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## SBSE RETREAT 2018

CYCLES –  
*Material Life, Carbon, Nutrient, and  
Seasonal*  
July 15-18, 2018  
*Honey Creek Resort, Iowa*

READ MORE

image: SBSE web site

Check out SBSE's new web site! Same URL, new format, more interaction, historic content!

## WEB SITE REVIVAL 2018

SBSE has a new web site. Let's check it out! This site has been a long time in the making as there are quite a few hidden opportunities for visitors, friends, and members alike. It originally began as a development platform for a resource sharing portal envisioned by the education committee, but then emerged into a integrated solution to house many other features for SBSEers. The site bridges the roles of an information gateway (news, conference calendar, announcements), an activity and time-line archive (past newsletters, retreats, and tool days), and a searchable, taxonomy-oriented content management system for sharing curriculum material and other teaching resources.

I'll point out a few highlights that you should visit along the way, and introduce a few hidden sections that are still in the making. The new front page greets you with the familiar SBSE colors plus a rotating banner presenting upcoming or recent events that you should not, or should not have missed. Right below are three focus icons vital to our society (getting involved, sharing resources, getting resources).



### Get Involved !

Want to learn more about SBSE or how to get involved?



### Resources

Looking for inspiration on topics and approaches?



### Sun Angle Calculator

Get the Pilkington Sun Angle Calculator

Come back often to catch the latest news and announcements between our quarterly newsletters, and if you are planning your conference schedule for the next year make sure to check out the upcoming events listing, which we try to keep updated with conferences and workshops across our diverse A/E/C community. Maybe you'll find out about an interesting conference that fits your research/teaching agenda.

## RETREAT UPDATES

The retreat proposal deadline was extended to 17 March. The deadline for student scholarships is Apr 1. Or simply come as a participant!

The post-retreat tour itinerary has been set for Des Moines, home to exceptional examples of Modern and Contemporary Architecture with a strong sense of civility.

The tour will start with the Des Moines Art Center <<https://www.desmoinesartcenter.org/about/architecture/>> home to a fabulous refined art collection and housed in a composition of building wings from Eliel Saarinen (1948), I.M. Pei (1968) and Richard Meier (1985) around a serene courtyard and overlooking a park housing sculptures by Andy



photo: Des Moines Art Center

Des Moines Art Center's I.M. Pei wing.

• continued page 3

• continued page 3

## LETTERS TO THE EDITOR

Thanks very much for the newsletter. For the next version, can you add the International Building Physics Conference (IBPC2018)/Syracuse, NY, USA to the calendar on the last page?

—Chetna Chianese, Syracuse

*You asked nicely, so sure!—ed.*



SOLAR 2017 takeaways are now available at <<http://ases.org/conference>>. Included are the Call to Action, session presentations, participant action statements, session and forum summaries, posters, videos, and the conference proceedings. These conference findings are intended to help you with your work throughout the year. We hope to see you August 5–8, 2018 in Boulder, Colorado for SOLAR 2018!

—SOLAR 2017 Organizers

*See ASES Solar 2018 preview, page 6.—ed.*



Great newsletter (as always). Thought the intro photo was of the Palouse but it's from Iowa —beautiful. 🙌

—Tom Bartuska, WSU emeritus

*Unlike Kansas, Iowa isn't as flat as a pancake! Also, check out the tour schedule on page 3.—ed.*



photo: Bruce Haglund

London City Hall's east façade from Bulter's Wharf.

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## HELIODONS ROCK (AND PIVOT)

A HELIODON IS THE BEST TOOL FOR THE INITIAL TEACHING OF SOLAR-RESPONSIVE DESIGN

The 3-D problem of solar-responsive design is best understood with the 3-D tool of a physical model and a heliodon. A heliodon large enough to both explain solar geometry and test physical models of buildings or parts of buildings (e.g. windows) is best. The Sun Simulator and the Sun Emulator are examples of such heliodons. Unfortunately, because of their size and expense they are not a practical solution for all schools. For such schools, I have developed two heliodons that together can act as an effective teaching tool. The new Solar Geometry Demonstration Heliodon together with the Table-Top Heliodon can demonstrate solar geometry and solar strategies respectively. The Table-Top Heliodon can also be used to test models of student designs. Both of these heliodons are small and inexpensive to make. Their construction is completely explained in the newly revised web site <<http://www.heliodons.org>>.

