

SOCIETY OF BUILDING SCIENCE EDUCATORS SBSE NEWS

SPRING 2001

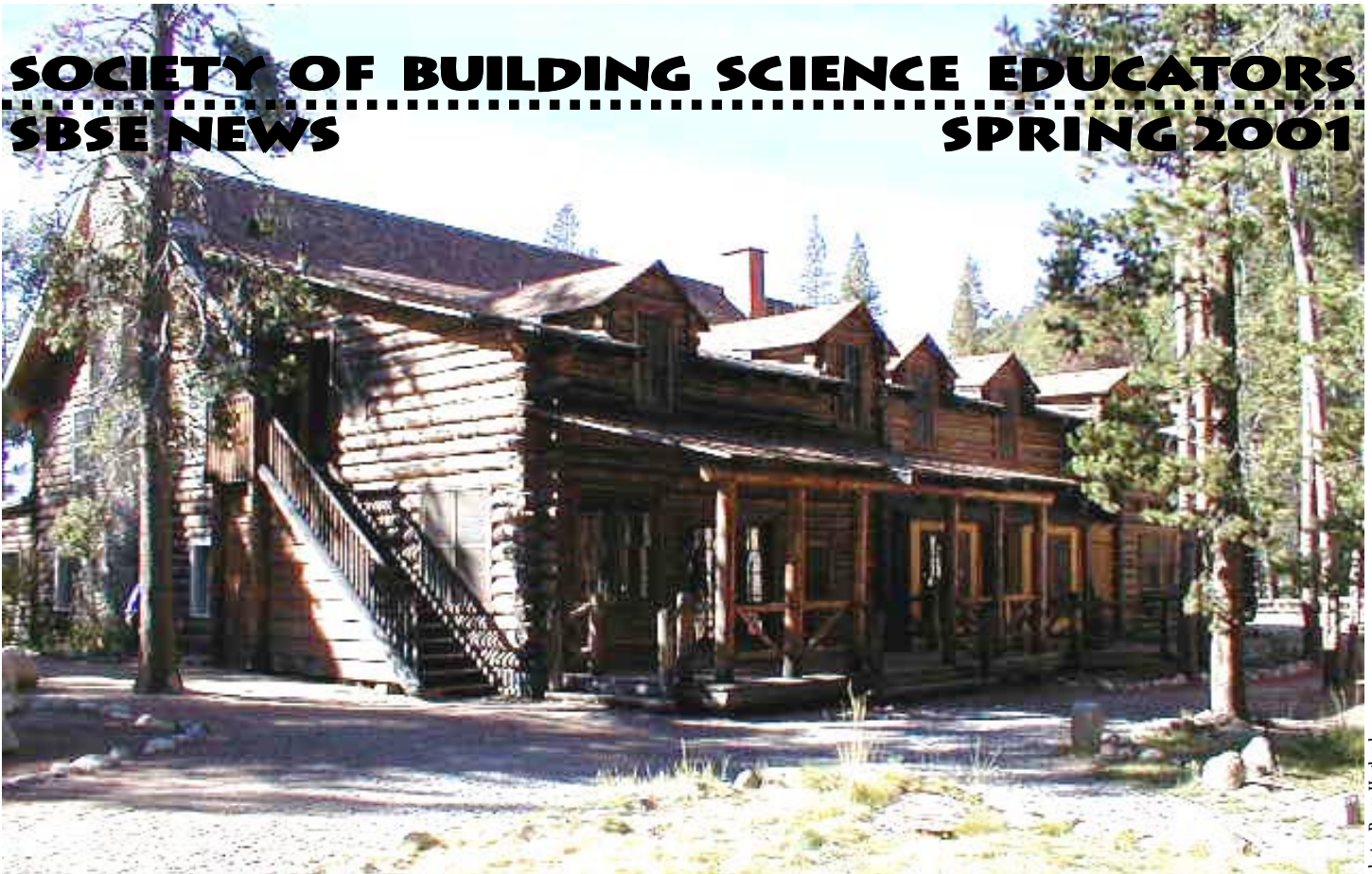


photo: Bruce Haglund

Redfish Lake Lodge's backside shows off the rustic, mountain vernacular of our retreat venue.

REDFISH LAKE RETREAT DRAWS FLIES, FISHERS

FULL DETAILS: [HTTP://WWW.AA.UIDAHO.EDU/BLDGVITAL/SBSE2001/](http://www.aa.uidaho.edu/BLDGVITAL/SBSE2001/)

Thirty-two SBSEers beat the March 1 deadline to sign up for the retreat. Nonetheless procrastinators are invited to join us; there are still lodge and motel rooms available. Contact logistics coordinator Bruce Haglund <bhaglund@uidaho.edu> to learn how to register and participate in the retreat.

