

Society of Building Science Educators

SBSE NEWS

Winter 1998



photo: Walter Grontzik

Margot McDonald (left), Terri Meyer Boake, and Alison Kwok take the Green Building Challenge outdoors and ask, "Is size important?"

SBSE Takes Green Building Challenge

Over 600 delegates from around the world (30% Canadian, 30% U.S., 25% European, and 15% Asian + South American) met the Green Building Challenge '98 (GBC98), held in Vancouver, BC, in October. In attendance was a rich mix of researchers, policy makers, and design professionals. It was the first conference I've attended in a long time that closed registration several weeks before the event. Fortunately, about 20 SBSEers registered on time. On the only free evening of the conference 15 SBSEers dined together, an event organized by Jennifer O'Connor.

In essence GBC98 was two conferences in one. The first used a non-traditional approach that was the culmination of a two-year process to design and test a series of framework documents that would be used to benchmark the environmental performance for three generic building types. The second used a more traditional approach to present on-going international work in the green building movement. Both approaches dovetailed quite nicely, complementing each other where there were missing elements. As with all quality conferences, the biggest problem was taking it all in. With four concurrent sessions per time slot, a good read of the proceedings was necessary to appreciate the richness of the conference. A CD-ROM that includes the conference proceedings, all case studies, and poster presentations will be available soon—an order form will be posted on the GBC98 website, <<http://greenbuilding.ca>>. [As of our press date, it's not posted. Keep checkin' folks.—ed.]

Kudos to conference chair Ray Cole (University of British Columbia) [Somehow my SBSE People scanner missed mentioning Ray's significant role. I apologize, Ray. Nobody squealed on you.—ed.], and Nils Larsson (Natural Resources Canada), the technical coordinator, for their job well done. They were responsible for developing the framework documents which the 14 national teams used to assess selected schools, mid-rise offices, and multi-family residences in their homelands. The result of this international effort is the creation of 34 well-documented case studies. While the original plan was that these case studies be easily and directly compared, this task proved more difficult than imagined. Each of the national teams focused on the framework

SBSE Calendar

1999

- Jan 8 ACSA Tech Conference papers due
- Mar 20–23 ACSA Annual Meeting; Minneapolis, MN
- Apr 15–18 HOPES Eco Design Arts Conference; Eugene, OR
- Jun 12–16 ASES Solar '99; Portland, ME
- Jun 16 SBSE Annual Meeting; Portland, ME
- Jun 19–23 ASHRAE Conference; Seattle, WA
- Jun 25–27 ACSA Technology Conference and ARCC Research Conference; Montréal, Québec
- Jun 27–30 ACSA Construction Institute; Montréal, Québec
- Jun 28–Jul 1 SBSE Summer Retreat; Tadoussac, Québec
- Sep 18–26 PLEA 1999 Conference; Brisbane, Queensland ■

SBSE Election Warning

It's time to contemplate candidacy for SBSE office. Think about volunteering or nominating a soon-to-be former friend for president-elect or secretary/treasurer. [Editor is a patronage position, which Mr. Nosy actually likes.—ed.] Nominations will be affirmed at the annual meeting in June. ■

• continued page 8

Letters to the Editor

I suffered a flashback reading the *SBSE News* today. It brought back the very embarrassing memory of showing a slide of the floor plan of Cliff Palace at Mesa Verde to my site design class. I was in the middle of explaining the importance of **southern** orientation and the infinite wisdom of the Anasazi to my students when I switched to the Mesa Verde slide. Suddenly I panicked when I noticed its **western** orientation. I felt disoriented and betrayed! How could Olgay and the ALS folks have misled me? I have never tap danced so hard in my life! No wonder Cliff Palace was occupied less than one hundred years!

–Phillip Mead, Texas Tech

[Geez, Phil was one of my early ECS students, so I may have been the first to deceive him about Mesa Verde those many years ago. Kinda scary isn't it, folks? How many of Rick Diamond's myths and lies have you perpetrated?—ed.]



I want to encourage all SBSEers to attend the March ACSA Annual Meeting in cold, snowy, but beautiful Minneapolis. If anyone is interested, I would love to host a midnight ski around Lake Harriet.