Once students understand the basic logic of solar geometry and the logic of solar-responsive design strategies, computer programs can be very effective. I have called heliodons “Myth Busters” because what you see is reality, not opinion. For example, heliodons clearly show that vertical fins only good shading devices for north windows, and they clearly show that fixed overhangs are mediocre solutions for fully shading windows during the overheated period and fully exposing them during the underheated period. They also show that using the noon sun angle on June 21 to represent the summer period and on December 21 as the winter period are serious fallacies even though widely used. I frequently see this serious mistake in *Architectural Record* and elsewhere promoting these two sun angles as proof of a “great” solar-responsive design. [The worst example is London City Hall (GLA) where the N-S section through its curved façade shows perfect shading for exactly solar noon on the summer solstice for the thin slice of façade that faces true south. Put a GLA model on a heliodon to see the exposure at other times!—ed.] Because these and some other faulty ideals are widely held, verbal and written statements describing them as myths have little impact. However, seeing the physical reality on a heliodon creates an aha! reaction that results in a deep and lasting understanding of what is myth and what is real.

Another new feature on the web site is “What is your Solar IQ?”—a quiz that allows you to test your understanding of solar geometry and solar strategies. Answers are provided for each question. The answers are easiest for people who have worked with heliodons.

Please keep in mind that this article is not an advertisement for my financial gain. I do not get any compensation from any of my heliodons, but instead, I get great satisfaction knowing that their use will result in more solar-responsive designs that actually work. I am happy to respond to any questions. Contact me at <[lechnnm@auburn.edu](mailto:lechnnm@auburn.edu)>. 🙌

—Norbert Lechner



DSolar Geometry Demonstration Heliodon.

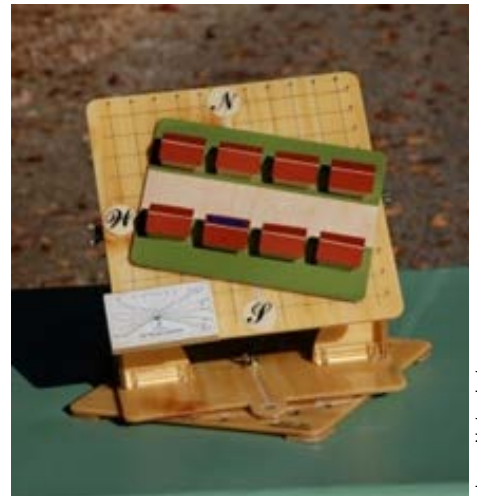


Table-Top Heliodon.

photos: Norbert Lechner

## WEB SITE REVIVAL 2018 [CONT.]

Scroll further down and you will notice that we've started to add teaching resources and course outlines. This is the place to get inspired or share course material that works for you. However, there's a catch—not all material is accessible to the public. To provide a safe environment for sharing material among colleagues, we offer different account types that give you access to this content. For any resources that you want to share, you can choose if it is accessible by the public, by registered users only, or even more restrictive, by authenticated educators and/or SBSE members only—it is up to you, we'll respect your chosen audience. *[To gain access to these features, use the My Account tab to create your web site account. It's separate from your SBSE membership.—ed.]* We will have more web insights in an upcoming membership workshop.

Before you explore the site on your own, I'd like to point out two gems that are must see locations. The first is the newsletter archive (News&Events -> SBSE Newsletters), which now holds thumbnail links to all editions going back into the 90s *[before color was invented!—ed.]*. What a wonderful testament to Bruce's excellent editorial work over decades. Dive into past editions. It's like going through old yearbooks.

Fall 1999



Summer 1999



Spring 1999



Winter 1998



The second place is the list of past retreats and tool days—most of them have been re-designed. We will add past photos and presentations as we find time to catch up between our other duties. *[So, it's a work in progress!—ed.]* Enjoy! 🖐

—Georg Reichard

## RETREAT UPDATES [CONT.]

Goldsworthy and Mary Miss to name two.

Next we drive to the Drake University Campus designed by Eliel and Eero Saarinen and Mies van der Rohe to visit the small exquisite Oren E. Scott Memorial Chapel <<http://www.buildingmoderncampus.com/chapel.html>>.

