



**WINTER
2001**



photo: Robert Marcial

Thermal comfort advocates will be able to test their limits at the retreat. HOBos in the sauna?

RETREAT INFO: [HTTP://WWW.SBSE.ORG/RETREAT](http://www.sbse.org/retreat)

START PLANNING FOR THE 2002 RETREAT

ECOLOGICAL LITERACY—GREENING THE ARCHITECTURAL CURRICULUM

Tuesday, June 11–Friday, June 14, Sorensen's Resort, Hope Valley, California

Sorensen's <<http://www.sorensensresort.com>>, elevation 7,000 ft., is nestled in California's serene Hope Valley, a pristine pocket among the Sierra Nevada, 20 miles south of Lake Tahoe. The resort is a 4-hour drive from San Francisco, 2 hours from Sacramento, and 1 ¼ hours from Reno, NV. The cost will be \$260 per full participant. Kids and spouses are welcome. For full retreat information (schedule, participant list, registration, airports, extracurricular events and suggestions, student scholarships, directions, ride-sharing, and more) check out <<http://www.sbse.org/retreat>>.

At the 2002 Retreat we will explore the role of ecological literacy in architectural education. What is ecological literacy? What does an architect need to know to create environmentally appropriate designs? How should ecological literacy be taught in schools of architecture?

PROSPECTS FOR ECOLOGICAL DESIGN EDUCATION

We are looking for *two or three* insightful essays on ecological design education that can frame our discussion and developmental work during the retreat. Essays can be of any written length, but each will be presented in a 30-minute period, with extended follow-up discussion. Essays will be due before the retreat for advance distribution to participants and should address:

1. Your current understanding of the defining characteristics of ecological design. Please be concise.
2. Shortcomings and causes of the dominant contemporary model(s) for educating students to be capable of designing ecologically.
3. The more important necessary changes in design education to address those shortcomings.
4. Proposals on how SBSE could best leverage and help initiate the proposed changes.

Please submit a one-page (500–600 word) abstract of your essay.

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SBSE CALENDAR

2002

Mar 1	SBSE Retreat proposals due
Mar 4	ACSA Tech. Conf. drafts due
May 22–26	ARCC/EAAE Research Conf.; Montréal, QB
Jun 12–14	SBSE Retreat; Hope Valley, CA
Jun 15–19	ASES Solar2002 Conf.; Reno, NV
Aug 5	ACSA Tech. Conf. papers due
Oct 10–13	ACSA Tech. Conf.; Portland, OR ■

OFFICERS ELECTED

We've elected Jim Wasley President-Elect and Sandy Stannard as Secretary-Treasurer. Thanks to Sandra Mallory and Martin Gold for graciously offering to serve.

No spoiled ballots or hanging chads, just careful hand-counting and tallying! Thanks to all who sent in their dues, totaling \$2,045—the highest amount in my 6-year tenure as secretary-treasurer. However, theoretically we have 265 paying members, and only 82 of you have paid. It's not too late to send in your 2001/2002 dues. Remit them to Sandy. ■

—Terri Meyer B oake

LETTERS TO THE EDITOR

[The fall SBSE News had a small printing glitch—fonts were substituted by the printer, and substituted well, except the dingbat for Emad in the People column—the elegant sun was replaced by a big ugly trash can! My apologies, Emad! Stuff happens.—ed.]

Apologies accepted (only in light of your years of excellent editing and humorous commentary :-)! You are forgiven! By the way, I was able to read the newsletter online using Acrobat. It looks great, elegant sun and all.

—E mad Afifi, S CAD

[Luckily the on-line edition was flawless and in color, saving my considerable, er, raccoonesque reputation.—ed.]



Is it too late for accolades for a clear, balanced account of California's deregulated utility debacle? I'd like to pass on my thanks to Bill Burke for his article. May others learn from California, and may California learn from itself. Keep up your good work, Bill!

—S andy S tannard, Cal Poly S L O

[Never too late. The applause continues!—ed.]



Just wanted to let you know that I'm still receiving and reading the *SBSE News* with great gusto. I see you're considering holding the next retreat at Sorensen's. I was there once many years ago, and it is indeed a lovely spot.

My own work is drawing me further into social and organizational research and (some-what) away from building science, but who knows when these paths may meet? In the meantime, I look forward to reading about what you, Alison, and others are doing.

—K aty J anda, L B L

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SBSE News is published quarterly by the Society of Building Science Educators, a not-for-profit corporation. Submit material for publication to Bruce Haglund, Editor; Department of Architecture; University of Idaho; PO Box 442451; Moscow, ID 83844-2451; phone 208.885.6781, fax 208.885.9428; e-mail <bhaglund@uidaho.edu>; before the first of March, June, September, or December. Direct membership and mailing list inquiries to Sandra Stannard, Secretary-Treasurer; Architecture; California Polytechnic State University; San Luis Obispo, CA 93407; phone 805.756.2076; fax 805.756.2076; e-mail <stannard@calpoly.edu>. Join the SBSE list server by sending **subscribe sbse** to <major-domo@uidaho.edu>. Visit our home page <<http://www.sbse.org>>. ■

VITAL SIGNS AT HONG KONG UNIVERSITY

After 14 hours, 4 movies, 2 meals, and a snack, Cris Benton and I arrived at the new Hong Kong International Airport (Foster 1998) and were greeted by fellow SBSEer, Frank Sun, who coordinated our invitation to present a series of workshops and public presentations to HKU faculty, students, and local practitioners on the Vital Signs Project. Our first event was a 2-hour training workshop for 140 second- and third-year students that included a brief introduction to Vital Signs and the case study approach, demonstration of equipment (HOBO dataloggers, light meters, laser-directed temperature guns), followed by the formation of 24 teams who would, over the following 2 days, develop a mini case study of a phenomenon in a nearby building. Between delectable dim sum lunches and Shanghai dinners, other events included discussions with architecture faculty about teaching and research efforts to support integrating green issues in design, a public talk for architects and faculty on the Vital Signs Project, and teaching seminars for the HKU architecture faculty.

