

SOCIETY OF BUILDING SCIENCE EDUCATORS SBSE NEWS

SPRING 2000



photo: Archival

Visit Wisconsin for the annual meeting and the retreat where it's always 1958, architecture is Wright, the Braves (not the Brewers!) are in first place, and color hasn't been invented.

SBSE CALENDAR

2000

- Jun 16-21 ASES Solar2000 Conference; Madison, WI
- Jun 21 SBSE Annual Meeting; Madison, WI
- Jun 22-24 SBSE Retreat; Taliesin, WI
- Jul 2-5 PLEA 2000 Conference; Cambridge, UK
- Jul 4-8 ARCC/EAAE 2000 Conference; Lyon, FR
- Jul 9-13 UO Teachers Workshop; Cambridge, MA
- Jul 14-17 ACSA Technology Conf.; Cambridge, MA ■

RETREAT DEADLINE EXTENDED, FEE LOWERED

You have another chance to participate in the summer retreat at Taliesin June 22-24. Jim Wasley's refined cost estimate for the rustic retreat reveals a cost reduction from \$400 to \$240, lodging and meals included. Meanwhile, Emad Afifi reports that the retreat is still not fully subscribed, so he has extended the application deadline to April 20 or until 40 applications are received. Consequently, all of you who have been debating attendance, forgot to apply, or were put off by the cost have a post-taxday opportunity to make a case for your participation. Moreover, SBSE has offered six subsidized scholarships for graduate students who aspire to teach environmental technology and design [see *Retreat Scholarships on page 2 -ed.*] We encourage you and a prized teaching assistant to come to Taliesin for intense networking with design-and-technology-loving SBSE zealots.

Remember, preceding the retreat, SBSE's annual meeting will be held in conjunction with ASES Solar2000 at Monona Terrace in Madison, Wisconsin. It will be a great opportunity to find out how (W)right the new Monona Terrace convention center is. [Check their website <http://www.mononaterrace.com/comm_activities.htm> for info and activities. Make your reservations for NPR's "What Do You Know?" with Michael Feldman!-ed.] The annual SBSE dinner in Madison on June 21 will serve as a segue to the retreat at Taliesin. SBSEers who attend ASES and those coming in for the retreat will have a chance to mingle and regroup between events, before the SBSE caravan to Spring Green on June 22. ■

-Bruce Haglund

CHINA WORKSHOPS DELAYED

Since our meeting in Québec last summer, we have been working with government officials and academics in China to organize the proposed SBSE China Workshops 2000. At this point in time, we will not be able to cut all the required red tape to incorporate all the necessary components for the workshops. Instead of going ahead and perhaps having only a partial set of seminars, the organizing group decided to reschedule for the summer of 2001 to have time to finesse the paper work and notifications and to give you time to make travel plans.

As we continue in our efforts to organize these workshops, we will inform you of our progress every step of the way. ■

-Frank S. ...

SEE THE ENCLOSED RETREAT FLYER FOR DETAILS.

LETTER TO THE EDITOR

Your newsletter is dismal! The issues must be boring and unchallenging. My proof? You'd have at least one letter-to-the-editor if you piqued the intelligence of your readers.

Get controversial. Get provocative. Get a letter. OR get a life!

—Tisha E gashira, I daho

[I don't get it. I didn't think loss of (in)sight was related to aging. Does missing rush hour aggravations take the edge off outrageous editorial commentary? Or have all you weirdos out there hibernated for the winter? Spring is in the Palouse air. Are the bears far behind? Oh, I had to beg and plead ed's ed. just to get this solitary letter. —ed.]



David Thaddeus and I were awarded a book contract for *Integrated Buildings: Methods and Case Studies in Systems Architecture* from Wiley. Richard Rush is writing the introduction for us. David is now at UNC Charlotte, though. I mention the book because a lot of SBSE folks lent their support to the project. It all started with the Montreal ACSA Technology conference. Once again, I am so thankful to my peers.

