



photo: Bruce Haglund

The retreat begins and ends in Boise—imagine a moderne-meets-mission style clash.

SBSE RETREAT 2012—BOISE & McCALL, IDAHO

What's in store for those who join the 2012 retreat, *The Next Generation*? Our continuing effort to implement the goals of the Architecture2030 Challenge in architecture studios will include a full slate of presenters who will delve into low-carbon issues at the scales of room, building, and campus as well as share strategies on organizing interdisciplinary teams and engaging social media in the design studio. This retreat is the next step in SBSE's ongoing commitment to leadership in carbon-neutral design.

SBSEers will gather in Boise on Friday to catch the shuttle bus to McCall—tentatively scheduled as an electric bus demo! In McCall we'll do introductions and present omiyage before Leonard Bachman gives the retreat keynote. The sessions in McCall will feature presentations by SBSE old-timers (G. Z. Brown and Mark DeKay) and newbies (Ana Jaramillo and Mary Rogero), workshops facilitated by the retreat organizers, plus mid-afternoon networking time to enjoy the lakeside setting and engage others in conversation. Check out the Schedule-at-a-Glance on page two. The full schedule is posted at <<http://www.sbse.org/retreat2012/schedule-2012.htm>>.

Retreat participants will stay in semi-rustic cabins on the University of Idaho McCall Field Campus; use the campus' indoor and outdoor classrooms during the day; and enjoy gourmet meals in the on-site dining facility. After a Sunday evening bus trip to Boise, the final day of the retreat will be held at the Integrated Design Lab. Participants will need to arrange their own lodging for Sunday night in Boise (and Thursday and/or Monday if required). Boise tours led by members of the local USGBC chapter will be arranged for Friday morning and Monday afternoon depending on interest.

Retreat registration is now open. Sign up now at <<http://www.sbse.org/retreat2012/registration.htm>>.

Join us June 15–18. For more information stay tuned to the retreat web site <<http://www.sbse.org/retreat2012/>>. 🖱

—Christine Bachman, Walter Grondzik, Bruce Haglund, Bob Koester, and Alison Kwok

SBSE CALENDAR

2012

- Apr 12–15 Windsor Conf/Windsor, UK
- Apr 18–19 CIB Presents/Ballston, VA
- May 13–17 ASES Conf/Denver, CO
- May 17–19 AIA Conv/Washington, DC
- Jun 7–10 ARCC–EAAE Conf/Milan, Italy
- Jun 15–18 SBSE Retreat/Boise+McCall, ID
- Jun 23–27 ASHRAE Conf/San Antonio, TX
- Jun 27–30 Sust Futures/Kampala, Uganda
- Jun 28–30 CIB SASBE Conf/São Paolo, Brasil
- Sep 27–29 ACSA Fall Conf/Philadelphia, PA
- Nov 8–10 PLEA Conf/Lima, Peru 🖱



photo: Bruce Haglund

Idaho students and professionals sweat out a recent zero-net-energy design charette under the skylight at Boise's IDL.

LETTERS TO THE EDITOR

Thank you for sending the newsletter link and for such a positive review of PLDC2011! I am glad you enjoyed your stay in Madrid and that you found the event beneficial! We should definitely think about a partnership between SBSE and VIA for the upcoming 2013 event in Copenhagen!

—Louise Ritter, VIA

[Thanks! I'm thinking our mutual mission to further building science teaching and research "could be the beginning of a beautiful friendship."—ed.]



Your newsletter is very well done, and I would like to pass it on to our members if that is possible.

—Nils Larsson, iiSBSE

[SBSE is all about sharing ideas. Anyone worldwide can freely peruse our current and archival issues at <<http://www.sbse.org/newsletter/>>.—ed.]



I nominate Norbert Lechner for the first SBSE Yogi Berra Award! Yogi was a fifteen time All-Star and three time Most Valuable Player (MVP): Norbert certainly has similar accomplishments in the field of architecture/building science! As Yogi said, "You can observe a lot by watching." Maybe Norbert would agree we should apply Yogi's comment about baseball to architecture: "Ninety percent is mental. The other half is physical." Ain't it the truth!