–Mary Guzowski, Minnesota

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Far-Flung Opinions

Innovations in Japan

Here's a little news from Japan which you might appreciate. I have been seeing a good deal of innovative work recently and suggest you all look for the interesting truss forms (Y-shaped terminations replace bridging) in Fumihiko Maki's Makuhari Messe, the external use of fire-resistant steel in a new building by Tadatsu Ohe, and a very nice little heat-absorbing wall, developed by Hajime Yatsuka and Inax, for a hilltop overlook in Nagaoka. Maki and Toyo Ito also recently completed buildings with exterior louvers—both are quite nice. I am hoping my photos of the Maki project will turn up soon in *Architectural Review*.

If anyone wants detailed information on any of this, please drop me a note at <Dana@uic.edu>.

–Dana Buntrock



The latticed steel structure of Ito's Sendai Mediateque under construction.

photo: Toyo Ito Architects

Common Ground in Canada

I have just visited the SBSE website; we seem to have a lot in common. Canada Mortgage and Housing Corporation's Innovation Centre for Highrise and Multiples is a group that specialises in technical research and transfer of information about building science. Check out our website, <<http://www.cmhc-schl.gc.ca/Research/HighRise>>.

An example of what we do can be seen in a recently developed product, "Research Highlight of the Week," a collection of short (2- to 3-page) summaries of research projects dealing with building science. Fifteen are already posted on the site. View them at <http://www.cmhc-schl.gc.ca/Research/HighRise/e_rdhigh.htm>. Also examine our Best Practice Guides, <http://www.cmhc-schl.gc.ca/Research/HighRise/e_guides.htm>. If you feel we could be of service, please contact me <jroussea@cmhc-schl.gc.ca>.

–Jacques Rousseau

Holes in Canadian Walls

The infamous, leaking condominiums in Vancouver, BC, are seriously compromising the architects' reputation. However, the architects are not solely at fault: developers and builders think they know how to build and cut architects' basic services, especially site reviews. If there is a leak in a stucco wall, it takes 10 weeks to dry it out. When has Vancouver ever experienced 10 consecutive weeks of dry weather?

As a result of these problems, the BC government has required all new buildings to employ a certified building envelope specialist, particularly for site reviews. Architects must take a course to become certified. In other words, they do not have any faith in architects. *[Or, they fear a technical gap in architects' education. Enter the Academy!—ed.]*

Are practicing architects learning from this situation? Are the schools of architecture intensifying their building science curricula? *[The University of Texas has jumped in where UCLA left off. See story on page 3.—ed.]* Are we going to require mandatory continuing education for architects everywhere? Lets hope so. Otherwise architects are merely building decorators, and the building integrity responsibilities will be taken over by engineers and building envelope specialists.

It thinks the significance of the leaking condo to architects is analogous to the significance of the Tacoma Narrows bridge collapse of 1940 to civil engineers of this world. *[Why is the unsustainable building viewed as being less critical than the leaky condo?—ed.]* ■

–Tang Lee

Tadoussac Retreat Logistics

Tadoussac is a village. Everything is within walking distance. The hotel is in the center of town, facing the water. A block of 18 rooms at \$72Can per person per night, double occupancy, for 3 nights: June 28, 29, 30, has been reserved for SBSE. This price includes a *table d'hôte* dinner and breakfast as well as meeting rooms. There is a big buffet lunch every day at the hotel, but it is \$14. There is also a smaller restaurant in the hotel where you can get soup and sandwiches, but my contact suggests it would be more fun to get out to the numerous cafés within easy walking distance—no problem getting reservations because it will be before the high season.

This area is known for its concern about the environment. The St. Lawrence Water Parkland is one of the largest marine parks in the world and the whale watching is other worldly—what an excellent place to spend a family vacation! There are beautiful beaches (the water is cold, though), hiking, interpretation centers, cultural centers. Going up the fjord-like Saguenay River is also spectacular.