—Leonard B achman, H ouston

[I thought your pose in the heart of the Biosphere would lead to enhanced brain waves. Remember to acknowledge all of us in the front matter. —ed.] ■

RETREAT SCHOLARSHIPS

SBSE is pleased to announce that we can provide up to six \$200 scholarships for students to defray their registration fee for the 2000 SBSE retreat. The total registration fee is estimated to be \$240. Transportation to/from is the responsibility of the attendee. We will meet Thursday, 22 June–Sunday, 25 June in Spring Green, Wisconsin. The scholarships are intended to provide support for students with a keen interest in teaching environmental control systems (or a closely related area of building science). The scholarships will be awarded on a competitive basis following the review of all applications received by the **application deadline of 20 April 2000**. To be eligible for a scholarship an applicant must be a graduate student with some experience (gained prior to the summer retreat) as a teaching assistant in an environmental control systems course.

Applications may be submitted by surface mail, fax, or e-mail and should provide the following:

- applicant's name and contact information—address, phone/e-mail [selection will favor geographic diversity of applicants and institutions]
- applicant's educational background—current and prior institutions and programs, specific experiences with environmental control systems (building science) courses and/or learning through practice (if applicable)
- a summary of experiences as a teaching assistant in environmental control systems (building sciences)—scope of experience, roles, context
- a personal statement describing your interest in entering teaching in the area of building sciences—why you're interested, when you might teach, what you expect your role to be, AND what benefits you expect to derive through participating in the SBSE Summer Retreat
- a brief statement in support of the application from a current SBSE member (co-attendance at the retreat by faculty–student teams will be viewed positively during the selection process)

Please submit applications to Walter Grondzik, 1206 Department of Architecture, University of Oregon, Eugene, OR 97403–1206, fax 541–346–3626, e-mail <gzik@polaris.net>.

To be considered, applications MUST be received by 5 p.m. PST, 20 April 2000. Scholarship recipients will be announced as soon as practicable. If you have questions regarding the application process, contact Walter Grondzik <gzik@polaris.net>. If you have questions regarding retreat content, contact Emad Afifi <eaaffi@scad.edu>. ■

—Walter G rondzik

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 <majordomo@uidaho.edu>. Visit our home page <<http://www.polaris.net/~sbse/web/>>. ■

WORKSHOP FOR TECHNICAL TEACHERS

The University of Oregon Department of Architecture is offering an intensive five-day workshop for teachers of structures, environmental control systems, and materials and methods of construction. It will be held at MIT in Cambridge, Massachusetts, July 9–13, 2000, just before the ACSA Technology Conference/Summer Institute. The workshop will emphasize teaching techniques and philosophy, with particular attention to the integration of technical concerns in the design studio.

Enrollment is limited to 12 faculty. Leaders are Oregon Professors Edward Allen, Donald Corner, John Reynolds, and Christine Theodoropoulos. Each participant (and each leader) will give two prepared presentations: his or her “Best 20 Minutes of Teaching” and a presentation of the participant's personal philosophy of technical education. Group discussions and private evaluations are included.

Workshop tuition is \$750. Applications are due May 15, including a deposit of \$150, a brief teaching résumé, and the proposed topic (non-binding) of your “Best 20 Minutes of Teaching” presentation. Send your deposit (payable to the University of Oregon) and application to John Reynolds; Architecture; University of Oregon; Eugene, OR 97403, <jreyn@darkwing.uoregon.edu>. ■

—J ohn R eynolds

WEB RESOURCES

LIGHTING PROFESSIONALS' NETWORK

LIGHTING.COM <<http://www.lighting.com?ea121>>, the On-Line Community for Architects and Lighting Professionals, features news, forums, and a lighting-specific search engine <<http://www.lighting.com/search/search.htm?ea121>>. It also features e-mailed updates when new bits of information are found on the web matching your previous searches. Lighting questions can be posed-and-answered on the forums page <http://www.lighting.com/forum/forum_1/wwwforum.cgi?ea121>.

The site's goal is to become the best place to network with other lighting professionals. Send your feedback, suggestions, and ideas for the site's ongoing development. Contributions of content are also welcome—a great way to link to your web site. For more information contact <info@lighting.com>.

—L ighting.com

SOLAR COLLECTOR ONLINE

The Florida Solar Energy Center is pleased to announce the on-line version of our long-time print publication, *Solar Collector*. *Solar Collector Online* may be accessed via its new logo at FSEC's web <<http://www.fsec.ucf.edu>> or at its own webpage <<http://www.fsec.ucf.edu/pubs/solarcollector/>>.