—Bill Burke, PG&E

[This nomination opens the door to amazing possibilities! SBSEers, suggest other appropriate awards.—ed.] 🖱

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EDITORIAL OPINION

CALL FOR A COLLOQUIUM TO THE NAAB AND THE COLLATERAL ORGANIZATIONS (AIA, AIAS, ACSA, AND NCARB)

The recent exchange between the president of NAAB and me has been posted on the SBSE listserv. We have tried to be cordial and collegial while explaining different views and adhering to perceived or real mandates (especially by president Kaiser). The bottom line, however, appears to be a perception by NAAB and the collateral organizations that the traditional procedures for NAAB arriving at their 2013 Conditions for Accreditation are set in stone and that the NAAB focuses solely on students' core knowledge, while climate change arguably demands competence in future professionals.

A recommendation for convening a colloquium and charging it with a specific task was made by the BSA COTE and the BSA Sustainability Education Committee. Their recommendation is further supported by a white paper. These may or may not be adopted by NAAB and the collaterals. If not, I would urge SBSE to consider convening such a colloquium, with as broad a range as possible of educators and professional practitioners from the entire building sector.

Quite separately, were NAAB and the collaterals to decline the call for (understandably) "practical" reasons, it may be time to have all participants in the building sector consider whether the education of building sector professionals of all stripes and the related accreditation and licensing processes are ripe for a fundamental re-evaluation in light of the fact that human-driven climate change arguably requires reassessment of the rules by which humanity and the world need to play. 🖱

—Peter Papesch

2012 SBSE RETREAT SESSIONS AT A GLANCE

	Morning 1 8:45-10:00	Morning 2 10:30-11:45	Afternoon 1 1:00-2:15	Afternoon 2 2:15-3:00	Networking 4:00-6:00	Evening 7:00-
Fri. Jun 15	Boise Tours		12:30 Bus to McCall field campus leaves from IDL		Registration Orientation	Intro + Omiyage Keynote <i>L. Bachman</i>
Sat. Jun 16 McCall	Space Scale <i>W. Grondzik*</i> <i>M. Bonbam</i>	Bldg. Scale <i>B. Haglund*</i> <i>Brown & DeKay</i> <i>J. Dunn</i>	Space Scale Workshop <i>W. Grondzik*</i>	Bldg. Scale <i>B. Haglund*</i> <i>J. Grady</i> <i>M. Rogero</i>	Student Networking <i>A. Jaramillo</i>	2013 Retreat <i>I. Elzeyadi</i>
Sun. Jun 17 McCall	Campus Scale <i>B. Koester*</i> <i>R. Smith et al.</i>	Social Media <i>C. Bachman*</i> <i>A. Gregory &</i> <i>J. Anderson</i>	Campus Scale Workshop <i>B. Koester*</i>	Social Media Workshop <i>C. Bachman*</i>	Networking <i>everybody</i>	Shuttle to Boise <i>everybody</i>
Mon. Jun 18 Boise	Team Building <i>A. Kwok*</i> <i>K. van den</i> <i>Wymelenberg,</i> <i>G. Gladics, &</i> <i>J. Dunn</i>	Team Building Workshop <i>A. Kwok*</i>	Boise Tours		*Session Facilitator	



While in McCall SBSEers will have the opportunity to watch the sun set over Payette Lake.

RESEARCH NEWS

FAÇADE TECTONICS AT USC

We have quietly launched a façade-centric research effort at USC School of Architecture that is focused on our nascent PhD program. In conjunction we started a workshop to bridge academia, the profession, and industry. This effort has really taken off in a series of conferences we call Façade Tectonics: at the end of June this year we will be hosting Façade Tectonics 8. We have been doing two events a year, and each one has been better than the last, with the last two being sellouts at nearly 200 people. There is waxing interest in the building façade, and the conference is becoming a focal point for this interest. It has been quite exciting to see this work develop. You can find more information on the upcoming conference this June at <<http://www-bcf.usc.edu/~dnoble/facadetectonics8.htm>>.

—Mic Patterson

GRANTSMANSHIP AT OREGON

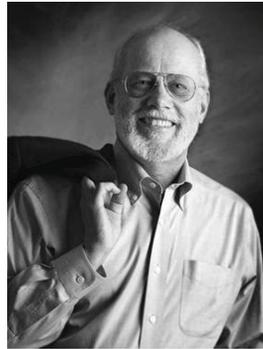
Ihab Elzeyadi won a \$25,000 grant in addition to matching funds from the Van Evera Bailey Foundation, Oregon BEST, and Glumac Engineering. G. Z. “Charlie” Brown won a \$25,000 Upjohn grant, with matching funds from the Universities of Oregon and Tennessee as well as John Wiley & Sons.

