will be held in Montreal, **May 4–6, 1998**. For information e-mail <[RETCCC.98@sympatico.ca](mailto:RETCCC.98@sympatico.ca)> or check the website <<http://www.newenergy.org/newenergy/sesci.html>>.

### Building Commissioning

*6th National Conference on Building Commissioning*, sponsored by the Solar Energy Society of Canada, will be held in Lake Buena Vista, FL, **May 18–20, 1998**. For information e-mail <[ncbc@peci.org](mailto:ncbc@peci.org)> or check the website <<http://www.peci.org>>.

### Hot and Humid Climates

The eleventh symposium on *Improving Building Systems in Hot and Humid Climates* will be held in Fort Worth, TX, **June 1–2, 1998**. For information contact Dawna Rosenkranz, 409–847–8950 or <[drosen@esl.tamu.edu](mailto:drosen@esl.tamu.edu)>.

### Luke-Warm Climates

The ACEEE Summer Study on Energy Efficiency in Buildings is scheduled for **August 23–28** at the Asilomar Conference Center in Pacific Grove, CA. For conference info e-mail <[ace3-conf@ccmail.pnl.gov](mailto:ace3-conf@ccmail.pnl.gov)> or check the website at <<http://aceee.org>>.

### Green Building Challenge

*Green Building Challenge '98* will be held in Vancouver, BC, **October 26–28, 1998**. For information contact Nils Larsson <[larsson@greenbuilding.ca](mailto:larsson@greenbuilding.ca)>.

### UIA Beijing 1999

The *XXth UIA Congress of World Architects* will be held in Beijing in **1999**. For info contact Treatise Group; Scientific Committee; the XXth UIA Congress Beijing '99; c/o Architectural Society of China; 9, Sanlihe Road, Beijing 100835, China; phone 0086–10–68393659; fax 0086–10–68393428. ■

## Job Opportunity

The Heschong Mahone Group, a nationally recognized consulting firm in Sacramento, CA, specializing in energy use in buildings, is seeking a mid-level employee interested in a career position in the energy consulting field. Master's degree preferred, with excellent writing, graphic, and communication skills, knowledgeable in data analysis and related PC-based computer applications. Starting salary range \$30–36K. Please send résumé to <info@h-m-g.com>.

More information on the Heschong Mahone Group, its projects, and staff is available on the web at <http://h-m-g.com>. ■

—L isa H eschong

## Ease up on the web

The EASE (Educating Architects for a Sustainable Environment) Project web site is now accessible at: <http://www.ease.bsu.edu>. It features dozens of recommendations and implementation strategies, as well as model curricula, for sustainably-oriented approaches to architectural education. Also included are numerous links to related areas and to the EASE Project participants themselves.

The site—designed for students, faculty, university administrators, environmental practitioners, and the public—can assist them in implementing change and in working toward healthier, more resilient, and regenerative environments.

The EASE Project calls for a re-evaluation of program content in U.S. architectural education to meet the demands of sustainable design principles, social equity, changing demographics, economic restructuring, available media and technologies, and restoring architects and environmental designers to leadership positions in the world community. For further information e-mail <mrosenman@bsu.edu>. ■

—M arvin R osenman

## UCLA Critical? [continued from p.2]

foremost innovations in architecture in the past fifteen years. Only one other School of Architecture (Plater–Zyberk at Miami) received the distinction of such a citation.

2. In the newly adopted National Architectural Accrediting Board (NAAB) criteria for student performance (effective 1998), 6 of 37 criteria (that is 18%) specifically relate to courses taught by Milne, Givoni, and Schoen.

I hope these comments are helpful in assessing the direction of your school's architectural curriculum. Discontinuing the course strengths established by Milne, Givoni, and Schoen risks the loss of hard-won distinction for your school in topic areas that, from both an international expert and NAAB perspectives, are critical to architectural education, practice, and innovation.

—D onald W atson

Marc, thank you for your UCLA alert. I'm particularly saddened by the news, because I was a visitor there two years ago. I observed first-hand the incredible commitment that Murray, Dick, and Baruch had to that program, far beyond what their emeritus status or contact required. The students were first-rate, much more engaging than those at several Ivy League institutions with which I've been associated. I can only reinforce your call for letters of support. However, the UCLA situation is not unique; there are a number of those in the critical theory community who have a real problem with technology. In response to this situation and the call in the Boyer Report for more program diversity, I would suggest that more of us serve on NAAB visitation teams. I was on one several years ago and couldn't believe the influence we had, particularly on university administrators. The February *ACSA News* has a call for NAAB nominations (due on March 2). In looking over the present list of ACSA nominees I see a number of critical theory types, but only 3 of the 55 names have any SBSE ties. LET'S TRY TO IMPROVE THIS NUMBER. As I recall UCLA should be up for accreditation soon.