The next stop is the Consumer Advocacy Building by BNIM, a winner of the 2014 Top 10 COTE Plus awards <<https://www.bnim.com/results>>.

The afternoon will be in downtown Des Moines where the 2007 Municipal Library by David Chipperfield sits at the edge of the Pappajohn Sculpture Park, where the Krause Gateway Center by Renzo Piano Building Workshop with OPN Architects is under construction <[https://www.kumandgo.com/content/uploads/KGC-Front\\_view.jpg](https://www.kumandgo.com/content/uploads/KGC-Front_view.jpg)>. We will finish the day at Substance Architects to hear about the Student Innovation Center currently under construction on Iowa State University's Ames campus. 🖐

—Ulrike Passe

### UPCOMING EVENTS

APR  
17

#### Getting to Zero National Forum



Calling all current students and young professionals!

## SOCIETY NEWS

### NEW SBSE SECRETARY

Seth Holmes has resigned his post as Secretary due to personal reasons. The SBSE By-Laws gives the Board the responsibility to appoint a replacement for the remainder of Seth's term. Emily McGlohn has graciously agreed to do so. Thanks to both Seth and Emily for their willingness to serve.

### CALL FOR P&T REVIEWERS

SBSE has offered peer review to support building science expertise in the institutional promotion and tenure review process for many years.

I would like to update the list of volunteers, who would be willing to get called upon to serve as external reviewer for building science educators within architecture programs.

In order to keep the list up-to-date I request expressions of interest from associate and full professors who have served or are willing to serve in this role and who agree that their name may be forwarded to requesting departmental administrators.

Please send your expression of interest directly to me at <[upasse@iastate.edu](mailto:upasse@iastate.edu)>. 🖐

—Ulrike Passe

## CLIMATE DATA Q&A

*[A list server exchange in the spirit of SBSE—sweet and generous!—ed.]*

Q: Does anyone have weather files or other climate data resources for any sites in Haiti or even for the Dominican Republic? I'm running a class that supports five different design studios, one that has a site in southern Haiti.

—Mark DeKay

A: If you join the EnergyPlus Yahoo user group <[https://groups.yahoo.com/neo/groups/EnergyPlus\\_Support/files/Meteorology\\_Weather\\_Files/](https://groups.yahoo.com/neo/groups/EnergyPlus_Support/files/Meteorology_Weather_Files/)>, you can download an EPW for Santo Domingo, DR.

Generally, this group is a good resource for any EPWs that aren't in the official DOE database. 🖐

—Chris Mackey



Consumer Advocacy Building by BNIM.

photo: BNIM Architects

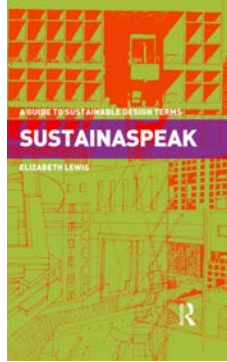
## SBSE PEOPLE

👉 **Beth Lewis** has been busy writing a book for the last year and a half. *Sustainaspeak* is now a reality! 🙌

## BOOK REVIEW

SUSTAINASPEAK BY BETH LEWIS

This book aims to familiarize readers to the wide variety of words, topics, and acronyms present in realm of sustainability. The book does not have strict chapters, instead it is organized alphabetically with a list of words at the beginning. This allows readers to move at their own pace by reading the topics in chunks or by words of direct interest. Each word has a meaningful quote related to the word or topic, and then a brief exposition on the background of the concept or word.



cover: Routledge

What makes the book powerful is not pure definition, but how it relates words to a design example. It then ties the word to other relevant or associated words, and in many cases the history and context that gave rise to them. This allows the reader to move through the book in three main ways: from word to word in alphabetic order; from words that are immediately interesting via the full list in the beginning; or in a web of words or concepts. It shows quite literally that we begin to associate ideas by their interrelationships. Finally, the introduction of sources beyond the book extends its instructional value.

The book is very straightforward and easy to use and bounce among the various topics. Further, if the reader has the author's two other books, there is also clear distinctions about words and topics in those books. While the book claims to be targeting the new generation of designers, architects, students and community leaders, it actually can be a valuable resource for anyone who wants to learn more or needs a helpful reminder.