Elzeyadi’s longtime pursuit of energy-efficient classroom retrofitting technology was the focus of his project, “Green Classroom Toolbox: Evidence-Based Integrated Design Tools to Guide Architects in Retrofitting K–12 School Facilities for Climate Change.” His research objective is “developing evidence-based design guidelines for retrofitting existing educational spaces through the Green Classroom Toolbox (GCT) project in eight U.S. Climate Zones.”

Brown’s project, “New Knowledge Structure for Designing Net-Zero Energy Buildings,” aims to provide more sophisticated tools for energy-efficient architecture “by organizing much of the knowledge for net-zero energy building design.” He and co-investigator Mark DeKay (Tennessee) hypothesize “that we can generate, test, and publish an integrated knowledge structure for net-zero energy design that will help designers choose families of design strategies and, thereby, broadening the number of net-zero designers and improving the sophistication of their designs.”

Upjohn grants focus on sustainability, water use limitations, demographic measurements, collaboration models, and other innovations. The grants require recipients to provide matching funds, and the projects must be completed in an 18-month period.

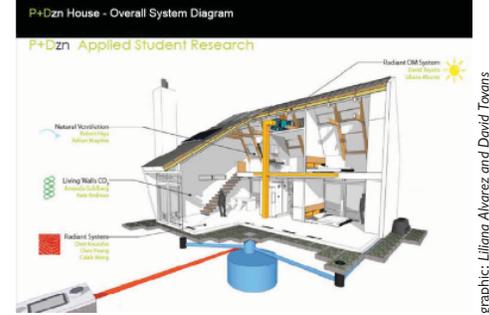
—Ihab Elzeyadi



Ihab Elzeyadi (above) and Charlie Brown (below).

KUDOS & REVIEWS

EDUCATE PRIZE FOR CAL POLY POMONA STUDENTS



graphic: Liliana Alvarez and David Toyens

Work on the P+Dzn House done by students in ARC 431 Sustainable Systems, in 2011, won an Educate Prize in Rome, an international student award that celebrates the implementation of sustainability in education in disciplines of the built environment. We won first prize ex aequo in Category 3, which rewards all non-building design projects, including (but not limited to) short essays, videos, and artwork that deal with themes of sustainability in architecture, urban design, and/or planning or building renovation in an original and innovative way. I also presented this work at the SBSE 2011 retreat.

—Pablo La Roche

METROPOLIS REVIEWS SBSEERS

Lisa Norton, art professor at the School of the Art Institute of Chicago, posted a complimentary review of Mark DeKay’s recent book, *Integral Sustainable Design: transformative perspectives*, to the *Metropolis Magazine* site <<http://www.metropolismag.com/pov/tag/mark-dekay>>.

—Mark DeKay

Also posted at *Metropolis* is a positive review of Murray Milne’s *HEED* software at <<http://www.metropolismag.com/pov/20120111/lab-report-xvii>>. Such renowned folks these SBSEers!

—Terri Meyer Boake

SAVINGS FROM CODE-COMPLIANT CONSTRUCTION IN TEXAS

Jeff Haberl, Hyojin Kim, and others at Texas A&M’s Energy Systems Laboratory have now quantified the dollar savings from code-compliant construction in Texas for the last 10 years, including demand reductions, which approaches \$2 billion! Simulations in three representative counties were run to compare performance with and without the IECC requirements. The paper describing their findings can be found at <<http://www.esl.tamu.edu/docs/terp/2011/ESL-IC-11-10-03.pdf>>. 🖱

—Jeff Haberl



Figure 1. 2006 IECC Climate Zone Classification and Three Selected Counties in Texas

ROAF FEATURED IN ASR PUB

Check out Sue Roaf’s editorial paper, “Innovative approaches to the natural ventilation of buildings: the imperative for change,” in an *Architectural Science Review* special issue *Building, Construction, Civil Engineering & Energy* <<http://www.tandfonline.com/doi/abs/10.1080/00038628.2012.642190>>. To be well-informed of papers that ASR publishes please visit our web site and sign up for table of content alerts. 🖱

—Joe d’Angelo

SBSE PEOPLE

☆ **Walter Grondzik** and **Alison Kwok** each received the Distinguished Service Award from the American Society of Heating Refrigeration and Air-conditioning Engineers (ASHRAE). The award “recognizes members who have served the Society faithfully and with distinction on committees or have otherwise given freely of their time and talent on behalf of the Society.” The awards presentation will take place at the Society’s Annual Conference in San Antonio, TX, on June 23.