—S olar Collector Online

MINNESOTA UTILITY PROMOTES ENERGY-EFFICIENT DESIGN

Energy Assets, a design-assistance program initiated in 1994 by Minnesota utility company Northern States Power (NSP) and the University of Minnesota, has helped more than 100 mid-size buildings reduce their energy use. Energy simulation software, designed by the Weidt Group, helps local architecture and engineering firms select envelope, lighting, and mechanical system options that will reduce the energy consumption of building designs. NSP subsidizes the additional cost of energy-saving technologies in the proposed buildings. Herzog/Wheeler checks on these energy-saving measures once installed to make sure they are operating correctly. A recent study of 90 buildings participating in Energy Assets revealed 20–45% energy savings over the Minnesota State Energy Code standards. Program participants as of mid-1998 constituted 12.4 million square feet of space, represented 20.8 million watts of annual energy savings, and reduced peak power use by 1.7 watts per square foot. The numbers add up to equal the output of three, small, peak generator plants. [More: *Architecture Minnesota*, Nov/Dec 99, p 21 or <http://www.northernstatespower.com/fb/fb_ps_as.htm>.] ■

—L ance L avine

DAYLIGHT IN SCHOOLS CHARETTE REVIEW

In recognition of a renewed interest in daylighting and productivity, the Pacific Gas & Electric (PG&E) Pacific Energy Center sponsored a three-day "Light on Learning 2000" design charrette on daylighting and school design. The charrette was part of the California Statewide Schools Initiative, a California investor-owned utilities effort to make better schools with better energy efficiency, daylighting, and indoor air quality to improve the learning environment. Participants included designers, educators, and consultants from around the West. The products of the charrette will be disseminated and published for use as resources for public school design teams in California. ■

—S andy S tannard

SBSE JOB MART

NATIONAL BUILDING MUSEUM



photo: Bruce Haglund

The National Building Museum in Washington, DC, seeks an historian of technology to develop, manage, and supervise installation of selected exhibitions that investigate the built environment from a multidisciplinary point-of-view. Specific responsibilities include developing and curating temporary exhibitions and a new core exhibition, *Building America*; managing exhibitions that travel to the museum; and preparing and overseeing exhibition budgets. Candidates must have an appropriate degree (Ph.D. preferred) in history of technology or related disciplines with specialization in construction, civil engineering, urban infrastructure, and/or material culture preferred. Minimum 2–4 years' exhibition/curatorial experience required. Send résumé with cover letter to NBM; Box H 401 F Street NW; Washington, DC 20001. For general information see <<http://www.nbm.org>>. ■

—M artin M oeller

SBSE PEOPLE

👏 Congratulations to **Ed Allen** who has been elected to the AIA College of Fellows. Election requires meritorious accomplishment in either design, research, teaching, publication, professional or community service, as well as 10 years of membership in the AIA.

🏠 **Tom Bartuska** is at the AA in London directing a 10-week study program with 20 U.S. design students (Arch, LA, and ID) in sustainable architecture and urbanism.

✍️ *Sun, Wind, and Light II [The book, not the America's Cup contender!—ed.]* by **G. Z. Brown** and **Mark DeKay** is due for publication in July for use in fall semester classes. John Wiley wants the combo instructor's manual/extended web site/climate data appendix to be on-line. The climate data appendix will be on the web before summer, and the instructor resources—slides/digital images for teaching with the book—will appear much later.

🌐 In early fall, **Alison Kwok** will spend 2 months at Yokohama University's research laboratory on the Heiwa (peace) Nakajima Fellowship—a post-doctoral award in the sciences and humanities for collaboration between foreign and Japanese scholars. With Chungyoon Chun, she will investigate perceptions of thermal comfort in hot humid climates, personal control, and comfort in transition zones. The research will culminate in a seminar and proceedings and, no doubt, lots of sake and sushi.

☆ Associate Professor **Kathryn Prigmore** is the first faculty member in the Howard University College of Engineering, Architecture and Computer Sciences to be honored by the student body for outstanding teaching and dedication. The college was recently formed through merger of the School of Architecture and Design with the School of Engineering.

