



photo: Peter Papesch

SBSEers gather on the dining lodge deck with Walter Grondzik (barely visible) on Bruce's laptop [see below] for the annual group photo. Note: a few zombies were present!

## REPORT: IN FULL RETREAT IN IDAHO

This year's retreat was full in many ways. It was fully subscribed with about 40 SBSEers traveling to Idaho for the activities in Boise and in McCall. It was full of provocative content provided by presenters from far and wide. And attendees are still building on the content delivered. The setting was beautiful, blessed with cool and sunny weather (major regrets from attendees returning home to 90° or 100° weather), a mountain lake, and a ponderosa pine forest, as well as an engaging resort town (that's second or third best in Idaho!). We all had full and grateful bellies, stoked with great meals and snacks from the dining lodge kitchen. Meal and snack time offered opportunities to network and share experiences with our peers from all over the world. Peter Papesch has posted evidence of such at [http://papesch.fatcow.com/120615-SBSE\\_2012\\_Retreat/index.html](http://papesch.fatcow.com/120615-SBSE_2012_Retreat/index.html).

The retreat organizers designed the retreat as a collective brainstorming event for their proposed Campus Triathlon. They are taking ideas from the group to help develop a trial version of the Campus Triathlon program, which will be announced later this summer. Stay tuned. Individual attendees took away teaching inspiration from the omiyage, the workshop presentations, and networking with digital materials collected in a Dropbox folder. Interested SBSEers can contact Michael McGlynn <[mmcglynn@ksu.edu](mailto:mmcglynn@ksu.edu)> for an invitation to join the folder.

All of us old-timers delivered fine content, but more were impressed by the contributions of the many Retreat newcomers and student scholars. Of note Ana Jaramillo's acoustics research was impressive, John McNary excelled in presenting his project for Utah, Rajan Rawal intrigued us with the goings on at CEPT University in India, and Jake Dunn and Gunnar Gladdics wowed us with their efforts at the IDL in Boise. Sukreet Singh proved to be the most enthusiastic participant (aside from Peter Papesch)!

A proposal for a retreat in Southern California in 2013 is being developed by Pablo La-Roche, Juintow Lin, and Ihab Elzeyadi. Counter proposals are still invited! Join us next year for another rewarding experience! 🖐

—Bruce Haglund

## SBSE CALENDAR

### 2012

- Sep 27–29 ACSA Fall Conf/Philadelphia, PA
- Nov 7–9 PLEA Conf/Lima, PERU
- Dec 3–7 Ecobuild/Washington, DC

### 2013

- Feb 11–13 Geothermal Conc/Muncie, IN
- Apr 15–20 ASES Conf/Baltimore, MD
- Apr TBD SBSE Annual Mtg/Baltimore, MD 🖐



photo: Peter Papesch

Walter Grondzik, present in more than spirit, posed for the group photo, led a session via Skype, and contributed to another session via Google Docs. He claimed, nonetheless, "It was kinda weird."

## LETTER TO THE EDITOR

Here is a link to a web site where the AIA is collecting thoughts for the 2013 NAAB Accreditation Review Conference ARC Preparation. Some of our discussions at McCall might resonate.

—Peter Papesch, BAC

[Thanks, Peter, for this link and your thoughts about influencing NAAB. (See Peter's editorial on this page.)—ed.] 🖱

## RETREAT 2012 AMBIENCE



SBSEers gathered around the fire pit at MOSS for introductions, omiyage, and an on-shore breeze.



SBSEers take advantage of the dining lodge deck, which was always available for networking during the retreat.

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## A LOVE LETTER TO NAAB?

Here's my proposed letter from SBSE to NAAB and the collateral organizations (AIA, AIAS, ACSA, and NCARB).

Climate change has forged new rules. What does the world need from the architecture profession as well as from the institutions that train future architects and provide continuing education for current architects in order to ameliorate our new reality of rapid climate change?

This question can be addressed through the competence (ability) of professional architects to design projects and buildings that mitigate rather than aggravate the effects of climate change, while striving to achieve beauty and social utility.



Photo: Bruce Haglund

Peter at the 2012 Retreat.