The family that owns the Tadoussac Hôtel also runs the Québec City to Tadoussac ferry, and they own one of the oldest hotels in Québec City, Hôtel Clarendon, recently renovated and extremely well-located within the walls of the old city. It is \$114/night double occupancy, about \$38US per person. It would be great if we could all stay in the same hotel in Québec Sunday night (June 27); it would certainly help keep the price down. Given that both hotels and the ferry are owned by the same company, I'm sure they would help to make all the connections—hotel to boat, boat to hotel—as smooth as possible. You might also want to stay there on the way back on July 1st—a holiday in Canada, so make reservations early for the return date. Because it is all one operation, I have made a block reservation for the Hôtel Clarendon, the ferry, and the Hôtel Tadoussac. Those wanting to stay at the Hôtel Clarendon in Québec City should identify themselves as SBSEers when they make the reservation. The address of the Clarendon Hôtel is 57 Rue Ste. Anne; phone is 1-888-554-6001; e-mail for both hotels and ferry is <famille.dufour@sympatico.ca>; contact Sophie Brisson.

The hotel's ferry (passengers only) runs from Québec City down the St Lawrence River to the Hôtel Tadoussac daily, leaving Québec at 7:30am, serving breakfast, then whale watching until the arrival at Tadoussac at noon for \$68 (\$45US). The same boat returns daily, leaving at 2:15pm, arriving in Québec at 6:30, serving a snack on the way for \$58 (\$40US). Transport from the ferry to the hotel by shuttle bus is included, although it is easily within walking distance.

Alternately, by car Tadoussac is about 3 hours from Québec City (which is 3 hours from Montréal) along the north shore of the St. Lawrence River. It is about 4 hours from Portland, Maine, to Québec City. You can also drive along the south shore of the St. Lawrence and cross to St. Siméon, 10 miles west of Tadoussac, by ferry at Rivière du Loup (60 minutes) (418-862-9545). There is another ferry crossing from Trois Pistoles to Les Escoumins (65 minutes) which is about 15 miles east of Tadoussac (418-851-4676). Both ferries cost about \$25Can per car and \$10Can per passenger.

For connections between Montréal and Québec City, each day there are 4 trains each way which take about 3 hours and cost about \$50Can each way. There are coaches every hour on the hour each way that cost about \$35Can each way. [See this issues' flier insert for a description of the retreat focus and an application form.—ed.] ■

—Lucie Fontein

Design with Climate

The University of Texas at Austin offers four "Design with Climate" graduate architecture program options. These programs provide a multi-disciplinary, focused course of research and study for students and professionals on the salient issues related to the confluence between the built and natural environments. By linking theory and practice, the "Design with Climate" graduate program responds to the increasing demands for study in energy-efficient design and climate-attuned architecture. [I imagine the UCLA adminis-traitors have taken note.—ed.] The dedicated faculty consists of Francisco Arumi-Noe, Buford Duke, Michael Garrison, and Steven Moore. More detailed information is available on their website <<http://www.ar.utexas.edu/>>. ■

—Francisco Arumi-Noe

Letters [continued]

[You're talking about cross-country skis, not water skis, eh Mary? I have to say I'm quite (shiver) tempted, but I have other plans.—ed.]



Just received the latest newsletter, and as always, enjoyed finding out what SBSE is doing.

Architectural Record has relocated to Two Penn Plaza, one of the rather characterless curtainwall buildings on the site of the old Pennsylvania Railroad Station. Frankly, it gives me the creeps to work here [Ghosts of architectural grandeur past!?!—ed.]. On the other hand, when I walk in each morning, I do get a daily reminder that we all must take very seriously the small roles we occasionally play as advocates for saving and/or preserving worthwhile buildings.

—Charles Linn, *Architectural Record*

[At Idaho our architecture program is housed in a wonderful turn-of-the-century gymnasium. I dare not complain about the building's shortcomings (e.g., the roof is uninsulated, producing astounding ceiling temperatures in August), fearing the institutional response would be to deface it or tear it down!—ed.]



In light of Alison's review of the ANZASCA Conference here in Wellington and her photo of the view from my living room in the fall *SBSE News*, I would like to add the following commentary from last night's local newspaper, *The Evening Post*.

—Werner Osterhaus, Victoria University

[The *Post* featured small items about Canadian praise for Wellington's harbor views and the overnight 207 km/h winds that blew a ship from its moorings. All was summarized in the following cartoon (drawn from Werner's livingroom?).—ed.] ■



cartoon: Tom Scott, *The Evening Post*

SBSE People

☆ In November **Harvey Bryan** succeeded Peter Nobile as Co-Chair of BSA's Architects for Social Responsibility, the sustainable design group co-chaired by Marilyn Phelan. The group is sponsoring several Build Boston workshops on sustainability issues and is planning the 1999 Sustainable Design Awards program.