A census of attendees indicated that content coordinator Alison Kwok's theme of training and supporting the next generation of great environmental technology educators is well-supported. Among the happy Redfish Lake-bound throng are seven student scholarship recipients from Idaho, IIT, and Oregon as well as ten other first-time retreaters. Three of our Living National Treasures [*check out the retreat Web site to learn their identities-ed.*], fourteen university faculty, four practitioners, and four people from allied professions will gather to pass on teaching expertise. Educators from Hong Kong and Russia will extend our global influence. A book editor and research evaluators will be on hand to expand your scholarship horizons. Colleagues (with extensive experience, unbounded enthusiasm, or both) will contribute their ideas on teaching technology and design, and each will bring *omiyage* (a simple, but profound teaching aid) for all. Our ranks will be enriched by a score of significant others who will share in our informal activities and meals. This diverse crew will provide a rich and valuable experience for all who attend. The retreat schedule allows plenty of time for valuable interaction among the participants. Charlie "Fish Head" Brown asks all prospective fly fishers to check in with him before the retreat <gzbrown@aaa.uoregon.edu>. We hope each attendee expands her or his network of valued colleagues. Synergy shall prevail!

At press time the final schedule of events is being developed by your retreat coordination team. Stay tuned to the Web site for the exact schedule. █

-Bruce Haglund

SBSE CALENDAR

2001

- Apr 8-10 ARCC Spring Conf.; Blacksburg, VA
- Apr 21-25 ASES Solar2001 Conf; Washington, DC
- Apr 22 SBSE/NBM Tool Day; Washington, DC
- Apr 23 SBSE Annual Mtg; Washington, DC
- Jun 9-12 SBSE Retreat; Redfish Lake, ID
- Jun 15-18 ACSA Int'l Conference; Istanbul
- Jun 23-27 ASHRAE Annual Mtg; Cincinnati, OH
- Jul 14-17 ACSA Technology Conf.; Austin, TX

2002

- Jun 15-19 ASES Solar2002 Conf.; Reno, NV █

CALL FOR NOMINATIONS

It's election year! Dimple those chads! Submit your nominations for SBSE President-Elect and Secretary/Treasurer to Walter Grondzik by e-mail <gzik@polaris.net>; fax 850.893.7414; or surface mail (W. Grondzik; 2998 Foxcroft DR; Tallahassee, FL 32308). He **must** receive them no later than **17 April 2001**. During the annual meeting, nominations from the floor also will be accepted. In both cases, the nominator must provide assurance that the nominee is aware of the nomination and is willing to serve if elected. █

-Walter Grondzik

LETTERS TO THE EDITOR

I read the *SBSE News* on-line, and it is terrific.

Every year I wish I had participated in the SBSE summer retreat after reading your newsletter. This year I may even be able to plan for it. Is this event open for members only or can anyone who is interested in building science education attend?

—H itesh D oshi, R yerson P olytechnic

[Our retreats are definitely not for members only. We welcome a wide range of people because we advocate improving building science education worldwide.—ed.]



photo: Fuller Moore

Fuller Moore reminds us that in retirement you're free to collect 324 Btuh/sf on a winter's day.



The Ohio School Facilities Commission has recently completed a study of various energy-related facilities systems. I thought SBSEers would find it interesting and possibly useful for coursework. I lobbied the OSFC to respond to Lisa Heschong's (H-MG) daylight-

• continued next page

SBSE News is published quarterly by the Society of Building Science Educators, a not-for-profit corporation. Material for publication should be submitted 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. Membership and mailing list inquiries should be directed to Terri Meyer Boake, Secretary/Treasurer; School of Architecture; University of Waterloo; Waterloo, ON; Canada N2L 3G1; phone 519.885.1211 x6647; fax 519.746.0512; e-mail <tboake@cousteau.uwaterloo.ca>. Join the SBSE list server by sending **subscribe sbse** to <majoromo@uidaho.edu>. Visit our home page <<http://www.polaris.net/~sbse/web/>>. ■

REPORT FROM THE ARUP ARCHIVES

Over winter break with the good graces of Chris Luebke and a small internal grant, I finagled a visit to a number of divisions at the London offices of the Arup Group (formerly known as Ove Arup & Partners) including Chris' Research+Development Group, Arup Associates (mostly architects), Building Engineering Group 4, and others. I cannot say enough good things about the experience. The best part is that SBSE has more opportunities to explore with Arup Group; I think there are possibilities for teaching or research fellowships at the Arup Headquarters.