One of our more exciting highlights was hearing selected students present their case studies—complete with well-defined hypotheses, data charts, insightful analyses, conclusions, and lessons learned. One team examined the lighting levels in a warren of student lockers, discovering a complex set of variables along the way, and ultimately proving their hypothesis wrong. A second team compared lighting conditions with and without electric lighting in a small circulation space and discovered little need for the electric lighting on the day investigated. Another team hypothesized about the effects of building orientation on thermal comfort, claiming the staff occupied a more comfortable area than the rest of the architecture community. The last group investigated indoor temperatures in a newly constructed double-skin building. All the case studies will be posted on the HKU architecture department web site soon.

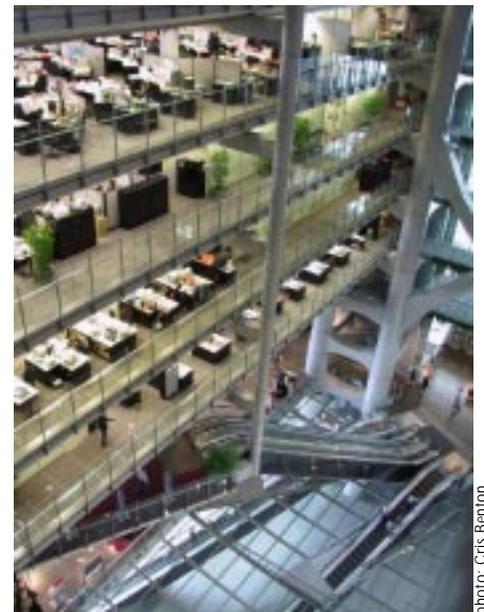
Richard Frewer (Head and Chair) has implemented many changes to the curriculum, including exchange opportunities with architecture schools in the U.S. and Europe. Instruction is conducted in English, studios are approximately a 1:10 tutor to student ratio, resources and facilities are impressive: photo lab to shoot projects and models, dedicated spray rooms, wood shop, small model shop with foam cutters and band saws, lighting laboratory, environmental laboratory (heliodon, handheld equipment, sky simulator), computer labs with high-end output equipment, 3-D model prototyper, and a digital photo lab where faculty may bring a stack of printed material to shoot digital images for presentations. Tom Kvan (Dean) has worked on grant opportunities to get every student connected to the net.

While there, we came across *Skylines of Hong Kong* published in 1999 by David Lung (UO alum) who is active in design practice and historic preservation. We did a walk through of the Hong Kong Shanghai Bank (Foster 1985) and talked with a few staff about their experience with daylight in the building. They responded positively about the contributions of daylight

• continued next page



Alison and Cris arrived in time for dinner and didn't miss a meal!



As a reward, the workshop participants were granted a tour of the daylighting-mirrored atrium of the Hong Kong Shanghai Bank.

SERVING ARCHITECTURE SCHOOLS

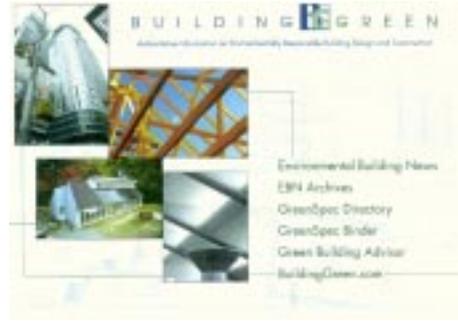
While reflecting on ten years of publishing *Environmental Building News*, I sometimes sit back and bask in the realization of just how far the sustainability movement has progressed during that decade and how well *EBN* has contributed to that advance. At other times, though, I kick myself that we haven't done an effective enough job at getting reliable information on sustainable design into the hands of those who arguably need it the most: students. I am disheartened when I learn via e-mail from an architecture student working to integrate sustainability into a studio project that he or she can't find the information needed—often the architecture school library doesn't have the important books and periodicals on sustainability.

We are making a concerted effort in the coming year to remedy this situation by making all our resources more accessible to students. One of our problems has been cost. Because we have never accepted advertising in *EBN*, a hallmark of our reputation, we have to support our operations through subscriptions and sales. So we have had to charge more than most students can afford. For the first time, we are actively promoting special student rates for not only *EBN*, but also our *GreenSpec* product directory (information on more than 1,500 green building products), the *Green Building Advisor* (an innovative, interactive software tool that helps identify sustainable design strategies), and the *EBN Archives* (a CD-ROM featuring all back issues of *EBN* from 1992–2000). Moreover, we are offering free review copies for architecture and design faculty. We can also set up special student-discount arrangements with university bookstores if educators make our materials required reading for courses. (A few of you already have.) To receive brochures highlighting student pricing or to request a review copy of any of these resources contact Jerelyn Wilson <jerelyn@buildinggreen.com> or 800.861.0954 extension 102. To learn more about BuildingGreen Inc. and these resources visit <<http://www.BuildingGreen.com>>.

EBN agrees with SBSE that integrating sustainability into architecture school curricula is a high priority. The Wingspread meeting in Racine, WI, last summer (described in Walter Grondzik's column in the Fall 2001 *SBSE News*) was an exciting step in what will likely be a long journey. I hope to follow up discussions begun at Wingspread by working with Second Nature, SBSE, and others to survey architecture schools on their sustainability curricula, publish the findings, and encourage more schools to more thoroughly integrate sustainability in their programs.