Since climate change is complicated, cutting edge architecture, engineering, and contracting firms have had to acquire the skills of interdisciplinary collaboration, which involves every one of the skills already listed in the NAAB 2009 Conditions for Accreditation as Student Performance Criteria (SPC), and perhaps one or two more. For example, B.6. Integrated Building Practices, Technical Skills and Knowledge requires students to think comprehensively, but in fact very few theses by graduating students at any of the architecture schools in the U.S. or in Canada illustrate this ability. Therein lies the challenge for

NAAB and its collateral organizations: how to focus all educational institutions in the two countries not just to meet the requirements of the SPCs, but that final projects by graduating students actually demonstrate climate change mitigation.

This challenge consists of understanding how cutting-edge firms create climate change-mitigating projects which, incidentally, also strive to achieve the traditional aspirations for beauty and social utility, and teaching climate change mitigation methods in curricula focused on interdisciplinary studio experience for every student during their entire academic careers.

What are the overarching climate change mitigation principles, and what are the supporting SPCs that the profession needs in future employees? Mitigation depends principally on interdisciplinary collaboration, which implies knowledgeable contribution to any given project by diverse professionals. Group interaction is difficult at best—learning how to appreciate, contribute to, and balance the input and push-back from other professionals requires experiencing such interaction, not merely secondarily through lectures or readings. Assembling such a team is as challenging in an educational setting as it is in professional practice. It is the very complexity of climate change that underpins the realization it will take many differently-trained experts to successfully “chip away” at its enormous complexity. The building sector's role is just one of these contributions, albeit a very significant one since the building sector consumes roughly 70% of all electricity generated and represents nearly half of all CO<sub>2</sub> emissions.

In professional practice, interdisciplinary collaboration weaves the principles of contributing specialties such as architecture, mechanical and structural engineering, construction management, commissioning, operations, and demolition. Architecture has formulated, adopted, and practiced aspirations to achieve beauty and social usefulness, and now needs to adopt climate change mitigation as a further principle by which its projects must be evaluated.

These three principles of aesthetics, social utility, and climate change mitigation are not conducive to SPC formulation or evaluation. The world, the architectural profession, and the prospective architects all look to NAAB and its collaterals to find new ways to ensure that all graduates of architecture schools have acquired more than the proficiency to design (or contribute via interdisciplinary collaboration) to projects that will mitigate the effects of the built environment on climate change and aspire to achieve beauty and social utility. 🖱

—Peter Papesch



Photo: Jintaw Lin

SBSEers circled up for the Annual Meeting at ASES in Denver. Continued on page 3.

## A LETTER TO THE MEMBERSHIP

*[I urge you to participate in the AIA+2030 Series. I enjoyed speaking to a responsive audience in several sessions of the El Paso series, and I'm chair of the Albuquerque AIA committee that will begin its own series soon. The response here has been great with over 70 attendees in two parallel sessions each month. We intend to get our fellow design and construction practitioners "up to speed" with the most current and effective methods to design highly energy-efficient and net-zero energy buildings. Ed's group has put together a great baseline program that can be modified for your particular climate, setting, and needs. I know most SBSEers have great skills and experience of real value in this effort.—Stephen Dent]*

SBSE membership defines excellence in teaching environmental science, design, and building technologies; SBSE members are at the forefront in addressing today's most pressing issues—energy and climate change. We write today to ask you to join us and be available to teach one or two upcoming sessions for the AIA+2030 Professional Education Series in your area.

The AIA+2030 Professional Education Series consists of ten four-hour sessions—one session each month—in the design and technology applications needed to produce highly resilient carbon-neutral buildings that meet the 2030 Challenge's energy and emission-reduction targets. AIA+2030 is designed to provide professionals with the knowledge and leverage to create next-generation buildings, providing firms' personnel with skills that will set them apart in the marketplace. Sessions assume participants have an intermediate understanding of the suite of strategies and technologies currently available to achieve optimum building site energy and efficiency. Teachers (speakers in the series) collaborate with their local AIA chapter to select and teach a session, or sessions, leading participants through a specific topic area, answering participant questions, and guiding the overall session experience.