The Arup campus I visited occupies several city blocks in London. (They now have one in the Midlands as well.) I spent a bit of time with Chris and his research group. Everywhere you turn you'll meet people who worked on landmark buildings. I saw Polaroids of the Menil Collection ferroconcrete leaf prototypes mocked up in plaster on someone's kitchen floor. I spent half a day at the Leslie Godwin (now Aon) offices in Farnborough, touring the Briarcliff House with the inventor of mechanical vent skin buildings, Peter Warburton. The list goes on. I also toured Lloyds of London (inside!), Sainsbury Art Center, Schlumberger Research, and Stansted Airport. I walked around Willis Faber Dumas (now Willis Caroon) on a rainy Sunday.



Photo: Leonard Bachman

Peter Warburton in the HVAC loft of Briarcliff House office building. The south-facing, double-glazed building skin provides noise control, passive heating, and duct distribution space for the 100,000 sqft insurance offices. At the base of the south façade, the envelope turns outward and becomes a glass walkway canopy. At the roof, it vaults to enclose the passive and active air handling systems.

I was truly impressed by how sincerely committed everyone at Arup is to the ideal of integrated buildings. This sincerity extended to personal interest in what others had to say. Everyone I met was an intrepid listener and receptive conversationalist. As a resource, Arup's archives contain an infinite wealth of research fodder. I came away from my visit to their visual resources collection with 40 images burned on a CD as fast as I could pick them. Publication-quality slides (and copyright information) were waiting three days later for very nominal reproduction fees. Chris stressed Arup's willingness to consider and foster a structured program of academic fellowship.

Maureen Gill, Research+Development Group, arranged a great number of details for my trip, including corporate rates at a nearby hotel and communication with building management for my tours. Chris, as busy as he and everyone at Arup were, took time to show me around the offices and arrange introductions, interviews, and lunches. My thanks again to everyone at Arup. SBSEers have an obligation to seize this opportunity. ■

—L eonard B achman

RETREAT 2002 PROPOSAL: ECOLITERACY

[Mary Guzowski offers this rough proposal for the 2002 retreat we will discuss at the Annual Meeting in April. Please send your reactions to the listserv <sbse@uidaho.edu>.-ed.]

I want to follow-up on our discussion of a 2002 SBSE Retreat, "Ecoliteracy for the Design Professions," that will build on the 2001 ACSA Annual Meeting session I'm co-chairing with Joyce Lee (AIA COTE Chair-elect) and that includes David Orr, Marv Rosenman, and James Wines. I will follow up with a Web-based conversation on David Orr's paper for ACSA. For the retreat, we could talk with Orr about an event at the new Center for Environmental Studies at Oberlin. I'm happy to take the lead on this (with help from Walter and Bruce) as well as e-mail David with a brief proposal to conduct an "SBSE Building Work-Up" and hold related discussions on ecoliteracy. I imagine SBSE 2002 being in the spirit of the Green Gulch workshops (with folks sharing session duties in addition to performing the building work-up). If we want David Orr to be involved (which would be critical), we would need to provide an honorarium (\$800/day), or we could barter the building work-up.

Questions: 1. Do you think "Ecoliteracy and the Design Professions" a compelling enough topic? 2. Should I contact David Orr to explore holding the event at the Environmental Studies Center? 3. Who would volunteer to be the local SBSE contact for retreat logistics coordination? If it's a "go," I will put together a concept statement for the summer newsletter after I've talked to David Orr. Marv Rosenman would like to participate, too. I've already been encouraging him to consider an EASEII project. Also, Malcolm Wells would love to join us, and I want to include him. ■

-Mary Guzowski

ANNUAL MEETING AGENDA

WASHINGTON, DC
MONDAY, 23 APRIL 2001
5:45-6:45PM

1. Welcome and self-introductions
2. Treasurer's report
 - a. finances
 - b. membership
3. Newsletter
4. WWW site
5. Peer review network
6. Nominations
 - a. President-Elect
 - b. Treasurer
7. 2001 summer retreat information
8. 2002 summer retreat proposal
9. Sharing SBSE educational resources
 - a. syllabi, assignments, webs
 - b. images
10. New business
11. Adjourn ■

-Walter Gronzick

SBSE PHOTO CDS AVAILABLE!