—Alex Wilson

[Alex is the founder and executive editor of Environmental Building News in Brattleboro, Vermont.—ed] ■



graphics: Building Green brochure

LETTERS [CONTINUED FROM P.2]

[Thanks for the Retreat site testimonial. I hope you can join us for an intense and beautiful event.—ed.]



My EYP colleagues who participated in the National Building Museum Tool Day last April really enjoyed and benefited from the experience, as did I. Unfortunately for my strategy to develop a more sustainable approach to design in the office, Jennifer Davis went to do a Habitat for Humanity Project in Hawaii shortly thereafter, and Peter Fiebelman has been sent to South Carolina to work on pharmaceutical projects. On the brighter side, one of my clients—Montgomery College in Takoma Park, Maryland—has decided to incorporate a photovoltaic system on the new Health Sciences Building we're designing for them. It's a demonstration project, but they are paying us to design it! I will let you know how it goes as the project progresses.

—Kathryn P. Rignore, Howard

[Think of them as acorns falling far from the tree; keep recruiting officemates to the cause. Will we see you at the Reno Tool Day prior to ASES next June? We look forward to hearing updates on the PV integration project.—ed.] ■

THE GONZO



photo: Candace Gossen

The Gonzo structure is an earth-sheltered, strawbale house incorporating thermal mass, passive solar, rainwater collection, composting toilet, and solar power. It was constructed by 10 people in 5 days at a total cost of \$3,700.

—Alison K. Wok

VITAL SIGNS AT HONG KONG [CONT. FROM P. 2]

to the atrium interior and remarked about the dynamics of sunlight as it bounced from the giant sun scoop, comprised of 480 computer-controlled mirrors to the reflectors over the atrium. During the 11-hour trip back to San Francisco, we tried to extend our experience by ordering noodles instead of the cheese-covered chicken. But it was clear we weren't in Hong Kong anymore. Stay tuned for more VS events over the next year. ■

SBSE PEOPLE

✦ John Wiley & Sons has mounted a slick advertising campaign based on the charisma and reputation of **Ed Allen**. Their all-Ed brochure features four of his seminal textbooks! [*Who says only sex sells?—ed.*]

🏠 **Gail Brager** has been named an ASHRAE Fellow.

📖 Coauthors **M. David Egan** and **Victor Olgyay** are happy to announce *Architectural Lighting*, 2nd edition, is finally available, thanks to SBSE members who helped review and support it. Published by McGraw-Hill, this book is greatly expanded from the first edition, and presents a balance of daylighting and electrical lighting information.

🏡 The sustainable communities project that **Martin Gold** presented at our Redfish Lake Retreat won a Boston Society of Architects unbuilt projects award that will be announced in *Architecture Boston* magazine in January.

🏛️ **Pierre Koenig**, FAIA, is one of the three finalists for an Architectural Design award in the Smithsonian Cooper-Hewitt National Design competition for 2001.

✂️ **Sandra Mallory** has obtained \$35,000 from the Russell Family Foundation and \$20,000 from the Seattle Foundation for her initiative "Sustaining Affordable Communities," at Environmental Works Community Design Center. The initiative provides informed sustainable design assistance to non-profit agencies and low-income housing developers. The project includes organizational capacity building, dissemination of green design information, and project-specific support.

🏠 To avoid doing laundry and such in his retirement, **Fuller Moore** has begun dabbling in building architectural models with impressive results. ▮



photo: Fuller Moore

Starter castle and yacht as modeled by Fuller Moore.

ECO-LITERACY RETREAT SCHOLARSHIPS

SBSE is pleased to announce six scholarships (valued at approximately \$235 each) for qualified students to help defray the cost of attending the 2002 Summer Retreat. Each scholarship student will be awarded free lodging, retreat materials, 2 dinners, and a reduced registration fee (\$25). Each will be responsible for his or her travel and other meals.

The intent of this scholarship program is to provide critical support to currently enrolled graduate students with prior experience as a teaching assistant in an environmental control systems (building science) course. Interest in pursuing a future teaching position in building sciences is expected. The program is not targeted at faculty currently holding teaching or practice positions. Interested students are encouraged to seek additional support from their home institutions (department, college, and/or university) to help defray travel expenses.

Applications should address the following issues which constitute our selection criteria. All other factors being equal, the selection process will favor geographic diversity of recipients.

- Contact information: name, institution, address, phone, and e-mail.
- Educational background: current and prior institutions and programs, specific experiences with environmental control systems (building science) courses, relevant learning experience through practice (if applicable).
- Summary of experiences as a teaching assistant in environmental control systems (building sciences). Briefly describe your experience, roles, and their context.
- Personal statement: why you are interested in teaching building sciences, when you hope to begin teaching, your anticipated teaching role, and the benefits you expect to derive through participation in the SBSE Summer Retreat.
- Letter of support: a brief statement in support of your application from a current SBSE member. Attendance at the retreat by both faculty and student will be viewed favorably in evaluating applications.

Please submit applications by 5 p.m. PST, Friday, March 1, 2002, to: Alison Kwok; Department of Architecture; 1206 University of Oregon; Eugene, OR 97403-1206; tel 541.346.2087; fax 541.346.3626; <akwok@aaa.uoregon.edu>. E-mailed applications are preferred.