🌟 By challenging her students with rigorous courses that expand the boundaries of their creativity, **Sandy Stannard** has earned one of the three 2000ACSA/AIAS New Faculty Teaching Awards for faculty in their first five years of teaching in a tenure-track position. Her students' work was included in her application portfolio, verifying her ability to engage students in research to inform their design projects. ■

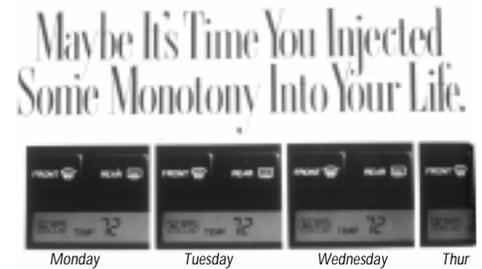
ARE YOU THERMALLY BORED?

Alison Kwok wrote:

Dear SBSEers, I'm writing to solicit discussion, ideas and definitions about comfort and to put forth the notion that we may, in fact, desire variation in our thermal environment. The objective is to bring in various sources (research and/or anecdotal) with the intention to develop ideas about how we might quantify and qualify these notions that ultimately shape how we design for environmental control. McIntyre (*Indoor Climate*, 1980) discusses the need for sensory and physical stimulation and makes a case for fluctuating interior temperatures to "counteract 'thermal boredom.'" It can be argued that achieving a steady optimum temperature is akin to finding the most popular meal at the canteen and then serving it every day." Heschong (*Thermal Delight in Architecture*, 1979) argues for environments with physical variations rather than static conditions, describing comfort as a relationship between thermal contentment and human imagination. We are capable of recognizing, remembering, and adapting ourselves to most thermal experiences. [*Comfortzone, a group formed to enhance communication among members of the international thermal comfort community on various topics related to thermal comfort, was also consulted.—ed.*]

This is what Alison heard:

- * Roasting your backside in front of a fire (dramatic radiant asymmetry)
- * Opening a window to get "fresh air"—well it is really just a blast of cold air
- * Having a bedroom cold enough that you really want to cuddle with your sleeping partner
- * Wading barefoot in the northern Pacific—any season of the year
- * In Japan I find people tend to think that getting cold invigorates the mind
- * Intelligent workplaces will make people lazy
- * In Scandinavia, we pay lots of money to sit in steamy sauna baths at temperatures that actively push our core temperature towards the thresholds of safety and tolerance. When we get to those limits we run outside and roll around in the snow (depending on how much vodka we've been drinking) or immerse ourselves in an ice-cold bath, forcing skin, and ultimately, core temperatures to begin an excursion in the opposite direction. If we emerge from the sauna feeling "neutral" or "comfortable," then we are likely to lodge a formal request for our money to be refunded
- * Occupants of some of the early passive solar houses experienced temperature variations that "were in tune with nature." I remember being in David Wright's passive solar Sea Ranch house in California; it was colder than 50°F (10°C inside). We had to do jumping jacks to bring up the room temperature (and ours) to something approaching comfort, but he was ecstatic about the variation in temperature
- * If we design for the mean we may well be producing a climate that almost everybody finds uncomfortable (too hot, too cold, too draughty, too stuffy) all the time. In ergonomic theory such a practice is laughable—who would want a door designed for average-height people?
- * The canteen user wants not only variety but choice, and the two cannot be entirely separated
- * I live in the Oxford Ecohouse, a thermally massive building, which means that the internal temperature varies only 1–2 degrees over 24 hours. It is a monolithic, hugely stable internal climate, and we love it. There's a very safe feel to the house—it is a mass radiant thing, not a machine thing. I also lived in the central Persian desert where we would emerge from a 28°C basement every evening to a 38°C courtyard; we were very happy then because it was what we expected? ■



—Alison Kwok

RESEARCH NOTES

HAY HOUSE AT RIZIERE

Harold Hay's skytherm is a proven energy-saving concept for hot arid climates, but Harold also tested systems for hot humid Florida. Initiating Hay House at Riziere, an Ashram Farm, at Pondicherry, in a hot humid climate will provide valuable input to the science and practice of solar passive systems. They would also be beneficial for semi-urban, low-rise buildings where air-conditioning is too costly and for rural areas where the grid supply is not reliable.