Overall I have found *Sustainaspeak* to be an enjoyable read and useful tool in introducing important sustainable design terms as well as reminding me about other books I had read and then left on the shelf, prompting further exploration. 🙌

—Ken Black

## BAD NEWS AT BR&I

Taylor and Francis (T&F) has decided to terminate Richard Lorch's role as editor-in-chief of *Building Research and Information*. The only apparent criterion given by T&F for this decision was that an editor should have a limited period of office.

- The use of time as a determinant is arbitrary. T&F is unable to offer substantive evidence-based reasons for their decision.
- No consultation was undertaken by T&F with the editorial board, readers or authors.
- T&F have dismissed the damage this decision causes to our community.
- T&F have ignored the many people (associate editors, editorial board members, readers and authors) who have strenuously disagreed with this decision.

Consequently, a mass resignation of the Associate Editors and members of the Editorial Board has occurred over T&F's decision and poor response to further representations and evidence offered to them.

You can find background information on the BRI Community blog <<https://bricomunity.net/>>. The mass resignation by the Associate Editors and members of the Editorial Board is here: <<https://wp.me/p9iNgv-2I>>

I believe that strong protest can change the decision of the publisher. Journals ultimately depend on the social networks of people and their goodwill.

I've just created a petition "To Taylor & Francis: Save BRI's editor. Listen to our community!". Please help by adding your name. Our goal is to reach as many signatures as possible so we need your support to show to the publisher the extent of disagreement with their decision and to demand the decision is rescinded. You can read more and sign the petition at <<http://chn.ge/2FmXDkZ>>.

Also, please tell appropriate colleagues who may also be interested.

If you are on Twitter or other social media, please also use this hashtag: #saveBRIeditor. 🙌

—Richard Lorch

## FALL 2017 IMMERSIVE LEARNING AT BSU

### BROWNFIELDS TO BRIGHTFIELDS

With the support and facilitation of the Center for Energy Research/Education/Service (CERES) at Ball State University a group of second-year urban planning students in the College of Architecture and Planning studied the brownfield redevelopment programs of the Environmental Protection Agency (EPA) and the Indiana Department of Environmental Management (IDEM), and analyzed the solar potential of 19 Delaware County brownfields as well as the existing conditions of many sites.

The StoryMap on the web pages noted below summarizes the process and output of this immersive learning project, conducted as part of the PLAN203 Regional Planning and Design Studio. Under the mentorship of Sanglim Yoo, nine students prepared this report: Odessa Britman, Javan Johnson, Colton Marvel, Hannah Moran, Sarah Murray, Patty Salgado, Erin Salgat, Michael Terronez, and Jack Treber.

For full story maps and info see <<http://bsumaps.maps.arcgis.com/apps/MapJournal/index.html?appid=d088399b1a914339813e431f1f77f2ab>>. 🙌

—Bob Koester



Brownfields to Brightfields participants.

photo: BSUmaps web site

## GLOBAL RESOURCE AND OPPORTUNITY

TAD WEBINAR 3 UNDERSTANDING YOUR RESOURCES: INTERNAL AND EXTERNAL MODERATED BY MARCI UIHLEIN

March 29, 2018, 2–3pm ET

How do you support your research through funding or other resources? Three researchers—Hazem Rashed-Ali, Kate Simonen, and Ryan Smith—will present on the topic of funding from internal sources to writing for external grants, the spectrum of external funding types and sources for architectural researchers, and creating a funding strategy for research projects.



Register at <https://register.gotowebinar.com/register/289512795898072834?source=Dedicated+Emails>.

—TAD Journal.org

### 2018 ARUP GLOBAL RESEARCH CHALLENGE

This challenge aims to foster innovation, exploration and multi-disciplinary collaboration to help deepen our understanding of these global challenges and their implications for shaping a better world.

Applicants are invited to propose short-term, collaborative research projects to respond to our 2018 themes:

- Global Planetary Boundaries: towards restorative practices
- Artificial Intelligence: design and engineering for the built environment

Selected projects will be supported to develop the ideas for potential release in the marketplace and will receive up to £50,000 for 1 to 2 years.

**The deadline for expressions of interest is 23 March 2018.**

Shortlisted projects will be announced on 9 April and will be invited to submit a full proposal by 4 May 2018. Final projects and funding will be announced on 21 May 2018.