Remember the days of the Slide Exchange Program—those lovely sessions at conferences with ye olde slide duplicator? Never again! The slide collection is now digital. SBSE has transferred selected slides from the collection to Kodak Photo CDs. Jeff Culp and Bob Koester at Ball State University have developed a system to repackage, duplicate, and distribute these CDs to the membership. Each of the 13 CDs presently available through SBSE contains about 100 images, each in multiple resolutions (up to 3072 x 2048). The CDs are organized by slide set with some containing multiple sets. In addition, each CD contains any image annotation provided by the author at the time of submission. The CDs are available now for \$12 each, including shipping. The proceeds are dedicated solely to covering production costs and maintaining the collection. Much more information—including technical details, previews of the contents of all the CDs, and ordering information—is available on the SBSE Web site <<http://www.polaris.net/~sbse/web/>>. Click on "Materials," then "Image Gallery." ■



The SBSE image archive is replete with photographic gems like Fuller Moore's collection of shots of Alvar Aalto's Viipuri (Vyborg) Library.

-Jeff Culp

[The Kodak PCD format CDs can be imported by many image manipulation, word processing, and publishing software packages when the appropriate filters or plug-ins are installed. The contents and their usability are even more spectacular than the beautiful packaging! Each CD contains a PDF file with a thumbnail index of the CD's contents and notes from contributors which make it easy to select images and to understand their significance. The SBSE Web site offers several different, easy ways to preview the CDs' contents before ordering. The CD Image Library continues our tradition of resource sharing in an easy-to-use, high-quality, reasonably priced mode. Let's all help the collection expand. A new digital age of image-sharing is upon us ... stay tuned!-ak & ed.]

LETTERS [CONTINUED]

ing vs. productivity study in their facilities guidelines over a year ago. They have evaluated a sidelighting scheme. I wasn't happy with it, but it is a move in the right direction. Hopefully, overhead daylighting systems can be incorporated soon. Check out <<http://www.osfc.state.oh.us/Whats%20News.htm>>

-John McCreery, AIA

[Part three of the study, dated February 7, 2001, highlights the daylighting investigation. The conclusions on pp 49-55 are interesting in that an ill-conceived daylighting scheme usually breaks even or better. Just imagine how well skillful design would fare!-ed.]



The Seattle Lighting Design Lab is back in action after 3 days of intermittent phones and electricity following the February 28 earthquake. I gave a consultation on a building in the LDL Daylighting Lab by daylight! And, on my battery-powered laptop computer!! I was the only person working the afternoon after our great shake! Testament to the viability of daylight?? ■

-Joel Loveland, Washington

[Daylighting fills the void!-ed.]

SBSE PEOPLE

✪ A chapter on lighting design by **Harvey Bryan** was just published (December 2000) in *Facility Design and Management Handbook* by McGraw-Hill.

✪ **Mark DeKay** is back from India to the ever-so-efficient and temperate U.S.A. He's moved to Knoxville, Tennessee, taking a position at the University of Tennessee. The Ecodesign web sites ("Teaching Energy+Architecture" and "Climatic Design Resources") are still at their old Wash U URL <<http://ecodesign.arch.wustl.edu>> until it all gets moved to UT.

👪 **Alfredo Fernandez-Gonzalez** and Joanna Kepka became parents of a baby boy, named Milosz Juan Pablo Fernandez Kepka, on Wednesday, January 10, 2001. Milosz weighs 3.4 kilos and measures 49.5 cm. [*An SI unit!*—ed.] The parents feel great and wish you all the best in the New Millennium! ■

photo: Alfredo Fernandez-Gonzalez



When I am holding Milosz in my arms, I can only think of Rabindranath Tagore's wonderful words: "In love, all the problems and contradictions in life dissolve and disappear."—Alfredo

photo: Norbert Lechner



The Sun Emulator Heliodon with a model in place.

STUFF THAT'S OUT THERE

ENERGY DESIGN RESOURCES NEWS

The *EDR Newsletter* is available in PDF format online at <<http://www.energydesignresources.com/enews/PDFedr/>>. Issue 21, Dec 8, 2000, contains a very interesting proposal—not the same as the Academy of Architectural Science proposal, but I bet it will fill a need. See the comments on the number of learning units.

—Murray Milne

SOLAR-5 JIVES ON JAVA

Finally the new Java version of *SOLAR-5, HEED* (Home Energy Efficient Design), has been released. You can download a free copy <<http://www.aud.ucla.edu/heed>>. *HEED* tells how much money can be saved on utility bills when making various home design or remodeling changes. It lets you draw a floor plan, click and drag windows into their exact location on each façade, and then grab a 3-D view of the house and rotate it to an appropriate orientation. After installing and starting *HEED*, just click NEXT to run through the demo.

Please send us feedback or pose questions <heed@aud.ucla.edu>; we'll be happy to respond. *HEED* is designed for residential buildings in Southern California, but if you like it and want to run it for another climate, I'll tell you how to trick it.