To-date, twenty-two AIA chapters across the United States will offer the series, including two of the largest AIA chapters in the nation—the Boston Society of Architects/AIA and AIA New York. With the addition of these two chapters, the AIA+2030 Professional Education Series is now offered to 25% of AIA members nationwide. While a huge accomplishment, we must now match the increasing demand for advanced design education with teaching expertise. We are also exploring expanding the series to Canada—in discussions with the RAIC—then possibly to Mexico and other countries.

SBSE officers and all current board members unanimously join Ed Mazria in asking that you add your name to the AIA+2030 database of qualified regional experts from academia and active practice. The database will provide local AIA chapters with contact information of those in their area who have the requisite knowledge, skills, and teaching expertise to conduct an AIA+2030 session.

If you are willing to work with us in this critically important endeavor as a potential session speaker, please fill out the brief form located at <<http://aiaplus2030.org/about/qualified-experts-database-qed>>. Find out more about what the *New York Times* Green Blog calls "a wildly popular instructional course" at <<http://www.aiaplus2030.org/>>.

Here is another chance for educators to make a difference. Thank you for being a part of the solution.

—Ed Mazria and Ihab Elzeyadi, Pablo LaRoche, Leonard Bachman,  
Troy Peters, Walter Grondzik, Bruce Haglund, & Michael McGlynn

Thanks, Pablo. A number of SBSE members have signed on as potential speakers. I'll make sure we recognize SBSE on the web site and recommend that our MOUs give SBSEers the AIA members' rate for the series and that students receive a reduced rate or scholarship. 🙌

—Ed Mazria

## SOCIETY NEWS

### ANNUAL MEETING NOTES

*[The official minutes are posted at <<http://www.sbse.org/minutes/SBSEMinutesMay2011.pdf>>. The following reports are excerpted from those minutes.—ed.]*

#### Announcements

Liliana Beltran: encouraged SBSEers to join ISES and their conference in Mexico next November.

Ed Mazria: encouraged SBSEers to join and participate in AIA+2030 workshops.

John Reynolds: announced a competition open to architecture students to provide design assistance for schools to incorporate PV.

Steve Selkowitz: LBNL Flex labs are open for collaboration. Visit LBNL web site and contact Steve for more info.

Ihab Elzeyadi: UO Façade Integrated Technologies lab is open for testing and collaboration of full-scale façade shading and IGUs.

#### President's Report (Elzeyadi)

The board has been tele-meeting on a regular basis, monthly/bi-monthly to discuss initiatives and respond to queries. We are pursuing five initiatives:

1. SBSE membership survey
2. Developing a white paper to NAAB
3. Working on the architecture of a building science clearinghouse
4. Social media and resource dissemination (more details w/ Resources report)
5. SBSE+AIA+2030 educational series (Mazria & LaRoche)

#### Communications Report (Haglund)

The *SBSE News* continues as a pleasure to produce. Thanks to all who contribute. And if you don't, please do! Martha Bohm has done wonders as web master, including rescuing our URL from oblivion! Well done, Martha!

#### SBSE 2013 Retreat Proposals (Elzeyadi)

We are currently accepting proposals for the 2013 retreat content and venue. Potential dates are around the summer solstice.

#### Resources Committee Report (McGlynn)

We are concluding research into web-based tools for the collection and dissemination of educational resources. Also near completion of a document intended to summarize our findings along with recommendations and next steps. 🙌

—Ihab Elzeyadi



Annual meeting panorama continued.

## SBSE PEOPLE

✎ **Jim Grady** was granted his PhD from NC State for his dissertation, “A Simulation Tool Utilizing Parametric Primitives for Climate-Based Dynamic Daylighting and Energy Analysis.” This dissertation researches, partially develops, and applies an easy-to-use, schematic design tool using parametric shape descriptions of buildings and daylighting structures to simulate and analyze daylighting and energy performance, using climate-based, dynamic daylight simulation (DDS) integrated with whole-building energy performance analysis.