Scholarship recipients are expected to complete the registration form and pay a \$25 reduced registration fee, travel expenses, and meal costs (in addition to the 2 dinners). SBSE will make arrangements and payment for double-occupancy accommodation at Sorensen's. Scholarship recipients are welcome to bring a friend or significant other to the retreat—a non-participant's fee of \$35 per meal is required if he or she joins us for the group dinners. ▮

—Alison K wok

NEW CLIMATIC DESIGN RESOURCES

New climate analysis graphics for 25 or so cities are available on the Climatic Design Resources web site. The *Climate Calendars* files are mean hourly data graphics processed in Excel from TMY2 data. Numerous climatic variables are displayed in both color and greyscale; presented in 12-month x 24-hour format; and are useful, among other things, for techniques in *Sun, Wind, and Light*.

Speaking of which, there is also a fledgling web site supporting the use of and teaching with the second edition of *Sun, Wind, and Light: architectural design strategies*. Both sites can be accessed via <<http://dell2002.cap.utk.edu/ecodesign/>>. ▮

—M ark D eK ay

START PLANNING FOR THE 2002 RETREAT [CONT.]

GREENING YOUR CURRICULUM

We are seeking *three or four* curricular approaches or specific courses for critique and redesign by retreat participants. Presenters will benefit from the feedback of their SBSE colleagues' vast cumulative years of educational experience. Each of the four presenters will document her or his existing course, entire curriculum (B. Arch, post-professional M. Arch.), or portion of a curriculum (third-year curriculum, studio sequence) and present it to participants. Written and graphic documentation will be required before the retreat for advance distribution to participants. Your presentation should include a critique of the existing course or curriculum and three important educational questions to help participants frame responses. We will structure one or more extended sessions to outline new or revised alternative approaches to your course(s). Notes and graphics from your session will be recorded, and you will be expected to write, with the assistance of your scribe, a summary of the outcomes of your session. Please submit an abstract of your course(s), pose educational questions, and address how examining your course or curriculum might be instructive to other SBSE members.

ELEGANT PARTS

In one session we will focus on sharing effective and engaging tools or class exercises. Do you have a favorite teaching or learning method that works particularly well to foster ecoliteracy, redirect perception from objects to relationships, build an appreciation of nature, or generate green design concepts? Would you like to share how you have taught the living processes in buildings or how buildings respond to their living context? We are looking for tools, design processes, teaching tricks, faculty meeting political tactics, or learning methods that go beyond the familiar, published approaches to improving efficiency or evaluating performance in an ECS class or studio. Be prepared to provide your audience with everything necessary to steal your idea and propagate it at their own schools.

Registration forms, the request for proposals, retreat schedule, extracurricular events and suggestions, scholarship information (see article p. 4), and other logistical data will be posted on the web at <www.sbse.org/retreat>.

All proposals are due by March 1. Please submit your essay, curricular approach abstract, or elegant part description, via e-mail, to both Sandra Mallory, <smallory@eworks.org> and Mark DeKay, <mdekay@utk.edu>. ■

—M ark D eK ay, S andra M allory, R obert M arcial

PATAGONIA TOOL DAY ALERT

The National Building Museum in 2001; Patagonia Headquarters and Warehouse in 2002! After you recharge your batteries at the Retreat and before you share your latest research findings at ASES, you can test your hypotheses about the inner workings of the very green Patagonia building in Reno (NV) with its PVs, tracking skylights, xeriscape, bike accommodation, recycled materials, electric forklifts, organic garden, and so much more <http://www.patagonia.com/culture/retailstore_reno.shtml>. Set aside June 14–15, 2002; join us there!

Stay tuned for details via the SBSE list server and the Tool Day web site <<http://www.aaidaho.edu/bldgvital/PatagoniaToolDay.htm>>. ■

—B ruce H a glund



Footbridge over Truckee waters leads to PV-shaded Patagonia Warehouse and HQ.

THE BABY BOOM GOES ON

AXEL HAWKINS REICH

We ecstatically announce the arrival of our son, Axel Hawkins Reich. Axel was born on 10/1/01 at 2:14 a.m., weighing in at 8 lbs.–2 oz., and measuring 20.5 inches. We three are now in the midst of figuring out the exigencies of newborn life. Come and visit sometime!

—J onathan R eich and S andy S tannard



photo: Sandy Stannard

MATEO GABRIEL SIGLER PEÑA

Mateo, a perfect 8 lbs.–1oz., arrived Sunday evening, October 28, 2001, at Marin General Hospital, with support from midwives Yeshi and Karen as well as a very excited father. Mother and child are splendid! ■

—R obert P eña



photo: Rob Peña

ATTRactions

HOME ENERGY

Home Energy could prove a good venue for SBSEers to publish research or articles pertaining to building science. In addition, SBSE members can subscribe at the rate of \$35 for six issues (regularly \$49/year). To use our magazine in the classroom and have your students subscribe, contact Carol A. Markell, Marketing/Advertising Manager, *Home Energy Magazine*, 510.486.7472; 510.486.4673 (fax) <<http://www.homeenergy.org>> to arrange for special pricing. Please mention the Society of Building Science Educators to receive the discounted rate.