⊕ **Mike Donn** became a first-time grandfather to Madison Antipas at 11:41 a.m. on 8 October. [*I'd suggest the succeeding grandkids take the names Charleston, Phoenix, and Dodge (Spokane is too boring!) to continue the InsideOut theme.—ed.*]

🏠 **B. J. Novitsky** has been added to the *Architectural Record* masthead as a contributing editor. She will write some feature stories on computers next year as well as contributing six bi-monthly computer columns, some with an education focus.

* In January **Veronica Soebarto** and an honors student will start analyzing (visiting, observing, recording, monitoring) two houses in South Australia designed by Glenn Murcutt. Results will not be available until late 1999, since they will be monitoring the houses both in summer (Jan–Feb) and winter (Jun–Jul). ■



photo: Mike Donn

The wonder from down under, Mike Donn's (yawn) granddaughter Madison.

Book Reviews—three for sustainability

Building Materials Energy and the Environment: Towards Ecologically Sustainable Development

Bill Lawson, Unisearch Ltd, Solarch, 1996, ISBN 1-86318-028-1. The book has two main purposes: (1) "increase awareness and understanding of architects and others in the building and affiliated industries of some major, but often overlooked, environmental implications of their work," and (2) "provide useful and practical information which will assist the development and implementation of methodology for ecological sustainability with regard to building design and construction."

The book is useful to architects and architecture students. It discusses every building material—production, usual applications, health and environmental impacts, CO₂ emission potential, and embodied energy. An environmental evaluation summary is presented at the end of each material's discussion (raw material availability, embodied energy, energy efficiency, product lifespan, material recyclability). The summary, however, only gives ratings such as excellent, very good, good, and poor. How does "excellent minimal environmental impact" differ from "very good minimal environmental impact?"

What is interesting and useful is that the book provides several case studies and discusses their design concepts, construction and embodied energy, operational energy requirements, life-cycle aspects, and opportunities for reuse/recycling. The case studies, of course, are all buildings in Australia.

Handbook of Sustainable Building

David Anink, Chiel Boonstra, and John Mak, James & James Ltd., 1996, ISBN 1-873936-38-9. This book lists each building element and discusses suitable building material choices by giving the first, second, and third preferences, as well as non-recommended choices. This handbook is quite extensive—it discusses more than 70 building elements—and should prove useful for students considering building materials and construction alternatives, informing them of the impacts of using timber versus steel frames; brick versus plywood paneling; cellulose versus polystyrene insulation.

The Technology of Ecological Building: Basic Principles and Measures, Examples and Ideas,

Klaus Daniels, Birkhauser Verlag, Basel, ISBN 3-7643-5461-5. I have to say honestly that I was seduced by the layout of this book. It is the most beautiful building science book I have ever seen. The layout reminds me of Tufte's concepts in *Envisioning Information*—necessary-only lines and colors (only gray tones, red and blue for emphasis), layering and separation, and small multiples.

The contents are as precious as the layout. Vernacular approaches in climatic zones around the globe are used to introduce the subject matter. Design principles are discussed at length—from the ancient (such as natural ventilation and stack effect), to the state-of-the-art (such as building-integrated photovoltaics). Each strategy is presented with a case study, so that readers know that the strategy has been applied and tested in real buildings (measured/recorded data are presented). More interesting and important, most of the technology and buildings are quite new and present the latest developments in building technology.

I was intrigued by the case studies presented. Besides the "new" technology applied, most of the buildings are medium- to large-sized, showing the author's attempt to demonstrate passive systems that work well in large buildings. With the monitored data presented, I was convinced that the strategies work. My only question is, can we still call it "ecological building" when the buildings are so large, requiring copious portions of building materials and destroying the existing site ecology? I give Daniels' book two thumbs up. These three books can help us and our students realize that sustainable and ecological development is not a simple task. ■

—Veronica Soebarto

Research Notes

Diverse Activities at TAMU

The Department of Architecture at Texas A&M University has a number of research projects underway that are funded externally or internally. Current projects related to building energy conservation are:

1. **Improved MPA research.** Developing improved procedures for calculating beam and diffuse radiation from a multipyranometer array, including experimental work that uses data from the Class A solar lab atop the College of Architecture building.
2. **CFD-DOE-2 analysis of religious temples.** Analyzing interior comfort conditions in naturally ventilated temples in Thailand (with the goal of maximizing comfort) and using calibrations of on-site measurements taken with portable loggers.
3. **Software for evaluating the thermal effects of solar shading on windows.** Using the sunpath display and thermal calculations of solar energy passing through a window with a given shading device. Work involves code development, experimental work (using a test box), and comparisons to DOE-2.
4. **Energy efficient housing for Ghana.** Using a calibrated DOE-2 model based on measurements taken from a Habitat for Humanity house in Bryan, Texas, the project's goal is to design and verify an energy-efficient, low-cost house for Ghana.
5. **Integrated PV design.** Developing design procedures for integrating PV panels into the windows of tall office buildings in four locations using a combination of experimental transmittance data, DOE-2, and software for PV evaluation.
6. **A/C diagnostics.** Empirically deriving signatures for failure modes for split system A/C that could be used to predict future failures. This work is based on experimentally derived measurements taken at the ESL's split psychrometric chamber.
7. **In-situ test method for thermal storage.** ASHRAE research project 1004, developing testing methods for thermal storage systems (w/Drexel University and Elleson Engineering).
8. **Accuracy tests for air-side simulations.** ASHRAE project 865, developing accuracy tests (i.e., spreadsheets) for testing air-side simulations and comparing the results with DOE-2 and BLAST (w/Penn State).
9. **Library of load shapes for use in DOE-2.** ASHRAE project 1093, developing procedures for day-typing internal loads and inputting those loads into DOE-2 and BLAST.
10. **Inverse procedures for analyzing energy use.** ASHRAE research project 1050, developing FORTRAN code for calculating 1P, 2P, 3P, and 4P models for baseline energy which will be used in performance contracting.
11. **Multi-media demonstration for the ASHRAE Handbook.** ASHRAE research project 1017, creating an animated multimedia demonstration that will demonstrate what future "animated" ASHRAE handbooks could look like.

All projects and reports are available on request. Titles and abstracts can be found on the Energy System Lab website, <<http://www-esl.tamu.edu>>.

–Jeff Haberl

UCB Center for the Built Environment

The Center for the Built Environment (CBE) was established last year at UC Berkeley to help make better buildings. Sponsored by NSF as an Industry/University Cooperative Research Center and fully funded by industrial partners, CBE provides the setting and resources for university researchers, industry and design professionals, and government agencies to jointly identify and solve building-related information needs and improve building practices. Our current projects include:

- A web-based survey tool for continuous employee feedback to facility managers on workplace comfort and satisfaction.
- A database of indoor environmental quality measurements suitable for benchmarking a building's environmental quality.
- Field studies to evaluate the effect of team-oriented workspaces, individual control, and environmental quality on job performance and productivity.
- Technical guidelines for designing underfloor air and task/ambient conditioning systems.

• continued next column

Research Notes [cont.]

We engage UC Berkeley's Building Science Laboratory, its faculty (Ed Arens, Cris Benton, Gail Brager, and Susan Ubbelohde), and researchers (Fred Bauman, Cliff Federspiel, Charlie Huizenga, and Tom Webster) under the administration of Kevin Powell. CBE's research team also includes faculty and graduate students from Architecture, Business, Computer Science, Construction Management, Electrical Engineering, Environmental Psychology, Public Health, and LBL. For more information, visit our website: <www.ced.berkeley.edu/cedr/cbe>.

–Kevin Powell

Solar Sustainable Housing

In November the Executive Committee of the Solar Heating & Cooling Program of the International Energy Agency approved the start up of a new research project (Task 28): Solar Sustainable Housing. A one year project planning phase will begin in January. Task 28 will study housing that consumes less than 15 kWh/m²a for space heating, and that does not incorporate any conventional heating system, not even a wood stove. A number of such houses have been built from Sweden to Austria, with most now cropping up like mushrooms across Germany. The first step in this project will be to learn from the experience embodied in built houses, then explore opportunities that increase the degree of architectural design freedom, increase daylight, and meet the remaining heating demand through new technologies for heat generation and distribution. In summary, conservation, passive, active, daylighting, and PV technologies will be studied in various combinations depending on climate and budget in this new context of very low-demand housing. Decisive constraints include not merely energy use; but gray energy and environmental impact, aesthetics, user behavior, and not economic costs. The goal is to keep the houses within the price range of conventional, well-built homes.