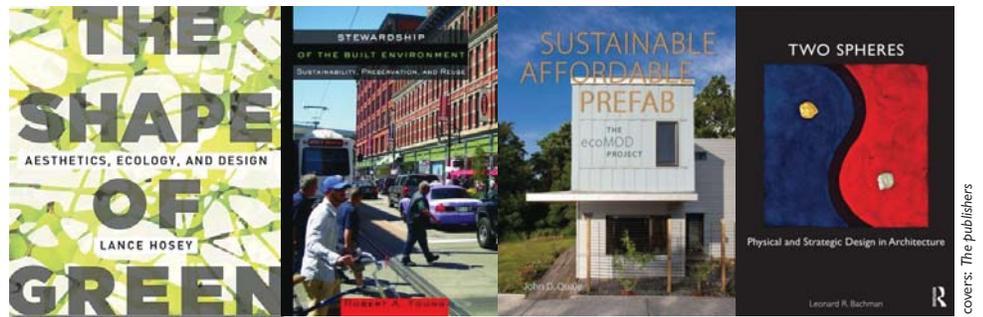
photo: Bruce Haglund

Jim Grady and Richard Hayes at Retreat 2012.

✎ **David Lee Smith** will be on leave from Cincinnati next fall and then will retire formally in January 2013.

🏠 The Modular Building Institute (MBI), the international trade association for modular construction, is pleased to announce a new annual award, the Modular Building Fellowship, which recognizes a thought leader, advocate, researcher, or educator outside its membership who has had significant impact on modular construction. The award was given in March at the MBI 2012 World of Modular Annual Convention and Tradeshow in Orlando, FL. The inaugural recipient of the award is **Ryan Smith** (Utah). “We are pleased to be awarding this fellowship to Ryan for his contributions to the industry,” said Tom Hardiman, executive director of MBI. “His work and writings have made information on the field of prefab architecture much more accessible.” With MBI, Smith will hold education workshops in various cities throughout North America to inform owners, architects, engineers, constructors, and those in the modular industry about modular design and construction based on his book about prefab architecture. For more information about the workshops visit <[http://web.me.com/resconsulting/Prefab\\_Education/Home.html](http://web.me.com/resconsulting/Prefab_Education/Home.html)>. 🖐

## FOUR BOOKS (BY SBSEERS) AND ...



covers: The publishers

## THE SHAPE OF GREEN: AESTHETICS, ECOLOGY, AND DESIGN

I’m delighted to announce the publication of *The Shape of Green: Aesthetics, Ecology, and Design* (Island Press), the first book to study the relationships between beauty and sustainability and to outline a set of principles for the aesthetics of sustainable design. See <<http://www.shapeofgreendesign.com>>.

Thanks to everyone who has helped me refine these ideas over the years, and I hope you enjoy the book!

—Lance Hosey

## STEWARDSHIP OF THE BUILT ENVIRONMENT: SUSTAINABILITY, PRESERVATION, AND REUSE

*Stewardship of the Built Environment: Sustainability, Preservation, and Reuse* will be released in July by Island Press. The book explores how preserving and reusing the built environment is a strategy to enhance social, environmental, and economic sustainability. It is a compilation of my research findings over the past 15 years and explains how stewardship of the built environment is a way to reduce growth pressures in the suburban periphery and to enhance conditions within the built environment and, by extension, conserve open lands.

—Robert A. Young

## SUSTAINABLE AFFORDABLE PREFAB: THE ECOMOD PROJECT

*Sustainable Affordable Prefab: the ecoMOD Project* can be found at the University of Virginia Press <<http://books.upress.virginia.edu/detail%2Fbooks%2Fgroup-4281.xml?q=subject%3AArchitecture>>.

It begins with essays on the larger themes, then goes into detail on the various housing units we have created (all occupied)—what we call design/build/evaluate projects. Beginning in 2003/04, we have worked with affordable housing organizations to create high-performance, affordable housing and, more recently, we’re also doing rehab, listed under ecoREMOD. Paxton Marshall (UVA engineering) and other faculty are also involved. The book includes the project that got us going in this direction, our 2002 Solar Decathlon house, the Trojan Goat.

Thanks to all the SBSEers who have helped me along the way. I haven’t been to a retreat in a couple of years, but they have always been formative for me, helping focus our activities. Walter Grondzik (and I think a few others?) served as anonymous peer reviewers for this book. I only know about Walter because the publisher used his quote on the back cover. I’m looking forward to your feedback.