The Hay House concept is to have a shallow pond on the top of a thin roof to act as storage for hot/cold water. Hot water is obtained in winter during daytime by exposing the pond to sun; cold water is obtained during summer nights by exposing the pond to the cooler night sky and letting evaporation occur. Heat/coolth are retained by covering the pond with insulated covers during winter nights and summer days. The conducting roofs act as panel heaters/coolers during winter/summer. This unique system heats as well as cools, as required. Also it is a passive system integral to the building and not added as a device. We undertook this project to find indigenous materials and construction practices, study the economics and operating details, and deal with problems of algae and indoor humidity in the Indian context.

Design studies were started in late 1997 for a two-room building with a bathroom and an instrument room. We will be monitoring the performance for at least one winter and one summer (for which instruments had been purchased during 1998). Regular monitoring started on December 1, 1999. House orientation is ESE (the long side is parallel to the road).

—Chaman G upta



Panoramic view of building from NE with first-year college students.



Water troughs on roof with floating 100 μ m polypropylene covers for evaporation suppression.

TEXAS A&M ENERGY SYSTEMS LAB

Four new theses from the Energy Systems Laboratory can be accessed via the web <<http://www-esl.tamu.edu>> and copies ordered on-line.

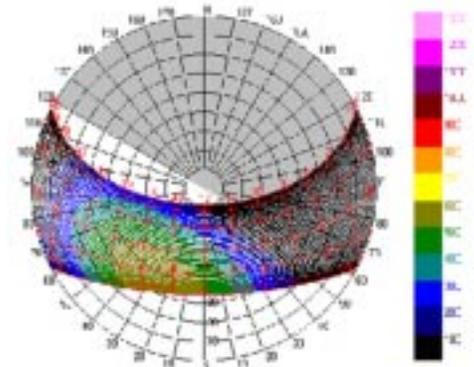
Beasley, Rodney, 1999. "A Methodology for Baseline Energy Use at Large Campus Utility Plants for the Purpose of Measurement of Retrofit Savings," M.S. thesis, Mechanical Engineering Department, Texas A&M University (August).

Oh, Kie Whan, 1999. "Development and Validation of a Computer Model for Energy-Efficient Shaded Fenestration Design," doctoral dissertation, Department of Architecture, Texas A&M University (December).

Sylvester, Keith, 1999. "An Analysis of the Benefits of Photovoltaic-Coated Glazing on Owning and Operating Costs of High-Rise Commercial Buildings," doctoral dissertation, Department of Architecture, Texas A&M University (December).

Thamilseran, Sabaratnam, 1999. "An Inverse Bin Methodology to Measure the Savings from Energy Conservation Retrofits in Commercial Buildings," doctoral dissertation, Department of Mechanical Engineering, Texas A&M University (May). ■

—J eff S . H aberl



Equidistant Sunpath Diagram Displaying the Transmitted Radiation Intensity through Vertical Glazing Facing 30° West of South at 32° NL. (from John Oh's Thesis)

HAY FUND GRANTS FIRST AWARD TO SBSEER

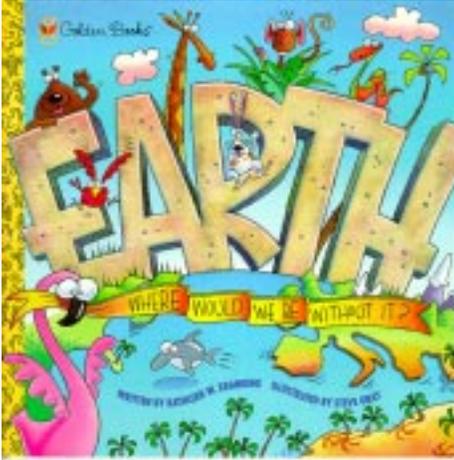
Cal Poly-SLO's Renewable Energy Institute is pleased to announce the first award of the SBSE/Evelyn & Harold Hay Fund Program. "Climatic Design Resources" by Mark DeKay of Washington University was chosen from three submissions. In Mark's words, "This project proposes to collect, organize, and interpret climate information for 23 representative U.S. cities and to make the results freely available through the Teaching Architecture+Energy web site. The focus will be on summarizing the geographic variability of climates in formats useful to designers." The award amount is close to \$20,000 with Washington University providing additional matching funds to support the project.