—Murray Milne

ACAD 2000 SHADING PLUG-IN

[*Item contributed by one of my enthusiastic students. Is the plug-in well-conceived?—ed.*]

AutoCad 2000 has a sun angle calculator plug-in. I was looking for shading devices on the web, and I found this Web site <<http://www.ntua.gr/arch/geometry/tns/shadecad/>>. It seems to give the angle at which you need to place your shading devices. I'm trying it out right now.

—Irene Ng

LESSONS IN LIGHTING ONLINE

Lightolier has developed a free-of-charge, on-line course <<http://www.lightolier.com>> on the basics of electric lighting design. It can serve as a valuable review for a basic lighting course. Each well-illustrated lesson is capped with a multiple-choice quiz—some have challenging questions and you're allowed to guess answers until you're right. Light and color quiz example:

1. Energy emitted across the whole visible spectrum is ...

- a. high in lumen output
- b. white light
- c. good on warm colors, but not on cool ones
- d. designated CRI

—Bruce Haglund

LUMEN-MICRO OFFERS EDUCATIONAL DEAL

The *Lumen-Micro 2000* upgrade comes with a new educational offer—two permanent copies of the software with up to 30 six-month renewable (for no charge) copies to install in your lab or on your students' personal computers. All this for only \$395. And the software upgrade improves the program's performance and adds the ability to produce color as well as grayscale renderings. Contact Lighting Technologies Inc. for details <<http://www.lighting-technologies.com>>.

—Bruce Haglund

DEAD-LEVEL SUN EMULATOR HELIODON

The Sun Emulator, a heliodon based on ten years of research at Auburn, has been perfected and built by High Precision Devices of Boulder, Colorado. This new heliodon was developed to make a powerful teaching, design, and presentation tool available to all architecture schools. Any model being tested on this new heliodon remains fixed on a horizontal ground plane, so the solar simulation is in complete agreement with our perceived view of the sun's motion across the sky. Thus, within a few minutes most students have an "aha!" learning experience, grasping solar geometry better, deeper, and with longer retention than is possible with other teaching tools. The heliodon is capacious enough to handle large models, yet small enough to be transported and stored in a 3' x 6' space. It's factory-built and shipped completely assembled. More information is available from <<http://www.hpd-online.com>>. ■

—Norbert Lechner

AUTHORS WANTED

TIME-SAVER STANDARDS FOR ARCHITECTURAL DESIGN DATA

Authors and contributors wanted for the 8th edition.

You are invited to collaborate in and contribute to a long-term effort to document and promulgate the knowledge base of professional practice. As many know, I have long argued for a broad academic and professional effort to document this knowledge base. I have always been impressed with ASHRAE Fundamentals as a continuously updated and widely collaborative publishing effort of the mechanical engineering profession. In the mid-1990s, I approached the AIA as well as major publishers seeking support for my idea. McGraw-Hill Professional Books Division responded, and I am now editing a series of reference books in the *Time-Saver Standards* series.

In 1997, I took on the task of “revising” what became the 7th edition of *Time-Saver Standards for Architectural Design Data*. This title, begun in the 1940s and edited for over 30 years by the late John Hancock Callender, was originally a set of reference articles published together as a desktop guide for practitioners. However much of its material over the years became merely the reproduction of details, which the mindless or uninformed practitioner might copy without understanding. In the revision for the 7th edition, the associate editors and I decided to change the book in its entirety—every page was rewritten from scratch. The only material carried forward from earlier editions is a classic article on analytic geometry and mathematics, a topic that has been carried in architectural lexicons since Alberti.

As a further improvement for presenting professional information, the table of contents was changed from the long-standing “Master Format”—which lists topics according to how contractors used to order materials from suppliers—to the “UniFormat” classification. The advantage is that it lists topics according to the process of building—from the ground up, therefore closer to the logic of how a building is conceived.

The editors collected or assigned the key references and articles on topics related to architectural design at the building scale. In the 7th edition, you’ll find articles and references by many of your colleagues as well as some surprises from little known authors and topics. Many environmental topics are included, including two gems by the late Ben Evans. There is room for more.

A second volume in this effort, *Time-Saver Standards for Building Materials and Systems*, was published in 2000. This book is an update of the classic pages printed in *SweetsProduct Data File* from 1970 to 1990 to provide the design and selection criteria by which an architect could select a building material, product, or system. The technical data is exhaustive and not found elsewhere, but was discontinued by Sweets in the early 1990s. In *Time-Saver Standards for Building Materials and Systems*, the Sweets indexing format was changed to conform to UniFormat and serves as a companion volume to *Architectural Design Data*—the former being single-page summaries, the latter being in-depth reference articles.