—John Quale

## TWO SPHERES: PHYSICAL AND STRATEGIC DESIGN IN ARCHITECTURE

I am pleased to announce the Routledge publication of *Two Spheres: physical and strategic design in architecture*. The work is an aesthetic theory following on the earlier *Integrated Buildings: the systems basis of architecture* (Wiley, 2003), which used a case-study methodology to address the two equally radical aspects of architecture in its formal and performal realizations. 🖐

—Leonard Bachman

## A REVIEW

## BR&amp;I SPECIAL ISSUE: REGENERATIVE DESIGN AND DEVELOPMENT

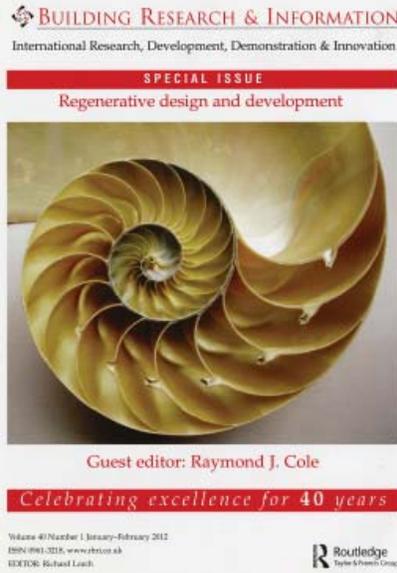
Volume 40, Number 1 of *Building Research & Information* with Raymond J. Cole as guest editor has given us an instructive overview of the developing theory of regenerative design and development. Published January–February 2012 this issue has contributions by academics and practitioners, focused on the important connection between sustainable design and development and the philosophy of regenerative thinking. This kind of writing and analysis is needed to evolve, strengthen, and inform the deeper challenges of sustainable design as pedagogy and practice. As stated, the *BR&I* goal is “a focus on a holistic, trans-disciplinary approach to buildings and the complexity of issues involving the built environment with other systems over the course of their life: planning, briefing, design, construction, occupation and use, property exchange and evaluation, maintenance, alteration, and end of life.” They are to be commended for publishing these and other articles that further this discussion.

A compelling aspect of the regenerative design movement is that, unlike other existing metrics, it cannot readily (read quickly and statically) be measured. This property fits well with the move to whole systems thinking—it is the system (flows of energy and materials), not the object, that needs to be designed, planned, and measured.

The existing and accepted green/sustainable measuring systems such as LEED and AIA/COTE Top Ten are linear and not spatially- or even hierarchically-oriented. They gain important commercial acceptance because they assign values to specifying products (e.g., a point for superior insulation) that drive the industry/product purchase model. Regenerative design is attempting to claim the moral high ground because it is systems-based—the challenge is to illustrate how this approach is measurably better than others and how the process can inform and contribute to sustainability.

Lastly, this reviewer is not convinced the term “regenerative” as used in this publication is consistent with the established and accepted meaning of the root word regenerate: formed or created again (Merriam–Webster). The meaning is important, for example there may be a desire and expediency to regenerate (create again) a city or town after a natural hazard, but the sustainability paradigm requires that the past growth patterns, those that evolved from an auto-dominated paradigm, be rethought. Regenerate does not mean rethinking. When rebuilding occurs it would seem essential to incorporate past lessons-learned or the pre-existing problem is regenerated. The lizard may regenerate its tail, but it’s not a better tail. Words, terms, and meanings matter. What is the term for growing a better tail, a better city, a better region? 🖐

—Daniel Williams



cover: Routledge

## OPS AND STUFF

## HDR PHOTOGRAPHY TOOL

Just released, *Hdrscope* is a Windows-based, user-friendly tool that can process and analyze High Dynamic Range (HDR) photographs and rendered images from *Radiance*. The analysis techniques focus on per-pixel luminance analyses. It is free and can be downloaded from <http://courses.washington.edu/hdrscope/>.

*Hdrscope* features a combination of existing and novel tools and image-processing techniques. One of the most exciting capabilities isolates and analyzes one or two regions of interest from an image. These regions can be defined interactively using a rectangle, circle, or a closed polygon. Luminance values, ratios, descriptive statistical calculations, percentile ratios, criterion rating, and luminance contrast are reported. The software also provides a front end to *Evalglare*. It allows for calibration using luminance measurements, or illuminance measurements taken at the camera level for fisheye images. It provides an automated image capture tool for selected Canon cameras to take multiple-exposure photographs. The “single aperture/multiple shutter speed” option is used for general image capture; and the “two apertures/multiple shutter speed” option is provided to capture the sun and the sky. We recommend *Photosphere* for image assembly.