—Carol A. Markell

GLENN MURCUTT MASTER CLASS

Glenn Murcutt will lead a 2-week residential Master Class in Australia, 7–21 July 2002. Other tutors include architect Peter Stutchbury and Australian educator Richard LePlastrier. Week 1 will be held at 'Riversdale' Residential Education Centre, a rural retreat south of Sydney—an award-winning building designed by Murcutt (with Lewin and Lark) in 1999. Week 2 will be at the University of Newcastle, north of Sydney—a bushland campus near golden beaches and the Hunter Valley wine region. Campus buildings include early Murcutt and several award-winning 'green' buildings by leading architects. The program will conclude with a weekend excursion to Sydney houses designed by Murcutt, LePlastrier, and Stutchbury. The Master Class is open to 32 senior students of architecture, postgraduates, teachers, and practising architects. The cost—AUSS 5,200 (approx US\$2,700 or Stg. 1,870 depending on exchange rates—includes transport in Australia (except Sydney), twin share accommodation for 14 nights, all food (except four free evenings) and the Sydney excursion. See <<http://www.ozetecture.org>> or <ozetecture@newcastle.edu.au>. ■

—Steven Fleming

ERRATA FOR HCL2

Corrections of the more serious errors in the second edition of *Heating, Cooling, Lighting* can be found by clicking on "Errata" at <http://www.bsci.auburn.edu/html/faculty_directory_6.htm>. The next printing will include all these corrections. ■

—Norbert Lechner

JOB OPPORTUNITIES

BALL STATE

The Department of Architecture invites applications for three or more Assistant/Associate tenure-track positions from educators with appropriate qualifications to offer instruction and conduct research and/or creative work in one or more of these curricular areas: building science and technology; digital media and design communications; arts and architecture/allied arts; environment and behavior/process, method and theory. Send letter of application indicating interests and objectives (including curricular area); curriculum vitae; names and addresses of three references; official transcripts of highest degree earned; samples of students' and professional work; and evidence of teaching, research, and design ability to: Stephen Kendall, Assistant Chair; Department of Architecture; College of Architecture and Planning; Ball State University; Muncie, IN 47306. No material will be returned. Review of applications will begin February 1, 2002, and continue until positions are filled. See <<http://www.bsu.edu>>.

COLORADO-DENVER

Assistant/Associate Professor of Architecture and Senior Instructor effective AY 2002–03. For job description, qualifications, and application instructions see <[http://www.cudenver.edu/public/AandP/Special Interests/Positions Available](http://www.cudenver.edu/public/AandP/Special%20Interests/Positions%20Available)>.

FLORIDA

The School of Architecture is seeking applicants for 4 tenure-track positions for AY 2002–03 in architectural design, environmental technology, architectural history, and architectural structures. Send a statement of interest; curriculum vitae with telephone numbers and addresses of at least 3 references; and examples of professional, academic coursework, research, scholarly, or creative work by January 7, 2002, to: Rocke Hill, Chair; Faculty Search Committee; University of Florida; School of Architecture; PO Box 115702; Gainesville, FL 32611–5702; tel 352.392.0215 ext. 218, <rocke@ufl.edu>.

IDAHO

Assistant Professor of Architecture, full-time, nine-month, two tenure-track positions—environmental technology and beginning design/graphics, effective August 2002. See <<http://www.aa.uidaho.edu/arch/>>. Send curriculum vitae; statement of teaching and research objectives; names, addresses, e-mail addresses, and phone numbers of three references; 8½" x 11" portfolio including examples of student work; a self-addressed, stamped envelope in which to return your portfolio. Address inquiries and applications to: Bruce Haglund, Search Committee Chair; Department of Architecture; PO Box 442451; University of Idaho; Moscow, ID 83844–2451; <bhaglund@uidaho.edu>. The application deadline is February 14, 2002, or until filled.

MINNESOTA

The Department of Architecture is seeking candidates for a position in architectural design and structures for AY 2002–03. Qualified individuals may be appointed as assistant or associate professor and may be tenured or tenure-track with salary commensurate with experience. Applicants must submit in 8½" x 11" or A4 format: letter of interest; curriculum vitae; contact information for three references; sample of scholarly, professional, and/or academic work to Chair, Building Technology Search Committee; Department of Architecture; CALA; University of Minnesota; 89 Church St. SE; Minneapolis, MN 55455. Review of applications begins January 15, 2002, and will continue until the position is filled. Find more detailed information at <http://www.ohr.umn.edu/1617/job_search.cfm or www.cala.umn.edu>.

SOUTHERN CALIFORNIA

The School of Architecture at USC has begun a search to fill a tenure-track faculty position in architectural technology and design. The new faculty member will teach courses at the undergraduate and graduate levels and guide graduate thesis work. Applicants should submit a letter of interest and an illustrated résumé as soon as possible to: University of Southern California, School of Architecture, 204 Watt Hall, Los Angeles, CA 90089–0291, ATTN: Faculty Search Committee. Portfolio and/or examples of publications will be required after the initial screening process. Applications will be reviewed by the committee as soon as they are received. The search will remain open until the position is filled.

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A SUMMER IN SAUSALITO WITH SIM

Last summer I had the pleasure to intern at Sim van der Ryn's Sausalito office, Van der Ryn Architects (VA), which integrates the latest achievements in green building design in practice. Under the supervision of Rob Peña, my primary job was to develop energy simulation program protocols for use during our design process. In previous years VA sent designs to an energy analysis consultant (who used *DOE-2*). But we wanted to identify software to use internally when working on small-scale projects; so we selected *Energy-10* for its informative outputs and ease of use, especially during the early stages when important design choices that can greatly affect energy-efficiency are made. We developed specific protocols and forms to facilitate energy simulation during our design process, then tested and refined them on a current project.

One client, highly motivated by the energy crisis, brought in an interesting job—to evaluate the energy consumption and assess possible renovation options. What an excellent chance to apply the Vital Signs techniques learned last spring in my UIIdaho seminar. We used “Whole Building Energy Use: Simulation and Prediction for Retrofits,” the Vital Signs Resource Package by Larry Degelman and Veronica Soebarto (Texas A&M), which provides strategies based on predicting whole building energy performance through on-site measurements and an energy simulation model. We made several field visits to the building to interview the office manager, take on-site measurements, and conduct occupant surveys, as well as perform computer modeling and evaluate retrofit options. Actual utility bills were used for calibrating the base case computer model. To assess the retrofit options' effectiveness we used *Energy-10* which required creating several new input-output forms.