Both of these volumes are now being updated. The next (8th) edition of *Time-Standards for Architectural Design Data* is being planned now, for release in 2002. I invite you to be a contributor. Look at the 7th edition, and send me a note with your suggestions for an article you would like to write that will add to and/or replace and improve a currently listed topic. All suggestions that help fulfill the intent of this series—to provide clear and comprehensive reference articles on topics useful and necessary for architectural practice—are welcome. Note that many articles are based on books, with condensed or excerpted passages, that properly represent the material and also serve to introduce the book. Authors of published books are invited to include their published work.

Contact: Donald Watson, FAIA; 54 Larkspur DR; Trumbull, CT 06611; 203.459.0332; <lakesideDJ@aol.com>. ■

—D on Watson

OPPORTUNITY KNOCKS

MURCUTT WORKSHOP

Glenn Murcutt will be doing a “master workshop” on ecological design in Australia this summer. [*Mary Guzowski says she’ll see you there!—ed.*] For full details visit the Web site <<http://www.ozetecture.org>>.

PROGRAM IN SUSTAINABLE DESIGN

The Ecosa Institute, Prescott, AZ, will offer the Total Immersion Program in Sustainable Design from August 27–December 14, 2001. The program, which is limited to a group of fifteen participants, is an intensive academic and experiential semester for college-level design students. It’s specifically designed to provide these exceptional students an experience complementary to that offered in other design programs.

Ecosa guest lecturers in the fall 2001 will include James Wines, Paolo Soleri, Will Bruder, Sim Van der Ryn, and Pliny Fisk as well as educators and representatives from a wide spectrum of ecologically-concerned organizations, including the Rocky Mountain Institute and the National Renewable Energy Laboratory. The 2001 semester includes projects with the Hopi Tribe of Northern Arizona and travel throughout the state to ancient and modern sites including Canyon de Chelly, Wupatki, and Grand Canyon National Parks.

For more information contact: Ecosa Institute 520.541.1002, <ecosa@mwaz.com>, or <<http://www.ecosainstitute.org>>. ■

SBSE PHOTO CD SHOT II



Viipuri Library interior after the recent remodel.

JOB OPPORTUNITIES

OKLAHOMA STATE UNIVERSITY

The School of Architecture at Oklahoma State University is seeking candidates for a tenure-track Environmental Control/Building Science position beginning August 2001. Candidates must hold a Master's degree; have or be qualified for professional registration; and be capable of teaching required courses covering thermal comfort, acoustics, lighting, and life safety, with a specialization in one. In addition the successful candidate will teach as part of a team in a required 5th-Year Comprehensive Design Studio and offer appropriate electives.

Submit a letter of interest, statement of architectural philosophy, vita, three references, and twenty slides of recent work to: Nigel R. Jones, RIBA; Chair, Faculty Search Committee; School of Architecture; Oklahoma State University; Stillwater, OK 74078-5051. Screening of applicants will begin March 1, 2001, and continue until the position is filled. Further information via <nigel@okstate.edu> or <http://architecture.ceat.okstate.edu>. OSU is an EO/AEE.

MONTANA STATE UNIVERSITY

Assistant Professor, Architecture Structures, full-time, academic year (9 months), tenure-track position to begin August 2001. Salary determined by qualifications and experience. Required: Ph.D. in architecture or engineering or professional degree in architecture or engineering and post-professional degree in architecture or allied discipline and professional registration; ability to teach the entire structures curriculum; ability to integrate the principles of architectural structures into the design studio at all levels; demonstrated research or creative activity; recognition of exceptional accomplishments at a national or international level may be substituted for degree and registration requirements. Preferred: Ability to integrate structural systems, technology, and computers into the curriculum.

Submit a signed, current curriculum vitae, a brief statement of educational, research, and creative objectives, and the names and phone numbers of three references. Screening begins March 19, 2001. Short-listed candidates will provide additional information including a non-returnable portfolio of their work, and if applicable, the work of their students. Address statement of objectives to Ralph Johnson,

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RESEARCH NOTES

AGENTS OF CHANGE: TRAINING FUTURE TECHNOLOGY TEACHERS

University of Oregon's Alison Kwok has been awarded a Department of Education Fund for the Improvement of Post Secondary Education (FIPSE) planning grant of \$75,000. *Agents of Change* will develop, test, and evaluate training for faculty and teaching assistants in integrating architectural design with building technology to better prepare future teachers and architects as stewards of the built environment and inculcate fundamental changes in the curricula at their schools. The key to Agents of Change is the teams of TAs and faculty who, together, experience the case study approach to building evaluation, learn how to teach it, and form a critical mass of change agents at their home institutions.