Participation in the U.S. will be determined by the Department of Energy, <MARY-MARGARET.JENIOR@hq.doe.gov>. Contact either the Task Leader, Robert Hastings <hastings@orl.arch.ethz.ch>, or local U.S. contact <Paul_Torcellini@NREL.gov>. Suggestions for appropriate topics of investigation and examples of built or planned projects would be appreciated. ■

–Robert Hastings

Academy Update

Murray Milne and Ralph Knowles delivered a paper entitled, "Proposal to Create the Academy of Architectural Science: A Post-Graduate Virtual University" at the 1998 ACSA Western Regional Meeting in Berkeley in September.

The proposed new Academy of Architectural Science would offer graduate-level technical courses and research seminars via a combination of semi-annual conclaves and the internet. Recognizing that design is the quintessential activity of the architectural profession, the long-term goal of the Academy is to create a growing cohort of architects whose special technical expertise and integrated design skills would raise the level of services offered to society and ultimately raise society's expectations of the entire profession. Our emphasis is on continued professional contact of mutual benefit. We see the Academy as a kind of intra-university—a way to give architects the opportunity to work toward a doctoral level professional degree with some of the best people in the country, to raise technical competency through coursework, and to generate new knowledge through environmental design research. The internet makes it possible for architects to remain at home and maintain their professional practice.

A second FIPSE grant has been submitted, stressing the delivery of graduate education. Soon-to-be emeritus Professor Fuller Moore has been added to the Academy board. ■

—Ralph Knowles

Vital Signs Update

You can now download most of the winning entries in the recent 1998 Vital Signs Student Case Study Competition. These studies are interesting; I urge you to look. Each PDF format case study takes one to five minutes to download from <http://www.archfp.ced.berkeley.edu/vitalsigns/act/1998comp/1998results.html>. Follow the links to the abstract for each study and its link to a PDF file.

We welcome your feedback and suggestions on how to publicize the studies among students, architects, building owners, and building contractors. If you have recommendations about print publications which might be interested in publishing the case studies, either in their present form or revised and edited, please contact me at bburke@uclink4.berkeley.edu. ■

—Bill Burke

Attractive Nuisances

New Skylighting Guidelines

I have just completed writing the *Skylighting Guidelines* and a simple spreadsheet application called *SkyCalc* which are formulated to help architects master the art of designing skylighted commercial buildings and sizing the skylighting system for optimal energy performance. Basically, these components are new and improved versions of the AAMA-sponsored *Skylighting Handbook* and *AAMAsky* software which won a *Progressive Architecture* Research Award ten years ago. Both will be available for free download from the internet (courtesy of Southern California Edison). Both would make an easy and accessible resource for teachers or students interested in natural lighting and/or energy efficiency. Collaborators include Francis Rubinstien (LBL) and Barbara Erwine (Seattle Lighting Design Lab).

The guidelines and the spreadsheet are featured at <http://www.energydesignresource.com> which will soon also include "Energy Design Briefs" by E-source/AEC and two new software wizards from Jeff Hirsh (DOE-2 author).

—Lisa Heschong

Designing Low-Energy Buildings

Over the last several years, with significant input from the American Institute of Architects (AIA) members and staff, the Passive Solar Industries Council (PSIC) has developed valuable passive solar and whole building design tools, software, and educational guidelines. One example is PSIC's *Designing Low-Energy Buildings with ENERGY-10* program, which achieved new levels of exposure and effectiveness with this year's release of Version 1.2. With the AIA's leadership, these resources have greatly benefitted the public and the nation, significantly enhancing the skills and knowledge of hundreds of AIA members.

PSIC works closely with interested schools and universities to ensure the curriculum presented through *Designing Low-Energy Buildings with ENERGY-10* is available to academics and students. To date, two dozen schools use it as part of their architecture and energy analysis curriculum. Thirty-six percent of the program's user base (900+ persons) is comprised of students and academics. *Designing Low-Energy Buildings with ENERGY-10* is available through PSIC—\$250 for professionals, \$50 for students and professors, \$500 for a site license.