✎ **Christoph Reinhart** and parts of his group moved from Harvard to the Building Technology Program at MIT in January to expand his research focus to the awakening field of urban energy modeling and to work on a coherent theory and toolset for architects, urban planners, and policy makers. He is the creator of *Daysim* daylighting analysis software and the main developer of the DIVA-for-Rino sustainable design analysis tools.

✎ **Noureddine Zemmouri** has been promoted to the rank of Professor of Architecture, approved by the Algerian Ministry of Higher Education and Scientific Research in recognition of leadership in undergraduate and graduate teaching and curricular development. ✎

CALL FOR ABSTRACTS

The 2012 ACSA Fall Conference and Modular Building Institute Regional Industry Meeting will be held Sep 27–29, at Temple University, Philadelphia, PA. Co-chairs are Ryan E. Smith (Utah), John Quale (Virginia), Rashida Ng (Temple). Submission deadline is March 30, 2012.

We invite paper and presentation abstracts on theory, practice, and education that address a range of subjects related to off-site design, construction theory, and practice. Abstracts that are academically oriented or professionally targeted should be prepared for blind review (remove names and institution/company identification). Selected abstracts will be documented in a digital proceedings (with a printable option) and delivered in fifteen-minute presentations in their respective sessions.

Contact Jonathan Halpin, Conferences Manager, with questions <jhalpin@acsa-arch.org> or 202.785.2324 x2. ✎

—Ryan Smith

PUBLISHING BONANZA

BUILDING CONSTRUCTION

Teaching and learning construction methods and materials will never be the same! If you’re not convinced, I challenge you to check out the second edition of *Building Construction: Principles, Materials, and Systems* by Madan Mehta, Walter Scarborough, and Diane Arm-priest in addition to its accompanying online resources! *MyConstructionKit*, the online companion web site <<http://mybuildingconstructionkit.com/>> has been completely revamped and expanded with 150 learning modules, electronic flashcards, chapter review questions, and more!

—Derril Trakalo

BUILDING SYSTEMS

Kiel Moe and Ryan Smith’s *Building Systems: Design Technology and Society* was just published. It’s a reader on the socio-technical dialectic of building systems and systems building.

—Ryan Smith

CARBON-NEUTRAL ARCHITECTURAL DESIGN

Pablo La Roche’s *Carbon-Neutral Architectural Design* was published Dec 2011, by CRC Press, a division of Taylor Francis. It covers fundamentals of climate-responsive design, with specific guidance on reducing the carbon footprints of new and existing buildings. The book examines CO₂ emissions associated with the construction and operation of buildings and discusses several tools appropriate for building-scale greenhouse gas calculation.

—Pablo La Roche

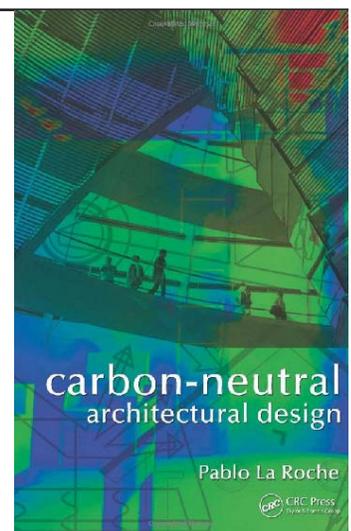
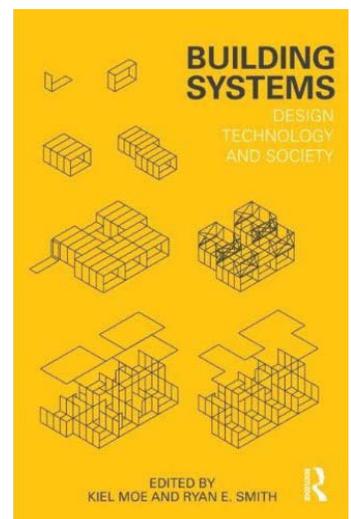
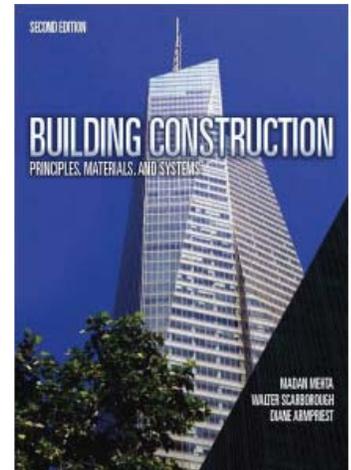
GREEN BUILDING AND CLIMATE RESILIENCE

University of Michigan Taubman College of Architecture and Urban Planning faculty (Larissa Larsen) and students (Kevin Bush, Koben Calhoun, Jared Enriquez, Clair Leighton, Evan Mallen, Kevin McCoy, and Nicholas Rajkovich) along with the USGBC reviewed areas of climate change uncertainty, forecasted findings on anticipated climate change by region in the United States, and made recommendations based on the forecasts in *Green Building and Climate Resilience: Understanding the impacts and preparing for changing conditions*, released at the National Press Club.