—H arvey B ryan

I am writing in protest to the elimination of one of the strongest environmental curricula in the U.S.. With the concurrent retirement and non-replacement of several key faculty dedicated to building a graduate program in architectural science and environmental issues in architecture, the entire academic investment may be extinguished in one action.

I have had many years' direct experience with faculty, students, and graduates of the program conducted by professors Murray Milne, Baruch Givoni, and Richard Schoen. I have used the texts written and the energy software developed by these faculty in my teaching and research. The UCLA program is recognized for producing some of the finest researchers in the fields of renewable energy and sustainable design in architecture as evidenced by their repeated awards in the Leading Edge Energy Design Competitions. How is it possible that at a time when environmental and energy issues have reached an apex for society, a school can do the unthinkable and derail the advancement of knowledge in these fields?

I am also writing as a representative of an international organization, the Society of Building Science Educators (SBSE), that is an advocate for advancing energy conservation and resource-efficient design in architectural education. I feel compelled to express grave concern over the elimination of a program that serves as a critical element in the international development of resource-efficient architectural design. The impacts of eliminating this program reach far beyond the boundaries of UCLA with repercussions felt throughout academia and the profession. Theory is an important part of educating an intelligent generation of designers, but energy education empowers students to make the wise choices necessary for a sustainable future.

—M argot M cD onald

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The Friday showdown meeting did not go well, but we have not seen the Faculty Senate's report yet. It will probably yield some interesting quotes for the newsletter. I really appreciate all the superb, thoughtful letters that were written by so many SBSEers. It seems they constitute an incredibly valuable resource, and something positive should grow from them. [*Watch for Baruch, Dick, and Murray's response in the next SBSE News.—ed.*] ■

—M urray M ilne

## Architecture: science education?

*[This edited preview of Dick Kellogg's presentation for the ARCC Research Conference will appear uncensored in the next issue of Connector.—ed.]*

Recent studies report that many American students and adults have limited knowledge of science and its methods. Cartoons and movies often portray science as an activity done by weirdos in white coats surrounded by strange equipment and large chalkboards, or camping in some jungle and wielding butterfly nets. Commonly science is denigrated as an activity that will lead to some monumental disaster as it inevitably gets out of hand. Seldom does the popular media present scientific research in a positive light.

Architects, particularly those educated in architectural technology, can play a part in changing these perceptions. If high-school students and teachers could participate in science activities related to their immediate environment—buildings and urban settings—they would learn that science is not an exotic activity. They might become scientists, better-informed citizens, or possibly better clients.

Science Fair projects are a common activity for students in grades 7–12. Official categories range from behavioral sciences to zoology with architecture listed as a minor sub-category under engineering. At a recent International Fair, where over 1,300 student projects were on display, only 10 related to architecture—a few on structures (most poorly understood by the student) and a few on termites or durability of paints. After having taught design and technology for 40 years, I believe science projects in every category can be undertaken using the built environment as a setting.

Here is a short list of projects in selected categories presented as questions to be investigated. You will undoubtedly think of many to add.

Behavioral and social science—Where do people gather informally in buildings, and what architectural features influence their choices?

Botany—What indoor conditions are best for various plants?

Physics—Study daylight distribution in rooms by using cardboard models. How can the use of natural light save electrical energy?

Zoology—Investigate what insects or other animals live in human houses. Why do some prefer houses to the wilderness?

If you would like a copy of my entire list of projects, e-mail me, <rkellogg@comp.uark.edu>. In return, tell me about your efforts in this area—contact local science teachers with these and your own ideas. The teacher could suggest students' projects in his or her area of expertise and guide them in the proper research methods. The students could work with you on architectural aspects of their investigations. You would also be a valuable resource for guiding the students' final presentations.

Most topics could also be organized as class study modules in science. Recently I organized, under the aegis of our local AIA section, an AIA Foundation-sponsored teachers' workshop on Architecture as a Resource for Science Education. Eight teachers heard architects' presentations on structures, daylighting and energy concerns, scientific and technological innovations which influenced architectural history, took physical-plant tours, and built ventilation and daylight models. They took home "Architecture is a Science (too)" T-shirts. ■



Students test a daylighting model al fresco.

photos: Bruce Haglund

## Atascadero House Gift

The Atascadero house, the "most energy-efficient house in America," is part of a \$1 million gift from the Harold and Evelyn Hay Fund to Cal Poly—San Luis Obispo College of Architecture and Environmental Design. Harold Hay is a Los Angeles area scientist, inventor, and building materials expert who pioneered research of solar stills and roof ponds for natural air-conditioning. The solar-heated and passively cooled house, the first house in America using Hay's patented "skytherm" principle, will help further the study of alternative energy systems at Cal Poly—SLO.