Even with this success, there are many more students, professors, and schools who could benefit from learning about this valuable program. I would like the Society of Building Science Engineers [*Engineers!? Do we all seem that nerdy?—ed.*] to consider working with me to identify ways to promote this package through your network. If you are interested, please reply to me at PSICouncil@aol.com or check out the PSIC website, <http://www.psic.org>.

—Douglas Schroeder

Energy Scheming 3.0 Workshop

We will host a Summer Workshop July 16–19, 1999, for faculty interested in learning how *Energy Scheming 3.0* can be used in the classroom to further student understanding of how and why buildings use energy. The workshop will be taught by four instructors who have used *Energy Scheming* in lecture, seminar, and studio classes. There will be an opportunity for participants to develop curriculum materials for their own classes.

If you're interested in attending this workshop, please respond to rweiser@darkwing.uoregon.edu by **November 30, 1998** [*or as soon as possible—ed.*] to help us apply for scholarship funding.

For more information on *Energy Scheming* for instructors visit our web page, <http://darkwing.uoregon.edu/~esbl/ARCHITECTURE+ENERGY/>. ■

—Russ Weiser

Job Opportunities

Sonoma State University

The Department of Environmental Studies and Planning is pleased to announce a new tenure-track Assistant/Associate Professor position in Energy and Environmental Technology. A person is sought to (1) teach courses in energy management and sustainable architecture and (2) to direct, with assigned time, the EarthLab and Environmental Technology Center (ETC). The center is currently under construction with primary financial support provided by NSF, CEC, and the university. The department offers both B.A. and B.S. degrees. Additional information can be found on their website <<http://www.sonoma.edu/ensp>>.

The university provides each incoming faculty member with a state-of-the-art computer workstation and an individual office. Access to small on-campus seed grants and assistance with developing externally funded proposals are provided by the Office of Sponsored Programs. Limited funds are also made available for travel to professional conferences. A full Position Opportunity Announcement can be found at the website <<http://www.sonoma.edu/ensp/etechfac.html>> or requested from <ensp@sonoma.edu> (specify energy/environmental technology position).

Ball State University

Tenure-track position in environmental systems available August 20, 1999. Responsibilities: teaching studio as well as courses in built and natural systems and their associated construction technologies in the professional degree program in architecture. Minimum qualification: M. Arch. by date of appointment. Preferred qualifications: registration (license to practice architecture or engineering); experience in teaching and/or professional practice; publications and/or appropriate research projects as evidence of scholarly and professional contributions; domestic and foreign travel as related to research and professional involvement; professional degree in mechanical or electrical engineering. Send letter of application, curriculum vitae, three letters of recommendation, transcripts, and samples of professional work to: Search Committee; Department of Architecture; Ball State University; Muncie, IN 47306; phone 765-285-1900; fax 765-285-1965; <<http://www.bsua.edu/cap/>>. Nominations are also welcome. Review of applications will begin January 11, 1999, and will continue until the position is filled. EO/AE.

GEORGIA INSTITUTE OF TECHNOLOGY

The Architecture Program invites applications and nominations for a visiting faculty position for the 1999-2000 academic year. Seeking greater diversity, the faculty encourages women and members of traditionally under-represented minority groups to apply. Duties of the position include teaching two core or elective courses each semester plus participation in the service activities of the architecture program. Preference will be given to those candidates who possess a teaching and/or research interest in building & environmental/mechanical systems and their architectural design integration, through either core or elective course work and/or design studio teaching that foregrounds these concerns.

