



Photo: Tisha Egashira

Retreat goers gather in the SCAD Red Gallery before a delicious celebratory dinner. Thank you, SCAD School of Building Arts, for providing our tasty repast!

## GREENER FOUNDATIONS IN REVIEW

[Adil Sharag-Eldin has written an extensive review of the retreat which is posted as a pdf on the retreat web site <<http://vsav.scad.edu/sbse2005/>>. Here are bits to tempt you to indulge in the whole thing.—ed.]

This year everyone was able to attend all sessions of Friday’s presentations and Saturday’s workshop. The retreat was flavored by these general commonalities in the presentations:

- General weakness in technology introduction at foundation levels.
- Need to bring other faculty, especially design faculty, into agreement with environmental objectives. Such a collaborative effort is essential.
- Most projects shared were experiential.
- Many projects demonstrated the use of case studies.
- “Magic bullets” to introduce students to the topic, bringing early victory, confidence, and finally, engagement for life.
- A trend towards inductive, instead of deductive, approaches to sustainable/ecological design teaching.

### SELECTED PRESENTATION NOTES

Mary Guzowski started by presenting a model for Minnesota’s new M.S. degree in Ecological Design that emphasizes process as well as content to resolve the ever-growing gap between knowledge and our ability to process information. The new program aims at bridging the information gap through a participatory model based on transformation from instructional to learning paradigms that adhere to a holistic, student-focused perspective, emphasizing interdependence and a multidisciplinary outlook. Using definitions from Fritjof Capra and the Center for Ecoliteracy’s *Guide to Ecoliteracy*, eight ecological and educational principles form a framework for learning—interdependence, sustainability, ecological cycles, energy flow, partnership, flexibility, diversity, and coevolution. The learning process for each principle is outlined

• continued page 4

## SBSE CALENDAR

### 2005

- Aug 4–6 AoC Wrkshp; New Smyrna Beach, FL
- Aug 7 FSEC Tool Day; Cocoa, FL
- Aug 8–12 Solar World Congress; Orlando, FL
- Aug 9 SBSE Annual Meeting; Orlando, FL
- Sep 15–17 Greening the Campus VI; Muncie, IN
- Sep 30 Solar Cities Congress abstracts due

### 2006

- Apr 3–6 Solar Cities Congress; Oxford, UK
- Jul 8–13 ASES Solar Conference; Denver, CO

### 2007

- Jul 8–12 ASES Solar Conf; Cleveland, OH ■

## DUES ARE DUE

It’s time once again to renew your commitment to SBSE. Dues are (were) due June 21. Membership is only \$25, or \$15 if you’re a student. Send your check payable to SBSE (c/o Environmental Works, 402 15th Ave E, Seattle, WA 98112) or use PayPal for credit card payment (membership forms and PayPal directions at <<http://www.sbse.org/membership>>). Looking forward to hearing from each and every one of you! ■

—Sandra Mallory

## LETTERS TO THE EDITOR

Wanted to let you know that I mentioned the SBSE News on our "Latest News" page at our web site (Simulation Research Group at Lawrence Berkeley National Laboratory). I always enjoy sneaking a peek at your newsletter and will be sure to mention it in the next issue of our own newsletter (*Building Energy Simulation User News*). Any time you want to run an article (or publicize something) in our bi-monthly newsletter, just send me e-mail <klellington@lbl.gov>.

—Kathy Ellington, *LBL*

[Thanks for the encouragement. I'll try to publish the outrageous to keep your attention! And SBSEers, take Kathy up on her generous offer. —ed.]



I thought I'd share a few words I came across while grading that managed to slip through the spell check function: (1) double pained window assembly [too numerous to count], (2) clucking [for caulking, as best as I could determine], (3) rectal linear [used to describe a plan shape—I'm still laughing about that one!].

—Diane Armprist, *Idaho*

[Are you sure the students weren't describing the sewer alignment? I get a lot of bio-smells (amoeba in tuxedos or bio-swailes?)—I should collect the more colorful goofs, too. —ed.] ■

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; 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 Mallory, Secretary-Treasurer; Environmental Works; 402 15th Avenue East; Seattle, WA 98112; phone 206.329.8300; fax 206.329.5494; e-mail <smallory@eworks.org>. To join our list server or to manage your account go to <<http://www.lists.uidaho.edu/mailman/listinfo/sbse>>. For full membership info and more, visit our home page <<http://www.sbse.org>>. ■

## 2005 TOPAZ MEDAL SPEECH MARCH 4, 2005

[Excerpted to fit. The full version of Ed's stimulating rant is posted on the SBSE web site.—ed.]