Congratulations, Mark! Thanks to Harold Hay for his continuing investment in passive solar design and education and for his efforts to engage SBSE members in his vision. The program is gearing up for the next round of proposals. ■

—M argot M cD onald

MEDIA REVIEWS

FOR FUTURE SBSEERS?



Earth: Where Would We Be Without It? by Kathleen W. Krinking, Golden Books, 1999, \$3.29.

My colleague, Rula Awwad-Rafferty, clued me into this delightful read. It's the perfect gift for Golden Book-aged members of SBSE's extended family. From a stewardship point-of-view, the author explores environmental issues from trash to energy, from water quality to air quality, from auto use to rain forests, to biodiversity with humor and sensitivity that youngsters of all ages can appreciate. Come to think of it, the book parallels the content of my ECS syllabus—maybe I should consider it as a replacement for *MEEB* [no offense, JR—ed.]. It certainly dishes out pertinent information much as I do, “The earth will always have the same amount of water, but the number of people sharing it continues to grow.”

Earth is as ribbeting as *The Little Engine That Could* and *The Muppet Movie* [as Kermit says, “It’s not easy being green”—ed.’s ed.]

—Bruce Haglund

SOLAR ENERGY RETROSPECTIVE

“Prodigal Sun” by Arthur Allen, *Mother Jones*, March/April 2000, pp 65–69.

This article gives the politically incorrect and stunningly candid history of the development of solar technologies during the past 30 years. It's a vivid retrospective aimed at bringing your students who missed the 70s and the Reagan era up to speed on the politics of energy policy. Not suitable for nine-year-old audiences. ■

—Bruce Haglund

DEFINING CLIMATE ZONES

[Mark DeKay tried to use the SBSE list server to help him name U.S. and Canadian climate zones. Simple idea—complex answer. SBSEers proved to provide enough answers to dance on the head of a pin. (Related story, page 4.)—ed.]

Mark DeKay: I'm looking for some descriptive, catchy names for the climate zones found in *Regional Guidelines for Building Passive Energy Conserving Homes*. Usually the zones are just numbered. I would like to hear from residents of each zone—what do you call your climatic region?

Bob Koester: Indianapolis. A popular term in the Indy economic development context is the “crossroads of America.” Given the temperature/humidity ranges present in this temperate zone, maybe one could call it the climatic crossroads zone.

David Lee Smith: Cincinnati. While I like your suggestions, from my narrow perspective the bigger question is: Have zone boundaries been reasonably defined? While Cincinnati is included in the Midwestern Zone, we find the summer conditions here quite different from those in Indianapolis—specifically, extremely high humidity causes our most serious cooling problem.

Eric Angevine: New Orleans/Stillwater. The only one I have trouble with is New Orleans, which is more like northern Florida and southern Georgia than “bayou country.” Is this perhaps just “eastern gulf-coast” as opposed to Houston’s “western gulf coast?” While I like the descriptive names, they do not resolve the naming problem for Stillwater—right on the line between Little Rock (big river valleys) and Fort Worth (southern plains and prairie). Although we have characteristics of both, the disparate climate strategies for these zones are very hard to reconcile, particularly for students in their first exposure to passive design.

Don Watson: Ken Labs and I surveyed fifty years of literature in preparing our 1984 *Building Climatic Design*. Essentially, all these climates have a climatological scientific designation. Our concern was that these were mainly derived from vegetation growing seasons, while we think climate designations should be given to describe architectural climatic responses. We found Olgyay’s characterizations to be complicated to say, but simplistic to apply. I think nomenclature should be developed to help architects understand the building climatic responses.

Jim Wasley: Milwaukee in January. Today, on my bike, it's the freeze-your-butt-off zone.