In addition to those two big jobs, we conducted a short-term study to determine the feasibility of a PV-array installation. Rob and I climbed a couple of big roofs, transit in hand, to take readings to make horizon shading masks. Then we input the information into *PV-DesignPro* software to determine possible energy output depending on type and amount of PV panels used. All this, combined with the information on the cost of the typical PV installation, provided the client with a clear picture of the system's profitability.

• continued next column

Overall, I had a very exciting summer—I put to good use the knowledge I obtained during the school year and learned even more by using it for real projects. *[And you learned to play softball, too!—ed.]* ■

—Y elena Chenchik



images: Yelena Chenchik

Back at the UI, Yelena continued to run daylighting analyses on VA buildings (Real Goods).

JOB OPPORTUNITIES [CONTINUED]

TEXAS A&M

The Department of Architecture invites applications for full-time, tenure-track positions beginning in August 2002, in environmental technology, structural design, foundation studio design, and graduate studio design. Applicants must demonstrate a deep interest in teaching graduate architectural design in the M. Arch. program and in pursuing intellectual goals through research, scholarship, and creative work. Send a statement of interest; curriculum vitae with telephone numbers and addresses of at least three references; and examples of professional, scholarly, or creative work by February 15, 2002, or until position is filled to Phillip Tabb, AIA; Department Head; Texas A&M University; Department of Architecture; College Station, TX 77843-3137; tel 979.845.0129; fax 979.862.1571; <<http://archone.tamu.edu>>.

WASHINGTON

The Department of Architecture and the Seattle Lighting Design Lab invite applicants for the position of Research Associate—Architecture: Lighting and Daylighting, a full-time, twelve-month appointment to work with lab director, Joel Loveland. The associate consultant shall have weekly teaching responsibilities for daylighting classes in the Puget Sound region. This full-time position is funded through December 2002, and the probability of funding through 2004 is excellent. Review of applications will begin November 15, and will continue until the position is filled. For current information, e-mail <loveland@u.washington.edu>.

WISCONSIN—MILWAUKEE

We are looking for a technologies (either ECS or structures) + design faculty, with a premium on design integration skills and an interest in teaching design studios in our doctoral program. ECS would be a great fit with our current strength in environment behavior studies. See <<http://www.uwm.edu/SARUP//jobs/archposition.html>>. This critical hire has the support required to build a strong 'green' focus. Your talented graduate students and former students with a few years professional experience are encouraged to apply. ■

THE ULTIMATE GIZMO?



Is this beauty under your ECS-mas tree? Cris "Cringler" Benton would approve!

photo: Forestry Suppliers brochure

FLOW CHART

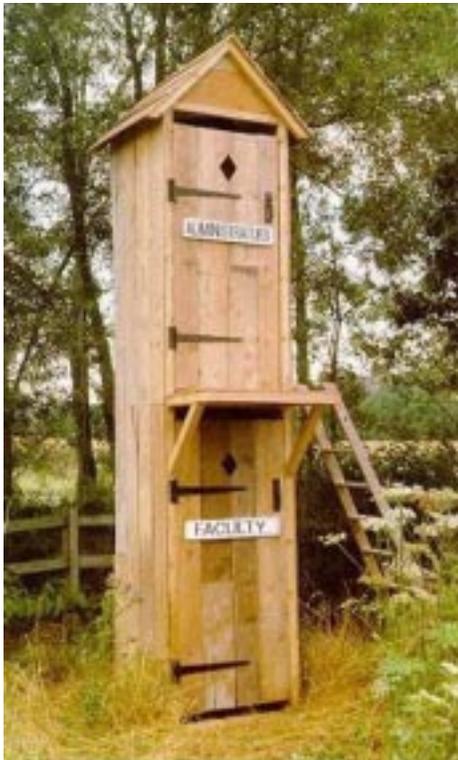
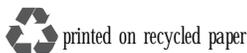


photo: web art modified by Fuller Moore

And department chairs occupy the associated earth-sheltered space.



SBSE NEWS
 C/O BRUCE HAGLUND
 DEPARTMENT OF ARCHITECTURE
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NEW SBSE URL AND MORE!

Back in September, Robert Marcial put his E-Bay trained watchful eye to practical use and snagged the domain name "sbse.org," leased it, and donated it to SBSE. Our new web site address is <<http://www.sbse.org>>. Advantages? First, "sbse.org" is easy to remember and say. Second, our address will continue to work when transferred from one johnny-come-lately internet service provider to another. If you know of any links from other websites that point to our old URL, <<http://www.polaris.net/~sbse/web/>>, please inform the webmaster that we have a new URL as we contemplate switching internet service providers. Robert has succeeded Walter Grondzik as the facilitator for the SBSE web site. If you have items you would like to include on the SBSE web site, please send them to Robert at <rmarcial@uclink4.berkeley.edu>.