I believe that almost all students of architecture enter school wanting to acquire a broad technical competence in structures, materials and methods of construction, and environmental control systems for buildings. They want to learn to design elegant structures like those of Santiago Calatrava. They want to learn to use materials as creatively as Renzo Piano. They want to become masters of daylighting and natural heating and cooling.

By the end of their first year, we have educated this desire out of them. By the end of their first year, they believe that studio is all important, and technical classes are not.

## MAKING TECHNICAL SUBJECTS IRRELEVANT AND UNATTRACTIVE

How do we do this? How do we destroy students' desire to learn the technology of architecture? Let me count the ways.

1. We set up our curricula based on the fuzzy, fallacious notion that architecture is a combination of art and science; we slice the curricula neatly into two widely separated parts—art and science. The art we call "design," even though art and design are not synonymous. The science we call "technology," even though science and technology are not synonymous. We teach "design" in a studio, which makes sense; studio is the best place to teach design. We teach "technology" in a classroom, which makes no sense because technology is the *design* of useful things and is most naturally taught in a studio format.
2. Having erroneously divided the curriculum and decreed that technical courses be taught in a classroom format, we have decided which technical subjects to teach. Among the members of building professionals assembled to design a major building, the architect is expected to be *the* expert in just one technical area—*detailing*: detailing the building envelope, detailing interiors. Detailing is the architect's sole means of turning dreams into built reality, the language by which we instruct workers on how to assemble a building to achieve the desired result. Skill in detailing is also the architect's best insurance against being sued for buildings that leak, crack, or otherwise misbehave. Do we design our curricula to feature courses in the theory and practice of detailing? *We do not*. Few teach detailing in any organized way. NAAB says nothing about teaching detailing. We spend so much time teaching our students about the technical specialties of other professions, there's no time left to teach the specialty of our own. So we teach courses in structures, HVAC, acoustics, illumination—but *not in detailing*.
3. Having decided not to teach detailing, we then determined what to teach in each technical subject. For example, if we make a list of all the steps in designing the load-bearing structure of a major building, it will include explorations of site and soil conditions, choosing a structural material and a gravity-load framing system, laying out the framing system, adjusting the framing and floor plans to fit one another, designing and deploying a lateral load-resisting system, shaping long-span components, looking for opportunities to exploit the structural elements for architectural effect, detailing the structure, and checking assumed member sizes using mathematics to determine their adequacy. There is just one step in which the architect is almost never involved: checking member sizes using mathematics. Do we teach all the other steps? *We do not*. Instead we teach only the mathematics of checking member sizes. The saddest aspect is that force-feeding structural mathematics for the required number of terms turns off students of structures forever and still doesn't give them an arsenal of mathematical techniques sufficient to do a complete job of engineering a major structure.

To summarize: Based on a misconception of what architecture is, we have wrongly divided the curriculum into "design" and "technology." We have settled on the wrong technical areas to emphasize in our teaching. Within these areas, we teach the wrong stuff. Kafka could not have planned a more frustrating, ludicrous curriculum. It is no surprise that most students dislike most technical courses. They quickly lose their desire to become technically adept, to possess the skill of Calatrava and of Piano. It's a great loss, both to the students and to society.

## MAKING TECHNICAL COURSES RELEVANT AND ATTRACTIVE

What can be done about this situation? The Kafka-esque curriculum has accreted over an extended period into a rigid, unyielding structure. It is deeply embedded in the culture of the ARE and the requirements of NAAB. It is ossified in the composition and preferences of the faculty members who teach technology at each school, most of whom are trying sincerely to do a good job, but who are not eager to change the way their subjects always have been taught.

We need to realize that architecture is neither art nor science—it is in a third realm of intellectual endeavor called *design* whose goal is to produce products to solve human problems, whose methods involve finding good-enough solutions to problems for which there is no best solution, but many that will suffice, any one of which might be developed into an inspired piece of artistry. The designer synthesizes and represents a potential solution, then applies simple tests and critical evaluations to determine whether it is good enough. This cycle of synthesis and analysis is repeated innumerable times, exploring new paths, re-exploring old ones, combining, discarding, and adapting until a sufficiently good solution has been reached. *All of architecture is created by this method, including the technical subsystems of buildings.*

If the technical systems of buildings must be designed, then technical courses ought to be taught as design courses, preferably in a studio format. The most important principle is that mathematics and science should play supporting, not starring, roles. *Math and science cannot generate good forms for things*, they can only serve in the analytical phases of the design process to test proposed forms for conformation to the project's criteria. Students should *design* structures in every term of study, including the first. Ove Arup, one of the greatest structural engineers of the twentieth century said, “[Structural] design is not a science; it is a creative activity, involving imagination, intuition, and deliberate choice.” The extent to which we teach creative activity, imagination, intuition, and deliberate choice in our structures classes is a measure of the appropriateness of our teaching.