“While we should not give up our efforts to minimize climate change, it is clear that we should move very quickly to develop a strategy for adaptation as we face unprecedented environmental transformations,” said Taubman College dean Monica Ponce de Leon. “How we design and construct our built environment must be at the center of a reconsideration of our future. This collaboration between the University of Michigan and USGBC is a significant contribution to what is now a growing body of research worldwide.”

The report summarized the most recent research on how climate change will affect the built environment at various scales: regional, neighborhood, and site or building. The findings present a range of predicted future characteristics in the categories of temperature, precipitation, coastlines, air quality, pests, and fires. The report lists probable influences so that design

• continued next page



BOOK REVIEW NOOK

BIM IN SMALL-SCALE SUSTAINABLE DESIGN

In recent years the usefulness of Building Information Modeling (BIM) in large-scale design has become an undisputed fact. Larger architectural firms often require job applicants to have knowledge of Revit Architecture or some similar BIM software. Such software can quickly create tables of floor areas, window and door schedules, as well as minimizing drafting error. However, BIM is not yet the obvious choice for smaller scale structures, particularly residential ones. François Levy's *BIM in Small-Scale Sustainable Design* makes the argument that this approach not only could, but should, change.

Regardless of the size of the project, he emphasizes that BIM is, indeed, a design tool. Many architects and designers contend that BIM is useful only in the later stages of a project after the design is complete. Levy asks if design is an "investigation," then how can one dismiss the huge potential for information that even a simple, conceptual BIM model can yield? From shadow studies to site-specific thermal gain analysis, a very basic parametric model can inform the design from the very beginning. Indeed, some of the more progressive software packages, such as *Project Vasari*, can do a wind-flow analysis with simple building masses and give information in near-real time about the influence of changes made to the building form.

Throughout the book Levy particularly concentrates on convincing the reader of BIM's usefulness when it comes to sustainable design strategies. Each of his chapters proposes new and creative ways of using BIM technology. The work gives a broad overview of what various software packages have to offer and discusses many overarching principles of sustainability. Indeed, it is this general survey of software packages that prompts my sole criticism of this work. As it stands, the book is very interesting and even inspiring for any designer interested or involved in BIM and sustainable building design. However, when it comes to actually putting the techniques to work, one sees general workflows, but not any precise software-specific steps. Levy limits himself to discussing general principles and moves between screenshots and case studies in software such as *Vectorworks*, *Archicad*, *Ecotect*, and *Revit* without giving practical advice on the "how-to" side of things. A greater focus on just one or two programs, with a companion disc of example files would have better demonstrated how to put these principles to practice. That being said, there is still a wealth of information, and the case studies are enlightening.

Although this book will appeal to a variety of audiences, perhaps the ideal reader would be someone who is involved in medium- to small-scale architectural work and is considering the viability or usefulness of incorporating BIM into her or his workflow. Besides giving the software side of things, it gives the reader techniques, principles, and equations for sustainable practices. In conclusion, Levy's book would be useful both as an introduction to BIM and as a reference for how to use the technology with green architecture, thus making it a valuable resource for many architects and designers today. 🖱

—Daniel Temple

PUBLISHING BONANZA [CONT. FROM P. 4]

teams can set modified performance goals, diving deeper into project-specific changes at the building or neighborhood level, and select strategies to increase the resilience and adaptive capacity of each project. The report identifies synergies between green building and resiliency, breaking new ground in the field.

Access the report at <<http://www.usgbc.org/ShowFile.aspx?DocumentID=18538>>. 🖱

—Amber La Croix



cover: John Wiley & Sons

STUFF FOR YOU

NEXT YEAR IN BOSTON?

I have found the BuildingEnergy NESEA conference to be the best annual national conference on buildings and energy. It was held this year in Boston, March 6–8. Full info is at <<http://www.nesea.org>>. Stay tuned for next year!

—Peter Temple

KEEP THE SUN OUT!