In November and January two prototype training sessions were held at the University of California Berkeley, and the University of Wisconsin-Milwaukee. Oregon GTFs and "expert" advisors led participants from across the country (and as far away as the Universidad Tecnica Federico Santa Maria, Chile) through exercises, protocols, and the case study approach. In conducting detailed studies of nearby buildings, participants learned the basics of data acquisition and gained hands-on experience measuring buildings and their environments. Through peer-to-peer teaching each day's program addressed the basal issues of the nature of case study questions, hypotheses, and the choice of experimental methodologies for specific study buildings.

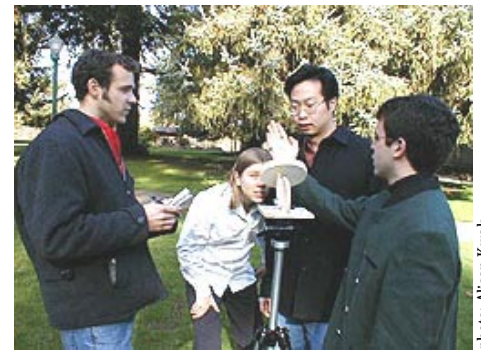
At the core of the *Agents of Change* project is the hands-on, case study approach to learning, used in the *Vital Signs* project, which encourages students to take a detective's-eye-view of the built environment, comparing building performance with design intent, thus integrating abstract conceptualization with reflective learning, concrete experience, and active experimentation. Students conduct and web-publish case studies by taking the "vital signs" of existing buildings, investigating measurable performance parameters such as daylighting, electrical lighting, mechanical systems, energy use, and air quality along with occupant responses that address thermal and visual comfort. This case study approach gives students a comprehensive and integrated understanding of a building, allowing them to evaluate the successes and failures of the original design.

The specific project goals include rigorous evaluation of the effects of the *Vital Signs* project on teaching, learning, and curricular reform; development of prototype training sessions, curricula, and support materials; testing and evaluation of small-scale regional training sessions; and planning and development for an expanded 3-year *Agents of Change Project*, which would train 180-240 teaching assistants and faculty around the country, produce more than 800 published case studies, and engage 6,000-12,000 architecture students.

The prototype training sessions were action-packed adventures [*but we didn't get to go ice fishing in Wisconsin in January!*-ed.], and provided invaluable lessons for the training of future TAs and instructors. If funded for the long-term, *Agents of Change* will train a cadre of educators to be fluent in the process of integrated design, ultimately enabling students (future architects) to better align design intent with building performance.



Oregon GTF Chad Weltzin using the psychrometric chart to solve a condensation mystery with Nathan Fox (Idaho) and Jae Chang (Michigan).



Joe Snider, Christina Bollo, Anthony Shou, and Nick Rajkovich (Oregon) work with a solar transit to track the sun.

-Alison Kwok

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RESEARCH NOTES [CONTINUED]

ROOF PONDS FOR ENERGY SCHEMING

Cal Poly's Renewable Energy Institute has awarded \$25,000 to help a University of Oregon professor develop software that calculates how water can be used to heat and cool buildings while avoiding energy-intensive mechanical systems. G.Z. "Charlie" Brown [*I call him "Fish Head."*—ed.] of the Energy Studies in Buildings Laboratory is the second recipient of an award from the Society of Building Science Educators/Evelyn and Harold Hay Fund (SBSE/EHHF).

The proposal, "Roof Ponds for Energy Scheming," seeks to improve software that architects use to determine the extent that solar heating and passive cooling can reduce energy consumption. The software improvements are based on a recently completed Hay Fund project by Cal Poly Professor David Lord, "An Interactive, Web-based Computer Program for Thermal Design of Roof Ponds."

The SBSE/EHHF program is supported by a donation from chemist and inventor Harold Hay to Cal Poly's Renewable Energy Institute. Hay made the gift to advance applied research in the areas of passive solar energy and water conservation. Grants are made to individuals or teams of individuals who are SBSE members.

Cal Poly's Renewable Energy Institute is a nonprofit organization established to promote teaching, research, development, and community service in solar and renewable energy technologies. For more information, call Margot McDonald, co-director of Cal Poly's Renewable Energy Institute at 805.756.1298 or <<http://www.calpoly.edu/~rgp/Research/rei.html>>.