It's important to show and discuss actual projects in technical classes, especially buildings that you have designed and built. Students appreciate learning the thoughts and intentions that went into a project, how these were translated into materials, details, and structure, what went wrong, what went right, and how a given result was achieved. They can visualize themselves in the same situations and say to themselves, “Yeah, I could do that.” The technical curriculum should emphasize detailing in both structures and materials classes, for the reasons given earlier. It's good to show students how an inspired detail—such as the open connection in Fay Jones' Thorncrown Chapel or the multiple columns in Helmut Jahn's United Airlines Terminal—can make the difference between a good building and a great one.

## CREATING MAGIC

The most important thing about building technology is how to use it to create architectural magic. We may be able to visualize magic, but unless we have the ability to use materials and structure to make the magic real, we will fail to produce architecture. That's the major reason that good technology teaching is so important.

The biggest mistake we've made in our schools is to divide the architectural curriculum into “design” and “building technology,” leaving a huge gulf between the two. Architecture is all one thing. Space, form, materials, structure, details, and environmental control systems all have roles in the making of a magical building. All must be designed, and all are designed by the same process. Therefore, for the sake of our students, *we must learn* to teach technology as design. ■

—Edward Allen, FAIA



Ed and Mary Allen savor a post-award ceremony dinner.

## ASA STUDENT DESIGN COMPETITION RESULTS

The 2005 Acoustical Society of America (ASA) Student Design Competition was judged at the 149th ASA Meeting in Vancouver, BC, in May 2005. The competition project involved planning and acoustic design for an urban mixed-use development containing a repertory theatre company. There were 7 entries submitted from 4 different schools. The panel of judges included: Tony Hoover (Cavanaugh Tocci Associates, Boston), Alexis Kurtz (Arup Acoustics, New York), Gregory Miller (Talaske, Oak Park, IL), Richard Schick (Schick Shiner & Associates, Shawnigan Lake, BC), Bing Thom (Bing Thom Architects, Vancouver), and Michael Yantis (Michael R. Yantis Associates, Seattle). The 2005 Awards were funded by a grant from the Wenger Foundation through the Newman Student Award Fund. The Wenger Foundation funds these awards annually in memory of the firm's founder, Harry Wenger, who was a long-time friend of education in music and architectural acoustics. Congratulations to the award winners, and thanks to all those who participated in this year's competition!

### First Honors (\$1,250 Wenger Prize)

- § Lauren Ronsse and Andy Miller; University of Kansas (Faculty Advisor: Robert Coffeen)

### Commendations (\$700 Wenger Prizes)

- § Shawn Henry and Matt Gronniger, University of Kansas (Faculty Advisor: Robert Coffeen)
- § Ana Jaramillo, Nozomu Kamiya, and Bobby Gibbs; RPI (Faculty Advisors: Mendel Kleiner and Ning Xiang)
- § Courtney McGinnes, David So, and Ken Andria; RPI (Faculty Advisors: Mendel Kleiner and Ning Xiang)
- § Mark Wilcox and Doug Wilcox, University of Hartford (Faculty Advisor: Robert Celmer)

The 2006 ASA Student Design Competition will be judged at the 151st Meeting of the Acoustical Society of America in Providence, RI, in June. Information about the 2006 competition will be available early Fall 2005 by e-mail and on the Newman Fund web page. Contact Bob Coffeen <coffeen@ku.edu>, Byron Harrison <byron@talaske.com>, or Norm Phillip <normp@yantiss.com> for more information. ■

—Lily Wang

## SBSE PEOPLE

Keynote speaker at the Dubai “First International Green Building Conference—The Future in the UAE” on May 2–3, **Emad Afifi** gave two talks, “High Performance Buildings” and “Integrated Photovoltaic Solar Architecture” and chaired a session that included presentations by SOM and HOK. SOM designed “Burj Dubai” the world’s tallest building currently under construction, scheduled to open in 2009. HOK presented their projects in the region, including the U.S. Embassy building in Abu-Dhabi and the new campus of Zayed University.