Thanks to Walter for giving birth to our web presence and maintaining the SBSE web site for the past 6 years, bringing us into the digital age, keeping us up-to-date with conference schedules and meetings, oiling the squeaky wheels, and entertaining us with digital essays of SBSE retreats. Here's hoping the digicam will stay dry enough to continue sending more reflections. ■

—Bruce Haglund and Alison Kwok

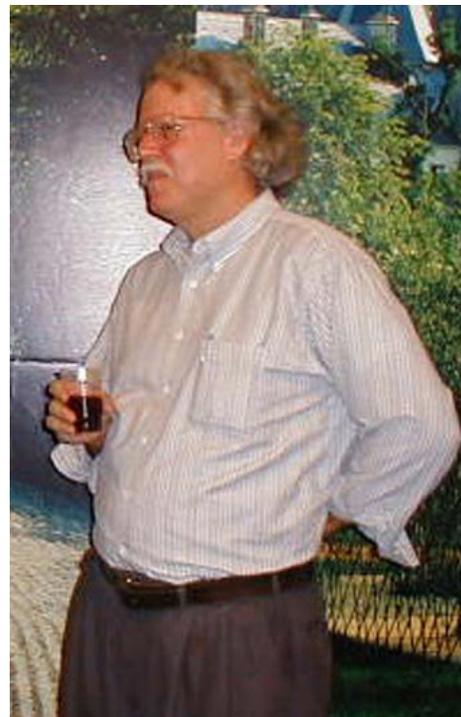


photo: Alison Kwok

Thanks, Walter, for six years of web magic!

SPRING ISSUE SUBMITTAL DEADLINE—MARCH 1

GREENING OF THE CAMPUS 4

September 20–22, 2001, Ball State University

The fourth *Greening of the Campus* conference was held in spite of the events of September 11. Understandably, there were a number of cancelled sessions, but overall attendance was good. The opening plenary session featured David Orr who raised many of the issues that have been on all our minds. With the conference title, “Moving to the Mainstream,” Orr focused on not letting fanaticism affect the momentum of the past conferences and our future efforts. He underlined the connected nature of the world and the need to address all levels of sustainability, including the political.

Politics set an interesting tone to the conference, particularly student involvement. John DiBiaggio, president of Tufts University, spoke on “Citizenship and Sustainability” and emphasized that universities will and do respond to student activism. As if to underline his point, a group of student activists interrupted his speech. It wasn’t clear what their concerns were, but one of the more vocal of the group asked how many of us had come by bicycle. I was sitting at a table with a group of four attendees from Michigan who came together in their university’s hybrid car. It seemed like a good second choice.

University of Idaho forestry student Jason Eaton and our illustrious editor further illustrated student involvement with a presentation on “The Greening of a 1950s Dormitory.” This multidisciplinary, student group effort to green an existing facility on campus demonstrated what the conference was all about—getting involved.

The strength of the conference continues to be the varied background of the attendees, the organizational skills of the Ball State University Green Committee, and the support of the university. Paper sessions included energy conservation, curriculum transformation, education development/outreach, values and ethics, and physical plant management just to name a few. With speakers ranging from the above to Janine Benyus, life sciences writer; Anthony Cortese, president of Second Nature; Richard Norgaard, president of the International Society of Ecological Economics; and John Perlin, author of *A Forest Journey*; the message was universal—support of the environmental commitment of our colleges and universities is unlikely to disappear in the wake of 9/11.

–Jim Wright



An SBSE contingent at Greening IV visited Garfield’s kitty litter, er, living machine, still operating scentlessly after a decade of service.

photos: Rob Peña

COOLING FRONTIERS WORKSHOP

October 4–7, 2001, Arizona State University

HE SAID

We might have seen the birth of a new prototype: a small, single-topic gathering of researchers, designers, and grad students reporting on their current work. It was pulled together in a couple of months by a team of faculty that included Marlin Addison, Harvey Bryan, Jeff Cook, Vidar Lerum, and David Scheatzle. About 60 people attended and everyone participated in some way. There were 32 speakers—everyone else was scheduled to offer reactions at the end of one of the sessions. All of ASU's graduate students, plus some from other schools, gave short, 10-minute presentations of their thesis research projects, and as always the best discussions were one-on-one afterwards.



Cooling Frontiers folks participated in a grand experiment. Ice in the desert?



The (un)usual suspects gather for a cooling frontier photo op. Where are Margot and Gail?

A couple of the papers generated some contentious debate that spilled over into later sessions, something all too rare at larger conferences. I was very impressed with the sophistication of the grad student presentations, an indication of excellent teaching in our field. Most troubling to me, however, was a presentation made by an architect of a “naturally ventilated” highrise building being designed for a client in San Francisco. In my opinion it has serious flaws and could give natural ventilation a bad name, but it received only a few polite comments.

Extracurricular highlights: Steve Baer gave thought-provoking demonstrations in the ASU rooftop Solar Lab; Gail Brager improvised her famous Brownian Motion dance with Harvey's grad students; we took field trips to places some of us had never seen or had not re-visited for many years; ASU faculty hosted small group dinners at various local restaurants; and the ASU students prepared a buffet of their native dishes.

The payoff is great for this kind of small, single-topic workshop organized by a school with a strong Building Science program. We all had a chance to discuss each others' current projects in a more informal setting. The students had a chance to present their work before the people whose papers they had been reading for years. I also appreciated the chance to see ASU's facilities and to understand more about their programs, all of which will make it easier for me to recommend it to prospective applicants and to understand the educational experience of their graduates. Jeff tells me the costs were not too great—lodging and a bit of help with travel expenses.

Perhaps ASU or another school will organize another such workshop soon.

—Murray Milne

SHE SAID

In October members of the School of Architecture at Arizona State University in Tempe assembled over fifty academicians, practitioners, and graduate students at a four day symposium entitled, *Cooling Frontiers: The Advanced Edge of Cooling Research and Applications in the Built Environment*. The well-choreographed conference put on by our colleagues at ASU—Marlin Addison, Harvey Bryan, Jeff Cook, Vidar Lerum, David Scheatzle, and David Tait—covered many topics of current interest regarding comfort, building performance assessment, design strategies, computer modeling techniques, and field measurement procedures.