Murray Milne: Daylighting Climate Zones. We've been doing a lot of work with climate zones lately and have been more concerned with commercial daylighting than residential passive solar heating or cooling. California has extremely varied microclimates. Using two sites to describe the state is about as appropriate as using two sites to describe the nation. Students and practitioners need to understand how important local weather is, and how to obtain more specific local information. Groupings of climate zones tend to be by HVAC impacts (CDD and HDD) which can be quite different than daylighting impacts (latitude and cloudiness patterns). Thus, one climate zone structure does not fit all purposes.

Bruce Haglund: If you think about it there are five climate zones on the head of a pin. Therefore, there are four climate zones in the lower forty-eight.

Both of the above are true. It depends on the level of intellectual engagement and the level of detail with which you view the problem of describing climate. When we look at the whole country, we can simplify it into four zones. It won't blow our powers of abstraction to imagine four different things. Then when we zoom in to a region, like the Pacific NW, we can easily distinguish four zones. Then when we look at one of these zones, say the intermountain basin, we realize that its cities, Walla Walla, Ellensburg, Lewiston, and Moscow, are climatically distinct. When we get into Moscow, we notice that the Fort Russell historic district, downtown, the new suburbs, and the university each has a distinct climate. In my yard, the southside yard, the back yard, the front yard, and the north side yard are each climatically distinct. The head of the pin stuck into my deck features east-facing, south-facing, west-facing, and north-facing slopes, as well as a pinnacle that are all climatically distinctive. But we'd be totally confused if we thought of the zillions of distinct climates associated with every possible pin position. So, always divide the problem into coherent classifications, three to five is mentally comfortable, zoom in on the problem and reclassify into three to five classes. I'd rather do that than argue about where the lines are drawn.

• continued next page

DEFINING CLIMATE ZONES [CONTINUED]

Incidentally, I favor Don and Murray's notions of naming the distinctions after thermal or lighting responses, so the grammar of naming has more to do with architectural form than with geography and history.

Mark DeKay: An interesting idea. In the Fritjof Capra-esque, nested-network systems theory of climate zones, what does the architectural response trip look like from the satellite view of North America to the view out your back-yard window in Moscow?

If we follow the 4–5 categories theory (I'm with you on this one), would we have something like: Open Frame Zone (Hot Humid), Massive Shell Zone (Hot Arid), Switchable Envelope Zone (Temperate), Heliotropic Zone (Cool), Thick Skin Zone (Cold), and a special zone—the Heated Seat Zone, for the high Met winter bikers in Milwaukee (how is your balance point today, Jim?).

For lighting, we might have the Big Windows Zone (overcast dominant), Reflected Sunlight Zone (clear sky dominant), Switchable Aperture Zone (partly cloudy dominant), Shaded Windows Zone (tropical latitudes), Equator Facing Zone (high latitudes).

Murray Milne: I agree with Don and Bruce. There are just five climate types in the U.S., and each can be described as a zone on the psychrometric chart, and each has its own distinct building type. They are Hot Humid, Hot Arid, Temperate, Cool Humid (overcast, no snow), and Cold Dry (clear skies, snow and ice).

However, almost all locations have composite climates made up of two or three of the above, which could make up to 75 combinations—only about a dozen or two actually occur. An architectural test for the uniqueness of a zone is that it has a particular vernacular building type, one that has better performance than any other vernacular prototype. I think any finer distinctions would be overwhelmed by site-specific conditions such as topography (sunny side or shady side of the valley), vegetation (trees, open space), water bodies (Colorado River, desert), or local winds. So, we can 'name that zone' as any combination of the big five; not very colorful, but systematic and understandable.

Don Watson: The topic deserves a "technical committee"-type discussion, exemplified by the ASHRAE process, to develop professional consensus. ■

IDCE FORMED IN NC

Professionals from architecture, historic preservation, interior design, and industrial design have teamed with former North Carolina governor Robert Scott to create the International Design Center for the Environment (IDCE) near Raleigh–Durham's Research Triangle Park. This center will feature 400,000 square feet of sustainable resources—materials, products, and technologies—all accessible, all year.

One section of IDCE will house a conference center (possibly including a green hotel) accommodating 500 people. The second section will showcase sustainable materials and furnishings, while the third will be a resource center including materials samples and sustainable design exhibitions. Sustainable design and development seminars will be offered to IDCE members who will also have electronic access to all IDCE resources. We hope IDCE will meet the emerging needs of design and development professionals working toward a sustainable future.