‡ **Anat Geva** was named the 2005–06 Reli-gious Studies Faculty Fellow in the Glasscock Center for Humanities Research for her project, “Frank Lloyd Wright’s Sacred Architecture: Faith, Form, and Building Technology.”

➤ **Martin Gold** returns to teaching at UFL this summer after a long, enjoyable sabbatical in Finland.

🏠 **Margot McDonald** <sede@calpoly.edu> was elected to the national USGBC Education Committee and will act as a conduit between the USGBC and organizations like ASES and SBSE. This committee deals with broader policy issues related to green building education—a sustainability curriculum survey, education partnerships with schools and industry, and on-line green building courses.

★★ Second year in a row! WSU Interior Design student Nicole Kellen took Grand Prize in the IIDA Student Sustainable Design Competition. Faculty: **Judy Theodorson**. Project: (believe it or not) A big box electronics retailer.

℥ **Lily Wang** received the 2005 R. Bruce Lindsay award from the Acoustical Society of America, given to the most accomplished/promising young acoustician in the society for “contributions to education and understanding of architectural acoustics.” The list of winners is virtually a “who’s who” in acoustics.

♻️ **Tengfang (Tim) Xu**, a researcher in the Environmental Energy Technology Division’s Building Technologies Department, was recently elected as Technical Vice-President of the Institute of Environmental Sciences and Technology (IEST) an international professional society representing interests in contamination controls; design, testing, and evaluation procedures; and product reliability. ■

## GREENER FOUNDATIONS IN REVIEW [CONT FR. P.1]

and linked to course content and assessment methods. In a short exercise, eight small groups listed ways and means to develop student activities to foster one of the eight core values. Many of the groups’ lists contained similar projects and exercises, indicating the interrelationship between the values and the possibility of application without tremendous effort from the program or individuals involved.

David Lee Smith presented the technology-focused introduction to the foundation program at Cincinnati where technology is introduced as a way of thinking instead of as a solution. Six pedagogical principles are used: (1) design labs instead of studios or process instead of product, (2) design using the positive effects of everyday experience, (3) creativity as a product of connectivity, (4) technology as a critical component of design, (5) construction as a means to inform design, and (6) collaboration. This foundation program was delineated to achieve a deeper understanding of the familiar by seeding inquiry and disassembly. With increased engagement comes understanding of the self, the human body, and its relationship to the built environment not only as an occupant, but also as a facsimile of the environment.

Virginia Cartwright presented projects from beginning architectural design at Oregon entitled, “Rooms in the Garden/Rooms in the City.” The program integrates students from architecture, interior architecture, and landscape architecture. A series of increasingly complex, individual projects make explicit the rituals of everyday experience and combine them with intricate site-specific explorations. These engaging projects involve designing for the senses where the tangible meets ritual and one’s experiences become explicit statements expressed through exquisite architectural form.

Ed Allen demonstrated some of his “magic bullets”—small projects that bring subject matter to the students using the knowledge they already possess, without lengthy introductions. Ed presented these MBs that serve to convince the students that they are capable of tackling technical subjects with intuition, logical thinking, and some help. One “magic bullet”—students are asked to analyze the forces and design members of a bridge—demonstrated the extraordinary ability of the “early victory” concept to increase the confidence of participants in understanding an otherwise, complex phenomenon.

—Adil Sharaf-Eldin

## RETREAT PRESENTATIONS AND OUTCOMES

Most of the presentations and outcomes from the Savannah Retreat are available at <[http://www.architecture.uwaterloo.ca/faculty\\_projects/terri/sbse/sbse.html](http://www.architecture.uwaterloo.ca/faculty_projects/terri/sbse/sbse.html)>. ■

—Terri Meyer Boake



(top to bottom) Interconnectedness personified; Ed Allen (with an Afifi assist) demonstrates kinetic thinking inside the box; team Diversity.

photos: Tisha Egashira

## BUILDINGGREEN: DELIGHTED BY RETREAT

It was a great pleasure to be invited by Jim Wasley to attend the recent SBSE Retreat. We enjoyed meeting and renewing friendships with such a creative, engaged group of architecture faculty from around the country. Your dedication to effective, creative pedagogy and strong commitment to environmental issues are very inspiring.