Dean Martin Harms proclaimed, "The gift will enable vitally important work in the realm of sustainable design and construction to be accomplished by our faculty and students. All educational programs in the college will benefit. Harold is making it possible for us to strengthen our position as a central resource for passive solar energy teaching and research."

The gift includes the property, monetary support to establish a visiting professorship and fund student projects and faculty research, as well as an endowment for upkeep of the house.

Harold sponsored our visit to the Skytherm House during the 1997 SBSE Summer Retreat in Santa Barbara. On the hot July day, we were able to experience the radiant cooling effect inside the building and climb scaffolding to view the water bags and movable insulation on the roof.

A web site at Cal Poly—SLO will disseminate information on project activities related to the advancement of renewable energy and water in architecture funded by Hay's generous gift. Our thanks to Harold and Evelyn Hay! ■

—Margot McDonald

—Dick Kellogg



Harold Hay and Therese Peffer peer into the skytherm.

photo: Bruce Haglund

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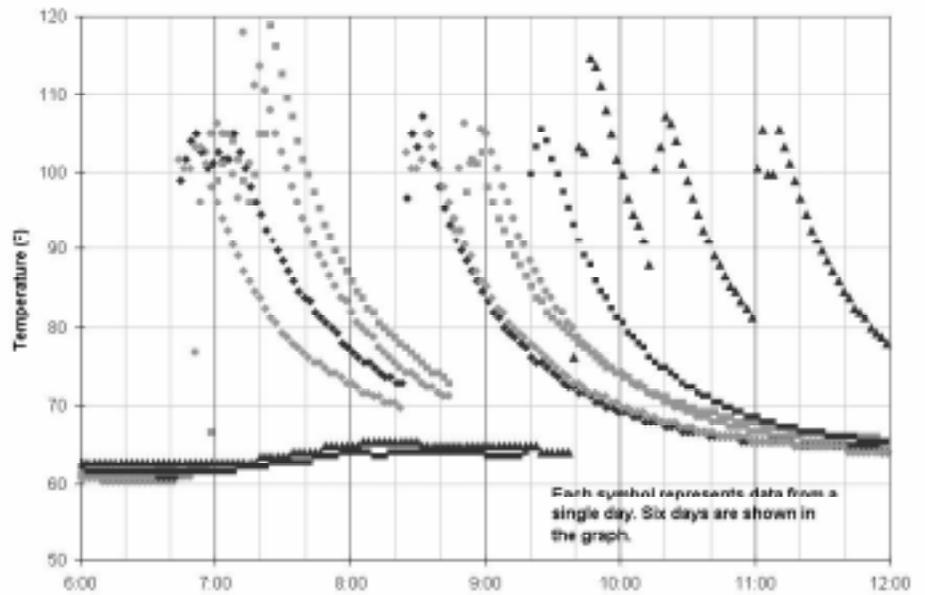
## Plot Revealed

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Last issue's mystery plot traced the electric lighting history of the west-facing conference room in LBNL's Building 90 for 11 days in November. The upper temperature graph comes from a Hobo thermistor taped to the wall of an overhead fluorescent lamp. Sharp rises in this temperature indicate when the lamp was turned on while similarly rapid cooling denotes an off event in the intermittently-occupied meeting space. Superimposed on these binary starts and stops is a diurnal temperature pattern with lows occurring near dawn and highs occurring in the late afternoon. You can see the sun's influence beginning near noon. The bottom Hobovolt trace records occupancy as detected by a Radio Shack passive infrared detector. The mystery plot indicates close correspondence between occupancy and electric lighting use. It is great to see that those fine LBNL folks practice what they preach. *[I guess no SBSEer solved the mystery. Do better with this issue's plot (at right), please. Cris thinks he can fool us!—ed.]*■

—Cris Benton

## Mystery Plot Redux



Tell Cris Benton [or ed. <bhaglund@uidaho.edu>] your theory about the perpetrator of the outrageous curves above. Notice that he's not telling us whether the time is before or after noon.

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## Summer issue submittal deadline—June 1

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