The work behind the software formed the basis of my student’s (Viswanathan Kumaragurubaran) MS Architecture thesis at the University of Washington. If you have any questions, feedback, or comments, please let us know [hdrscope@uw.edu](mailto:hdrscope@uw.edu).

—Mehlika Inanici

## IES DAYLIGHTING

IES has a 5-part podcast series on daylighting on Craig DiLouie’s Blog, *LIGHTNOW* at <http://www.lightnowblog.com/2012/05/ies-podcast-series-on-daylighting/>. 🖐

—Truett James



Photos: Bruce Haglund

More pix from the retreat: communal dining, hugging trees (Diane Armpriest), and taking in the lake and forest vistas.

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**SBSE SCHOLARS AT McCALL**


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photo: Bruce Haglund

SBSE awarded scholarships to attend the McCall Retreat to (l to r) Matt McAnulty, Sukreet Singh, Rajan Rawal (Cook Scholar), and Ana Jaramillo. Note dining arrow to the left—we were all well fed with tasty vittles!

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**UPCOMING OPPORTUNITY**


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Jeffrey Cook Student Travel Award for PLEA 2012 Conference, Lima, Peru (7–9 November): see [http://www.sbse.org/awards/jcook\\_plea.htm](http://www.sbse.org/awards/jcook_plea.htm) for details. Application deadline is 20 August 2012, 8:00 pm EST. 🖱

—Walter Grondzik



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**SBSE SUPPORTS SCHOLARS AND STUDENTS**


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Our Scholarships Committee has recognized scholars and students via awards for:

**SBSE Retreat Scholarship:** The Next Generation, McCall, ID (15–18 June 2012)—Ana Jaramillo (Virginia Tech), Matt McAnulty (Idaho), Sukreet Singh (Southern California).

**Jeffrey Cook Memorial Scholarship:** 2012 SBSE Retreat, McCall, ID—Rajan Rawal (CEPT University, India).

**SBSE Travel Scholarship:** ASES Conference, WREF 2012, Denver, CO (14–18 May)—Rahman Azari (Washington), “Integrated Design to Achieve Zero Net Energy in an Urban Office Building;” Erik Bonnett (Oregon), “A Study of Daylight Effectiveness and Electrical Lighting Use Patterns in a Middle School;” Daphna Drori (Technion-Israel Institute of Technology), “A Knowledge-Based Computer-Aided Design Tool for Water-Efficient Design of Sustainable Green Open Spaces;” Ladan Ghobad (North Carolina State), “The Impact of Roofing Configuration on the Daylighting Performance of Skylights in Offices;” Afzal Hossain (Arizona State), “Development and Validation of a Thermal Network Model to Predict Indoor Operative Temperatures in Dry Roofpond Buildings;” Abhay Nagory (USC), “Optimizing Ventilation Shaft Volumes and Varying Opening Sizes Can Increase Effective Time Period for Natural Ventilation;” Sara Tepfer (Oregon), “Solar Ice Cream: Achieving Net-Zero through an Integrated Retrofit Approach;” and Julian Wang (Texas A&M), “From Static to Kinetic: A Review of Acclimated Kinetic Building Envelopes.”

**SBSE Best ASES Conference Paper Award** (WREF 2012, Denver, CO): Sara Tepfer (Oregon), “Solar Ice Cream: Achieving Net-Zero through an Integrated Retrofit Approach;” Honorable Mention: Afzal Hossain and Alfredo Fernández-González (UNLV), “Development and Validation of a Thermal Network Model to Predict Indoor Operative Temperatures in Dry Roofpond Buildings,” and Diana Hogard, Mike Beamer, David Bisers, and Sophia Duluk (Oregon), “Comfort and Indoor Air Quality in Passive Houses in the U.S.” 🖱

—Walter Grondzik

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**FALL ISSUE SUBMITTAL DEADLINE—SEPTEMBER 1**


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FIRST CLASS MAIL