As publishers of *Environmental Building News* and *GreenSpec*, we want to support building science educators and architecture students with comprehensive and accurate information on sustainable design and construction. Now that we have our resources online as a web resource, the BuildingGreen Suite, we can provide you a very robust research tool. It includes hundreds of articles from *EBN*, over 1,800 green building product descriptions, and more than 100 case studies of high-performance buildings.

Since these resources were developed with industry professionals in mind, there may be ways that the content and the online search mechanisms could be enhanced to better serve the academic community. We want to be responsive to your needs. If you would like a three-month complementary access to the BuildingGreen Suite to help prepare for fall courses in exchange for giving us feedback, just contact us, and we'll set you up with a user name and password.

A campus-wide subscription is available for \$995/year. If not currently feasible for your university or college, consider the semester rate (when you require the whole class to sign up) of \$39 per student—and the professor gets a free year's access. Just e-mail <jerelyn@buildinggreen.com>. ■

—*Jerelyn and Alex Wilson*

## DISNEY REDUX

Some time ago we discussed the glare reflected from Frank Gehry's Walt Disney Concert Hall to surrounding buildings, streets, and sidewalks. For legal reasons, the County of Los Angeles did not want the information released, at least until they had a chance to fix the problem. The fix is complete, it was signed off today (April 25). Portions of the Founders' Room and the REDCAT marquee (except for the eyes of the two cats) have been sanded to diffuse the specularity without changing the net reflectance! The beams have been defocused.

For those still curious, the full report on the original problem is available for download from <<http://www-rcf.usc.edu/~marcs/Disney/DisneyFinalRep12.pdf>>. We will present a paper at the ASES/ISES Solar World Congress in Orlando. Be there; it will be scintillating! ■

—*Marc Schiler*

## BOOK CORNER

### CONSTRUCTING IDEAS: UNDERSTANDING ARCHITECTURE

In his new book Lance LaVine presents 10 chapters of philosophy and wonder that incorporate history, technology, culture, beauty, and much more. The publisher, Kedall/Hunt, claims that 20 significant buildings are analyzed, but Lance weaves these into a fabric of revealing complexity that defies counting them. Passion articulated.

—*Bruce Haglund*

### GRAPHIC STANDARDS: OPENINGS

This Wendy Talarico-edited volume sets a new standard for Wiley's *Graphic Standards*. The pages are as beautiful as the cover and are filled with mini case studies with images and details of innovative openings including Olson Sundberg Kundig Allen's pivoting window wall for the Chicken Point Cabin in northern Idaho!

—*Bruce Haglund*

### MANUAL ON INDOOR AIR QUALITY

Richard C. Diamond and David T. Grimsrud; University Press of the Pacific, 2004 [1984], \$35

It is unusual for the authors of a book to warn prospective readers, but my colleague Dave Grimsrud and I feel we must let potential readers know that this book, that lists us as authors, is a reprint of a report we did for the Electric Power Research Institute in 1984, and was republished last year *without our knowledge*. The publisher, University Press of the Pacific, states that they look for reports in the public domain that address timely subjects and offer them for sale to the public. [...and probably rewards you with generous royalties. Yab, right!—ed.] While the information in the book is a useful summary of residential indoor air quality, it only covers the field up to 1984—a serious drawback for anyone looking for current information. So we suggest that unless you are interested in the *historical* aspects of this subject, you should consult more recent books.

—*Rick Diamond*

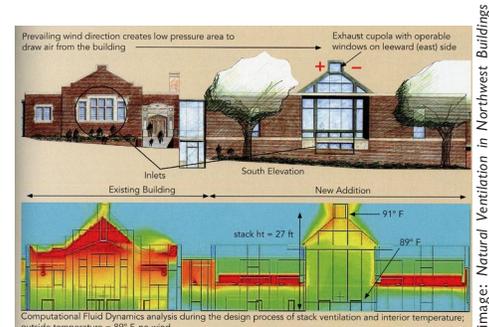
### NATURAL VENTILATION IN NORTHWEST BUILDINGS

Anyone, anywhere interested in natural ventilation will find G. Z. Brown's latest book well worth the \$21.95 plus \$2.95 for shipping and handling (within U.S.). Checks should be made payable to the University of Oregon and sent to Terry Blomquist; Energy Studies in Buildings Laboratory; University of Oregon; Eugene, OR 97403; phone 541.346.5647; fax 541.346.3626. ■

—*Terry Blomquist*



You can judge this book by its cover! It's beautiful inside and out.