The conference opened with an evening plenary given by Nick Baker of the Martin Centre for Architectural and Urban Studies in Cambridge, UK. His talk, “Designing for Thermal Comfort: the Adaptive Urge,” reinforced Lisa Heschong’s classic tale of thermal delight in architecture and elaborated on the topic through references to the human comfort research of Humphreys and Nicol, Schiller (aka Brager), and Fanger.

The next two days were filled with paper presentations and discussion sessions on outdoor cooling (ponds as a cooling source, thermal comfort in outdoor spaces, and microclimate analysis applied to design), radiant cooling (courtyards, low energy mechanical radiant systems), convective cooling (airflow analysis, underfloor air distribution and displacement ventilation), and structural cooling. Many of the talks included building case studies to illustrate techniques, performance, and examples of computer analysis tools. The computer tools were presented in the context of visualizing and predicting cooling performance and included UCLA’s *Solar-5*, *Energyplus*, CFD models such as *FLUENT*, and radiant models such as *RADTHERM*.

The final day of presentations ended with two special talks by individuals who have advanced the knowledge base of passive cooling design in different ways—John S. Reynolds (UO) and Mr. Harold Hay (inventor). The completion of Reynolds’ book *Courtyards: Aesthetic, Social, and Thermal Delight* was the basis of his talk which offered a pre-publication look at his courtyard studies illustrating their role in adaptive behavior through additive elements such as *toldos* and fountains. (What is a *toldo*, you ask? You’ll have to read the book!) The day’s closing presentation by Harold Hay concentrated on the future needs of architects and engineers—characterized as the organic and the inorganic—to combine their skills for creative and practical problem solving in the built environment. His paper provides an historical perspective of the successes and failures of promotion and market penetration of solar energy with more than a few ideas for the future.

On the fourth and final conference day, field trips were arranged to several local sites related to the conference cooling theme. One stop was a residence in Carefree, AZ (a suburban town 30 miles north of Phoenix) that is currently being monitored and evaluated by ASU faculty. The house uses a capillary tube radiant ceiling, the more traditional radiant floor system in

combination with water-source heat pumps, and an indirect evaporative cooler to achieve both heating and cooling. In addition, two other sites included Will Bruder’s Phoenix Central Library and a drive-by “windshield survey” of Richard Meier’s recently completed Phoenix Federal Courthouse. Access to the courthouse was limited due to the heightened security nationwide.

All in all, this event was outstanding. The currency of the topics presented, caliber of the cooling research endeavors, and relevancy of the built examples of innovative cooling technologies presented made *Cooling Frontiers* a model that should be repeated at other schools and a prototype that could be extended to other areas of building science research. It should be noted that the conference was arranged through the Herberger Center for Design Excellence and was supported, in part, by the Evelyn and Harold Hay Charitable Trust.

For further information on the event contact any of the conference organizers at ASU. ■

—Margot McDonald



TEN SHADES OF GREEN

Fall Semester 2001, Berkeley Art Museum

The Center for the Built Environment (CBE) and the Berkeley Art Museum teamed up to bring the exhibit to Berkeley for fall semester, and I had the opportunity to host the gallery talks. Arranged by Peter Buchanan and the Architecture League of New York (ALNY), the exhibition defined 10 “shades of green” or dimensions of sustainable design through 13 projects from around the world (though most were European) that included a museum, office buildings, housing projects, and private homes. The exhibit combined four houses into one category, thereby allowing a simple 10x10 matrix. Ten projects. Ten shades of green.

As the host for the gallery talks and tours, I gained some valuable insight about what the general public, practicing architects, engineers, and academicians thought about “green architecture” and their feedback on the exhibit itself. I’ll touch on just three.

First, people expressed surprise at the projects chosen for the exhibition. Such was the intention of Buchanan and the ALNY. Buchanan emphasized that there is no such thing as a “green aesthetic.” In other words, there are various aesthetic solutions to the same problem, but a green aesthetic that separates itself from the mainstream does more harm than good. In their search for American buildings they were not able to find many that were green and didn’t look it. Our local GAP Headquarters was considered, but they described it “clunky.” His second point was that beyond being green, a building should represent and deliver a better quality of life. The general public should be more conscious and demanding about the buildings they inhabit and build; architects and engineers should deliver the best buildings possible.

A second response from tour participants was, “Show me the money.” No matter how much we educators go on about holistic design being able to reduce equipment size or eliminate some equipment altogether, people still want to know about costs, payback periods, and how total costs compare to standard construction.

The third critique will sound familiar. People wanted to know, “Is it really green, and where is the information that proves that a particular building is working as intended?” I encouraged my audience to start demanding that type of information from the various sources claiming a project green and energy-saving. Those sources include organizations such as the U.S. Green Building Council, popular architecture journals, architects who claim their buildings are green, and, of course, professors of architecture.

The exhibit is a great discussion generator. It will be at the Municipal Building in Salt Lake City (Jan–Mar 2002). Thereafter, it will return to the west coast for its final stop at the Orange County Museum of Art in Newport Beach (Apr 6–Jun 29, 2002). If you have the opportunity to see the show, I highly recommend it and would like to hear your comments (rmarcial@uclink4.berkeley.edu). If you’re planning on attending the next SBSE retreat, we can chat then. Its web site <www.tenshadesofgreen.org> doesn’t do the well-crafted exhibit justice, however, it does provide basic information about the *Ten Shades of Green* projects.

—Robert Marcial



photo/plan: tenshadesofgreen web site

Multi-family dwellings at Slateford are included in the exhibition.



Green residences are included in the exhibition.



photos: tenshadesofgreen web site