I like Christopher Gronbeck's overhang design tool, which gives you instantaneous visual feedback about the shading performance of a horizontal window overhang. A beta release is available at <<http://susdesign.com/overhang>>. However, it does not mention the following provisos which I would share with any user:

1. This design tool is appropriate for fixed overhangs in climates and building types that do not need passive solar heating.
2. For buildings that could use passive solar heating, a moveable overhang should be used. This tool can help design the maximum projection of such a moveable overhang.

—Norbert Lechner

CIB PRESENTS

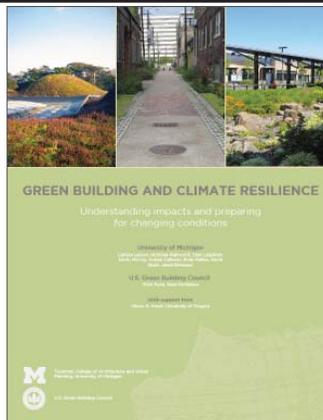
We invite you to participate in "CIB Presents: An International Workshop on Integrated Design & Delivery Solutions (IDDS)." This one-day international workshop (April 18) and optional tour (April 19) in Ballston, VA, will showcase global research, technology, and innovative practices in architecture, engineering and construction (AEC). The tour of the National Institute of Science and Technology (NIST) facilities will be a unique insight into national and international cutting-edge building environment research. To register and find out more about speakers and the tour, please visit our web site at <<http://www.nist.gov/el/cib.cfm>>.

—Jack Davis

CM PROGRAM INFO WEB SITE

I'm pleased to share my education site <<http://www.constructionmanagementdegree.com>>. Searching for a Construction Management degree program can be difficult process. The site helps others find compiled information on CM programs indexed by campus as well as giving detailed information about each degree and possible career choices. 🖱

—Chuck Lorrell



cover: University of Michigan

[Here are a few questions excerpted from Mr. Sun's famous quiz. Norbert will gladly share the full quiz with you, <lechnnm@auburn.edu>.-ed.]

NB: All questions are based on the northern hemisphere. The questions apply equally to the southern hemisphere with "north" and "south" reversed.

1. How many days each year does the sun shine into north windows?
3. How many days each year does the sun rise from due east and set due west?
4. How many days each year are there 12 hours of daylight and 12 hours of night?
6. On June 21, the sun rises how many degrees north of due east?
8. When and where does the sun shine into a north window from due north?
10. What are the maximum/minimum altitude angles of the sun on June 21 at the north pole?
14. Is it true that skylights collect more sun in the summer than in the winter?
17. Is there such a thing as a "free lunch" in solar-responsive design?
18. Is there such a thing as a "free lunch that you get paid to eat" in solar-responsive design (i.e., a building that uses less energy forever and costs less to build than a standard building)?
22. Is it a good idea to have a deciduous tree on the south side of a building because it will provide summer shade and allow winter sun?
23. Should north windows be shaded? 🖐

—Norbert Lechner

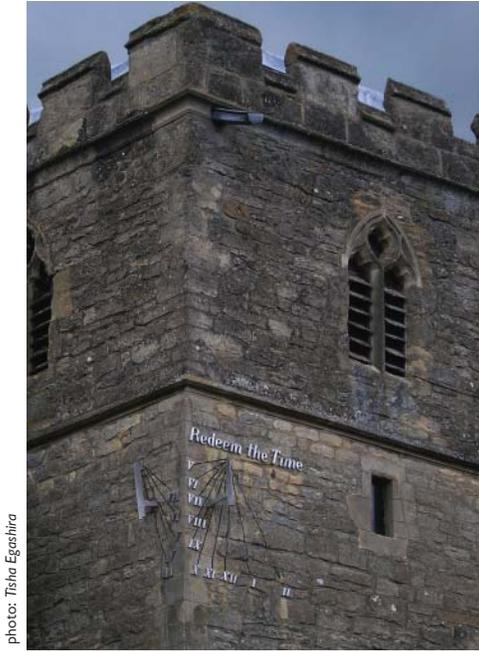


Photo: Tisha Egashira

This Norman church's sundial, mounted on a south-facing corner so that no wall is aligned with the cardinal directions, demonstrates a profound understanding of solar geometry. Times from 5 am until 2 pm are registered on the SE-ish wall, while later times are registered on the SW-ish wall. Norbert would ask, "Why is this sundial better than one mounted on a true south-facing wall?" Do tell.



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SUMMER ISSUE SUBMITTAL DEADLINE—JUNE 1

FIRST CLASS MAIL