CFD analysis of the Hood River Public Library from Natural Ventilation in Northwest Buildings.

## OPPORTUNITIES

### CONTRIBUTORS WANTED

The *Architectural Graphic Standards*, 11th edition is currently being developed by the AIA. Andy Pressman is Editor-in-Chief, and John Wiley is the publisher with graphics production by Bruce Mau Design. This radically new volume shifts to UniFormat organization and will target conceptual design issues while maintaining its traditional encyclopedic reference role. There are three sections to the work: Elements, Materials, and Contemporary Issues—the last of which contains chapters on Sustainability, Inclusive Design, Computing, and Research. If you wish to submit anything from a detail to a complete topic on UniFormat Element D: Services, please contact me (the chapter editor) <LBachman@UH.edu>. Services will include everything from elevators and mail chutes to rainwater harvesting, to wind turbines, to interior fixtures, and of course all the usual MEP/Life Safety elements. Thanks!

—Leonard Bachman

### GREENING OF THE CAMPUS VI: EXTENDING CONNECTIONS

This interdisciplinary conference allows representatives from diverse areas in university communities to share information on environmental issues, including the practical day-to-day management of the physical plant to “green” curriculum development and use of campus resources. The conference will be held September 15–17, 2005. For more information and to download a registration form, visit <<http://www.bsu.edu/greening/>> or e-mail <bamato@bsu.edu>.

—Bob Koester

### SOLAR CITIES CONGRESS

Abstracts for the International Solar Cities Congress are due September 30, 2005. For full details see <<http://www.solarcities.org.uk>>.

—Sue Roof

### BUILDING INTEGRATION SOLUTIONS

The 2nd National Conference of the Architectural Engineering Institute, “Building Integration Solutions,” will be held March 30–April 2, 2006, in Omaha, NE. For full info see <<http://www.asce.org/conferences/aei06/>>. Papers and presentations in all areas of architectural engineering and building systems are encouraged. ■

—Lily Wang

## BUILDING RELATED

### DAYLIGHTING THE *NEW YORK TIMES* HQ

Here’s an interesting mix of cutting-edge R&D applied to a practical problem, with the results directly affecting real-world decisions and investments. The web site <[http://windows.lbl.gov/comm\\_perf/newyorktimes.htm](http://windows.lbl.gov/comm_perf/newyorktimes.htm)> provides background info; a series of technical papers on the details will be published over the next year.

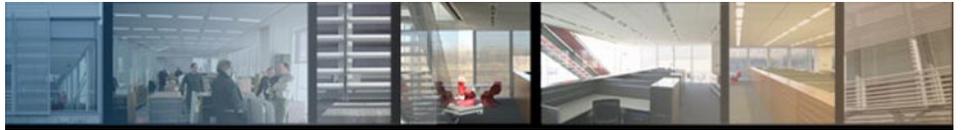


Image: Steve Selkowitz

The *New York Times* Headquarters building, designed by Renzo Piano and now under construction in Manhattan, will probably be the largest daylighting installation (the largest application of dimmable, photocell-controlled lighting and automated, motorized shades) in the U.S. and perhaps the world when completed in 2007. Based on our 12-month analysis and field-test program, a performance spec was developed and competitively bid in mid-2004. The procurement contracts for fixtures, controls, and motorized shades were signed by the *Times* late last year, and we are now working with the winning bidders to fine-tune their systems and commissioning procedures. The procurement spec can be downloaded from the web site. Initial technical reports, trade press articles, and presentations are listed on the site—many more are coming. The project involved development and refinement of innovative field measurement techniques and calculation techniques (using Radiance) for glare assessment. The 4,500 sq.ft. mockup was visited by hundreds of architects, engineers, and building owners, and the project has stimulated significant new interest in these “Smart building” solutions. The project addresses occupants’ need for view and visual comfort as well as energy performance.

The research support was provided by NYSERDA, with co-support from DOE and CEC. The *Times* made a very large, cost-shared investment in the construction of the testbed facility.