Candidates for the position should be able to demonstrate excellence in teaching at either graduate or undergraduate levels and should show promise in the pursuit of intellectual goals through scholarship, research, and/or professional activity. Qualifications include the M.Arch. degree plus other post-graduate research, teaching, professional licensure or experience which has contributed to the development of a clear record of accomplishment. Rank and salary for the position are dependent on qualifications and experience and are competitive with the best research universities. Candidates for the position should submit a curriculum vitae, a statement of interest and goals with regard to the visiting position, three photocopied samples of creative work (not to be returned), and names, addresses, and telephone numbers of three references. Additional supporting materials/portfolios will be requested as needed. Applications for all positions are due January 15, 1999, but will be accepted until the position is filled. Send information to: John A. Kelly, Director; Architecture Program; College of Architecture; Georgia Institute of Technology; Atlanta, GA 30332-0155. EO/AE. █

Events

Multidisciplinary Practice

The EAAE international academic conference, *Architecture and Engineering*, focusing on "The Teaching of Architecture for Multidisciplinary Practice" will be held at the School of Architecture, University of Plymouth, UK, from **February 4-6, 1999**. Full details available at <<http://techweb.see.plym.ac.uk/soa/staff/mvoyatzaki/index.htm>>.

Intelligent, Responsive Buildings

Intelligent and Responsive Buildings, an English-language conference aimed to disseminate research and developments in leading-edge buildings, will be held in Brugge, Belgium, **March 29-30, 1999**. For information visit <<http://www.ti.kviv.be/conf/buil.htm>>.

Industry & Innovation

Industry & Innovation in the 21st Century, the 1999 ACEEE Summer Study on Energy Efficiency in Industry, will be held in Saratoga Springs, NY, **June 15-18, 1999**. For information visit <<http://www.aceee.org>>.

Solar is Renewable

The ISES 1999 Solar World Congress, *Solar Is Renewable*, will be held in Jerusalem, **July 4-9, 1999**. For info check out the congress website <<http://tx.technion.ac.il/~meryzse/ises99.html>>.

Sustaining the Future

The *16th International Conference on Passive and Low Energy Architecture* will be centered on Brisbane, Australia, **September 18-26, 1999**. For info contact Conference Secretariat Sally Brown; ICTE Conferences, The University of Queensland, Brisbane, Australia, 4072; phone 61-7-3365-6360; fax 61-7-3365-7099; <sally.brown@mailbox.uq.edu.au>; <<http://www.architect.uq.edu.au/PLEA99>>.

Green Campus III

Greening of the Campus III: Theory and Reality will be held **September 30-October 2, 1999**, at Ball State University Muncie, Indiana. Abstracts are due February 19, 1999. For info see <<http://www.bsua.edu/greening/>>.

Mainstreaming Green

Mainstreaming Green: Sustainable Design for Buildings and Communities will be held **October 14-17, 1999**, in Chattanooga, Tennessee, organized by AIA COTE and the U.S. Green Building Council. For info contact Muscoe Martin, <mbm@maxmanpartners.com>. █



photo: Tisha Egashira

Riddle: Why is Norwest Bank in Albuquerque a green building? Answer—see our electronic newsletter <<http://www.polaris.net/~sbse/web/>>.

SBSE Takes Green Building Challenge [cont.]

criteria that they considered most appropriate or within their resources/expertise to report. While this inability to facilitate direct comparisons frustrated some, the detailed discussion that accompanied each presentation illustrated that a diversity of approaches are needed to understand green buildings. *[Ed's theory: truly sustainable buildings defy Cartesian logic. They are designed to be specific to their context and respond holistically to site, climate, and culture. When we measure an aspect of these buildings, we are the blind men describing the elephant. Do you compare poems by counting the words?—ed.]* Asked if they would undertake the process again, 13 of the 14 national teams acknowledged they would.

The remaining sessions addressed a host of green building themes such as assessment tools (like BREAM and LEED), LCA-based tools (like ATHENA and Eco-Quantum), design support tools (like *Environmental Building News'* Green Building Advisor), as well as indoor and urban-scale issues. Here, the diversity of approaches being developed internationally became quite apparent. The work going on in some countries proved to be exciting. I particularly found the Dutch work on the LCA-based tool, Eco-Quantum, the most impressive. The most memorable moment of the conference was the final plenary session where Ray Cole did the remarkable. Operating under the guise of "Analyzing the GBC98 Assessment Process," he outlined an extremely cogent research program for the green building movement. How many of us would have dared to attempt such a task? Finally, I was glad to see the GBC98 organizers acknowledged the need for a follow-up event and, appropriately, selected as the host, the country that produced the most outstanding work at GBC98. Thus, GBC2000 is being planned for May 6–8, 2000, in Amsterdam. So get your papers ready. I am sure abstracts will be due shortly. ■

—H arvey B ryan



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