For more information contact the IDCE at 919-549-8855 or <<http://idce.org>>. ■

–D eborah D unning & G ail L indsey

EVENTS

HOT AND HUMID

The 12th Symposium on Improving Building Systems in Hot and Humid Climates, **May 15–17, 2000**, will be held in San Antonio, TX. For more information call 409-847-8950 or e-mail <drosen@esl.tamu.edu>.

PLEA 2000

The 17th International Conference on Passive and Low Energy Architecture, **July 2–5, 2000**, will be held in Cambridge, England. Check out the new web page for abstract/paper details <<http://www.arct.cam.ac.uk/plea2000/index.html>>.

2000 ACEEE SUMMER STUDY

Efficiency and Sustainability, **August 20–25, 2000**, will be held in Pacific Grove, CA. Check out the web page for details <<http://aceee.org>>.

2000 ENERGY

Energy 2000 sponsored by U.S. DOE, GSA, and DOD, **August 21–23, 2000**, will be held in Pittsburgh, PA. Included are Green Building and Whole Building Design tracks. For more info check out <<http://www.energy2000.ee.doe.gov>>.

SUSTAINABLE BUILDING 2000

A joint conference of Buildings and the Environment and the Green Building Challenge, **October 22–25, 2000**, will be held in Maastricht, The Netherlands. For more information check out <<http://www.novem.nl/sb2000>>.

DESIGN FOR THE NEW MILLENNIUM

The World Congress on Environmental Design for the New Millennium, **November 8–22, 2000**, will be held in Seoul, Korea. Especially pertinent to SBSEers is the included World Conference on Green Design, **Nov. 13–17**. For more information check out <<http://www.millenniumED.org>>.

ANZASCA 2000 CONFERENCE

The Australia and New Zealand Architectural Science Association (ANZAScA) 34th annual conference will be held at the University of Adelaide, **December 1–3, 2000**. Abstracts are due on April 3, 2000. For further information e-mail Terry Williamson <twilliam@arch.adelaide.edu.au>. ■

CAUGHT IN LIGHT

I just wanted to mention one of my favorite lighting assignments, “The Poetry of Light,” to see how many of us are doing something similar and to share insights. Students are assigned a poem and the task of constructing a light fixture by which to read the verses. I use a collected list of about thirty readings such as Mario Luzi’s, “Caught in Light,” which take light as a theme. I use only six reading selections each semester and rotate them in group replacement rather than wait for burn out. We provide 12W PL fluorescent lamps with a separate ballast kit and group three or four students per team.

The three objectives given are:

- The lamp will be used as the only source of light in the room by which to read the poem—it must perform as a reading light at a conventional lectern.
- As an object of light, the fixture must convey without glare the poem’s spirit to the audience.
- The fixture should create a scene of light around the lectern which corresponds with the first two objectives.

We also stress that this fixture is a finished design product, not a model of design thinking. Model-type materials are not to be used for construction. Preliminary sketches are submitted, rejected, refined, and approved over the course of one week. The fixture kits are distributed on Friday and the projects are on display Monday morning. That next Friday we have an open juried event and the poems are read as a celebration of light.

Fixture designs from Leonard’s latest “Poetry of Light” assignment.

Lecture topics which tie into the fixture project deal with the manipulation of light (reflect, refract, transmit, shape, color, diffuse) and the fundamental components of light fixtures (lamp, housing, reflector, lens, and baffles). Previously, students have built and tested daylighting fixtures with equivalent components but more quantitative goals, like uniform distribution.

There are exactly 186,000 good web sites on poetry at any one time. Search on “poetry archive” to find your favorites or write me with your ideas, and I will trade my current list of the tried and true. ■

—Leonard B achman



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SBSE NEWS
C/O BRUCE HAGLUND
DEPARTMENT OF ARCHITECTURE
UNIVERSITY OF IDAHO
PO BOX 442451
MOSCOW, ID 83844-2451

SUMMER ISSUE SUBMITTAL DEADLINE—JUNE 1