—Stephen Selkowitz

### NEW DIGS AT USC

Construction has begun on the building extension to Watt Hall at USC. The new facility will house all our graduate programs, consolidate the Graduate Building Science program facilities and equipment, and include new offices for the building science faculty. Completion will coincide with the launch of our proposed doctoral program in building science and our new certificate program. The Graduate program in Building Science at USC has just received a \$1.2 million endowment gift that will be used for scholarships and related needs. ■

—Doug Noble

## AOC AT NEW SMYRNA BEACH

The Agents of Change Project is in its last year of funding from the U.S. Department of Education and will host a training session August 4–6, 2005, at the Atlantic Center for the Arts, designed by Thompson and Rose Architects, in New Smyrna Beach, Florida. Participants will come from Arizona State, Carnegie Mellon, Cornell, Florida, Florida A&M, Idaho, Oregon, Portland State, Pennsylvania, Texas Tech, Rhode Island School of Design, UCLA, and Wisconsin–Milwaukee as well as several design and consulting firms. Stay tuned to the Fall *News* for highlights of the case study investigations! ■

—Alison Kirok



Photo: Moses Ling

AoC participant in search of the stack effect at the Woods Hole Research Center.

## BUILDING SCIENCE CURRICULA PERSPECTIVES

We are two recent graduates from building science programs currently working in a small energy-efficiency consulting firm, the Heschong Mahone Group. One of us has a B.Arch. from U Miami; the other a B.A. in Architecture from UC Berkeley and an M.S. in Sustainable Design from Sydney University, Australia. We want to share our perspectives on some of the more useful skills and processes that we learned in school, and how we have translated them for our new world of consulting.

- Knowing the building design process has been extremely useful in our work even though we are not directly responsible for designing buildings. While a good grounding in the fundamentals of building sciences is essential, it is not sufficient to be successful as a consultant since we must have credibility with designers and be persuasive when intervening in the design process.
- The firm we work for is involved in designing and managing large energy-efficiency programs. We have found management and marketing skills critical to implementing these programs. Business-related skills as well as an understanding of development finance are not typically a major focus of Building Science programs. In addition, grounding in construction industry structure and dynamics has proven very useful.
- In our daily work we interact with various representatives from industry. Being familiar with the details of product specifications and equipment function enables us to ask more discerning questions and to think critically about manufacturer's claims. For example, gaining an in-depth understanding of the definitions and testing methods for SHGC and U-Factor for windows has been useful when comparing costs of glazing-associated energy-efficiency measures.
- Case study skills learned in school have proven valuable even when not specifically transferable. For instance, analyzing building energy performance under Australia's standards gave Heather insight into the code provisions applied to buildings in the context of that country's regulatory system. This somewhat esoteric knowledge translated well in our learning to decipher the *California Title 24 Energy Efficiency Standards*. Likewise, experience with computers in school has built confidence in quickly learning a variety of new software tools in the workplace. Erin Reschke's basis in computer technology and applications from her undergraduate design program enabled her to quickly learn other task-specific software. She has applied this experience to building performance analyses and database project tracking in the California context.

In general, we believe that the design- and socially-oriented courses offered in our programs were equally as valuable as the building science courses as evidenced in our interactions with a wide variety of people from different areas of the building and housing industries. While we fully use the essential technical skills and knowledge we learned in school, the multidisciplinary nature of our degree programs has also given us a better ability to deal with the diverse aspects of our work. ▮

—Heather Larson and Erin Reschke

## ÀPRÉS RETREAT

Savannah was the most urban (and urbane) of our twentysomething retreats! We were able to enjoy the comforts of fine dining and good coffee while living in SCAD's Pulaski House dorm. The logistics crew of Emad Afifi, Michael Zaretsky, and the SCAD events team did a flawless job of lodging and nourishing us as well as supporting our av needs. Meanwhile, in accordance with Chris Theis, Leonard Bachman, and Terri Meyer Boake's plan, the Friday presentations and Saturday workshop kept us much too busy to fully enjoy the charms of the city. Thanks to all! ▮

—Bruce Haglund



Last one out, turn off the computer...

## FRUITS OF RESEARCH

### CALCULATORS GALORE

As part of our work for the EPA and the Texas Commission on Environmental Quality, the ESL at Texas A&M has recently completed an IECC-compliant emissions calculator that is applicable to single- and multi-family residential, a DOE-2 simulator for commercial buildings, as well as solar thermal and PV calculators—all using the EPA's eGRID database for annual and peak-day NOx emissions calculations. See <<http://ecalculator.tamu.edu>>.