—Margot McDonald

STACHYBOTRYS MOULD IN CALGARY

Tang Lee, University of Calgary, on sabbatical leave at Cal Poly-Pomona, recommended shutting down the Court of Appeals building in Calgary on January 19, 2001. Several air contaminants, including Stachybotrys mould, were making half the occupants, including the judges, ill. All the occupants had to be moved to another building.

The research report includes a comprehensive survey of occupant illness and identifies problems with the mechanical system, inadequate air/vapour barriers in the building envelope, and rain penetration. Dr. Matt van Olm (specialist in respiratory diseases) wrote, "Both the chemical and microbiological test results as well as the photographs provide compelling and convincing causes of environmentally-triggered illness. I fully accept the remediation strategy stated in the report."

The building owners tried to alleviate the air quality problem by mechanical means (solution to pollution is dilution). They installed several outside air intakes (see photo). Illness symptoms subsided for one or two weeks, but then became worse. The air pressurization caused interstitial condensation in the building envelope which increased the formation of more moulds. ■

—Tang Lee



This ad hoc intake duct failed to mitigate the mould problem in the Court of Appeals, in fact it exacerbated the situation.

photo: Tang Lee

PROGRESS AT NEW MEXICO

ARCHITECTURAL DESIGN PORTABLE HANDBOOK

A new book, *Architectural Design Portable Handbook*, by Andy Pressman, Director of the Architecture Program at UNM, has just been released by McGraw-Hill. The book is a vast compilation of issues close to our hearts and includes major entries by Carl Bovill, Virginia Cartwright, Norbert Lechner, Gary Siebein, and yours truly on a variety of environmental controls issues as they relate to design. A large number of authors have contributed, ranging from Thom Mayne to Antoine Predock, to Lawrence Halprin. Take a look; it should be very useful in studios.

SUSTAINABLE ARCHITECTURE BUILDING BY PREDOCK?

The University of New Mexico selected a design by Antoine Predock as the winning entry in a competition to design a new building for the School of Architecture & Planning. A critical part of the project brief was the charge to create a highly energy-efficient building that demonstrates sustainable technology applied at a large-scale. The preliminary design makes a strong effort to incorporate daylighting and induced natural ventilation. Further refinement of the design will offer opportunities for incorporating a variety of green techniques in heating, cooling, lighting, and water systems. ■

—Steve Dent

JOB OPS [CONTINUED]

AIA, Search Committee Chair. Send applications to Jean Koelzer; Search Committee Assistant; Montana State University-Bozeman; School of Architecture; PO Box 173760; Bozeman, MT 59717-3760. MSU is an ADA/EO/AA employer. ■

LIGHT AND HOT?



photo: Bruce Haglund

Do the NBM's clerestory windows add heat as well as light to the spacious atrium? What lighting levels are provided to the space by this daylighting strategy? Find out on Tool Day.



printed on recycled paper

SBSE NEWS
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EARTH DAY IS TOOL DAY IN THE NBM

SEE [HTTP://WWW.AA.IDAHO.EDU/BLDGVITAL/NBMTOOLDAY/](http://www.aa.uidaho.edu/blldgvital/nbmtoollday/)

Walter Grondzik, Alison Kwok, and I have planned a Vital Signs Tool Day in the National Building Museum (NBM) for the Sunday before the ASES Conference...that's April 22 (Earth Day)! SBSE and NBM are co-sponsoring the event. It will be an all-day affair with a no-host working lunch. Participants will become familiar with the NBM through a morning tour (before opening time!) and a presentation by staff members. Come experience hands-on measurements of its performance (heating, cooling, lighting, acoustics). We'll bring in a collection of Vital Signs equipment for measuring temperature, surface temperature, relative humidity, illumination, and sound levels. Participants will use the subsequently collected data to prove/disprove their hypotheses about the building's performance. Martin Moeller, NBM Executive Vice-President, declares, "I like the idea of hosting a Vital Signs program here—this is a fascinating building that participants should enjoy analyzing, with all its quirks, nooks, crannies, and just-plain-oddities." Those who are already registered include SBSE members, students, professional architects and engineers, and representatives of federal agencies. Building sleuths are coming from as far afield as England, Russia, and Japan!

If you want to be a building sleuth—you'll learn about the NBM, analyze its performance with a small team of investigators, and critique other teams' analyses—e-mail me at <bhaglund@uidaho.edu> to secure your place. A maximum of 30 participants can be accommodated. *[We have 28 at presstime, so space is limited!—ed.]* Great fun! Superb networking! Great photo ops! ■

—Bruce Haglund

SUMMER ISSUE SUBMITTAL DEADLINE—JUNE 1