—Jeff Cabert

### LIGHT STANZA SOFTWARE

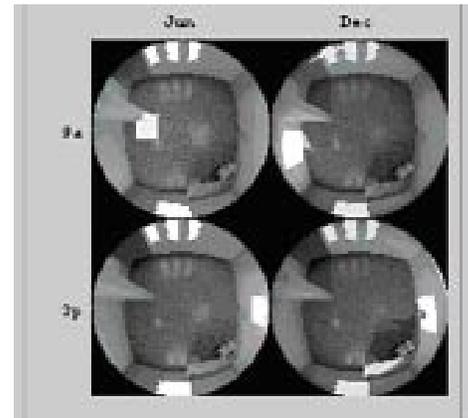


Image: Dan Glaser

Light Stanza comparison of Jun/Dec daylighting.

Light Foundry is releasing the daylighting program *Light Stanza* this fall. It uses Radiance as its engine, has an ink-based interface, and an information visualization workbench. It provides a very easy way to understand both qualitative and quantitative performance of architectural light. This software can complement physical models or provide quick studies before using a full-blown energy or lighting design tool.

I'm very thankful to the many SBSE members who helped me while completing my interdisciplinary Ph.D. in Information Visualization and Building Science which directly inspired the software. E-mail <[daniel@lightfoundryllc.com](mailto:daniel@lightfoundryllc.com)> for a Beta evaluation copy.

—Dan Glaser

### SUN-ANGLE CALCULATOR

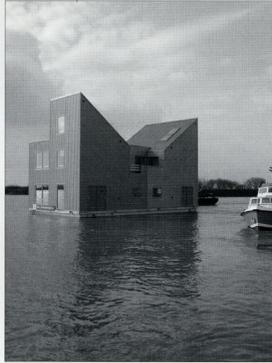
Anyone in need of a free sun-angle calculator written for MS Excel can download it from <[http://www.msa.mmu.ac.uk/bioclimate/stud\\_res.html](http://www.msa.mmu.ac.uk/bioclimate/stud_res.html)>. The graph part isn't fantastic for those in the tropics, but it works well enough in rainy Manchester UK! ▮

—Graig Keeffe

## RESEARCH OUTLET

## BUILDING RESEARCH &amp; INFORMATION

International Research, Development, Demonstration &amp; Innovation



Volume 33 Number 3 May-June 2005  
 ISSN 0961-3218  
 EDITOR: Richard Lorch

Routledge  
 Taylor & Francis Group

Image: Building Research &amp; Information

*Building Research & Information* can serve as a research paper publication venue for SBSEers. The journal features a wide range of topics and publishes focused special issues such as the March–April “Performance-Based Building” issue. For submittal details see <<http://www.tandf.co.uk/journals/authors/rbriauth.html>>. ■

—Richard Lorch, Editor



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

## COTE ELAE AWARD WINNERS

From 49 schools’ submissions, 3 have been selected to receive special recognition and a \$3,000 grant provided to each through the generous support of the Tides Foundation. The selection team included Kira Gould, Associate AIA and a current Advisory Group member; Lance Hosey, AIA; Mark Rylander; and Dan Williams, FAIA and past chair of the AIA COTE Advisory Group. Vivian Loftness, FAIA, current chair of COTE, served as a non-voting advisor to the project. This recognition is part of COTE’s Ecological Literacy in Architecture Education (ELAE) Study & Report which will be released in a few months. The grant winners were formally announced on May 19 at the AIA Convention in Las Vegas as part of a project Progress Report (lecture delivered by Mark Rylander with Loftness, Gould, and Hosey).

The grant winners and other programs will be profiled in the ELAE Report which will paint a broad picture of the state of ecological literacy in architecture education and will suggest possible next steps. For more information contact Kira Gould <[kira.gould@gouldevans.com](mailto:kira.gould@gouldevans.com)>, 617.867.0032 or Erika Taylor <[etaylor@aia.org](mailto:etaylor@aia.org)>.

## AWARD WINNERS

**California Polytechnic State University, College of Architecture & Environmental Design.** Sustainable Environments Minor: Sustainable Environments and Implementing Sustainable Principles; submitted by Jonathan Reich.

**University of Tennessee, College of Architecture and Design.** Seminar in Architectural Technology and Technological Traditions; submitted by Mark DeKay and Ted Shelton.

**University of Wisconsin–Milwaukee, School of Architecture and Urban Planning.** Student Work/Faculty Activism 2003–2005/Comprehensive Green Design; submitted by James Wasley. [*Congrats SBSEers, we’re batting 1.000!—ed.*] ■

—Mark Rylander

## FALL ISSUE SUBMITTAL DEADLINE—SEPTEMBER 1

FIRST CLASS MAIL