To download a full research brief and to apply, please visit <https://research.arup.com/challenge/>.

If you have any specific questions, please contact David Gerber, Global Research Manager, Arup ([david.gerber@arup.com](mailto:david.gerber@arup.com)).

—Jonelle Simunich

### IES GLOBAL STUDENT AWARD

IES has launched a new Global Student Award in memory of one of its technical masterminds, Martin Gough. This award will seek out student excellence in Apache and thermal simulation-based research. Both the winner and runner-up will receive a monetary prize and be awarded with a 12-month IESVE license that includes online training.

Entry Requirements:

- Individual submission
- Paper submitted in PDF format
  - Maximum 5 pages
  - To include a 250–500 word executive summary
- Formatting is at the discretion of the entrant
- Entrants should have no more than 5 years industry experience

The deadline for students to submit their entry is **30 June 2018**. For more information visit <http://www.iesve.com/martin-gough-student-award>. 🐾

—Teresa Henderson

## JOB OPS

### SHEFFIELD UNIVERSITY

This is an opportunity to work with some of the best building scientists in the UK as well as to teach in one of the very top schools of architecture there, and lead a new research group related to your speciality. The university is exceptionally vibrant, having the best students' union in the UK as well as having won the top accolade for University of the Year.

Sheffield itself is right on the doorstep of the magnificent Peak District and is one of the greenest cities in the UK. Housing is relatively cheap, the quality of life is good, and London is just two hours away by train.

See <https://www.sheffield.ac.uk/architecture/latest/job-vacancy-1.765957>. The **closing date is March 26**.

—Fionn Stevenson

### UNIVERSITY OF WATERLOO

The University of Waterloo in Canada has been working on the launch of a new program in Architectural Engineering. It takes in its first class September 2018.

The hires are being split between the civil engineering and architecture departments. Our architecture department gets 3 hires over the next 3 years, with one person needed for this fall.

The architecture hires will work partially in the archeng program, teaching in archeng studios as well as some lecture courses, but also in the architecture department, hopefully spelling me from some of my course overload and helping out while I go on sabbatical in 2019.

This is Canada folks, so we have a fantastic benefits package and health care plus one of the nicest Prime Ministers anywhere.

Full info at <https://uwaterloo.ca/engineering/faculty-and-staff/faculty-positions#Building-Systems-Building-Science>. 🐾

—Terri Boake



SBSSEers in the RGE during Tool Day 2017.

## RACE TO ZERO FINALISTS ANNOUNCED

Good Luck to the 40 Finalist Teams!

Six weeks and counting! Our teams have been working hard, and we're excited to announce this year's 40 finalist teams. See <<https://www.energy.gov/eere/buildings/race-zero-finalists-teams>>.



The competition challenges collegiate teams to apply sound building science principles to create cost-effective, market-ready designs that meet DOE's Zero Energy Ready Home program requirements and the Advanced Energy Design Guide For K-12 School Buildings—Achieving a Zero Energy Building.

Students from 40 teams, representing 35 collegiate institutions, have taken a big step in advancing their education and careers by participating in the next U.S. Department of Energy (DOE) Race to Zero Student Design Competition (Race to Zero). Congratulations to these teams as they vie to be the grand winner during the competition!

The upcoming Race to Zero is April 20–22, 2018, at the National Renewable Energy Laboratory (NREL) in Golden, Colorado. 📍

## MS ARCH OPPORTUNITY

### UNIVERSITY OF ARIZONA

Please let your best undergraduate students know that there's still time to apply to the inaugural class of Arizona's new M.S. Architecture in Sustainable Market Transformation <<http://smt.arizona.edu>>. Students will tailor a 3- or 4-semester program of study to gain understanding of building science, sustainability, and the dynamics of the building industry. The College of Architecture, Planning, and Landscape Architecture has several new faculty members, including chair Jonathan Bean (high-performance building and market transformation); Altaf Engineer (co-founder of Architects for Society and research faculty at UA's Institute for Place and Well-Being); Aletheia Ida, (chair of the M.S. Architecture program in Emerging Building Technologies); and real estate and planning professor Andrew Sanderford (innovation in the building industry). Applications are accepted through UA's GradApp platform <<https://apply.grad.arizona.edu/users/login>>. 📍

## CONFERENCE PREVIEWS



graphic: ASES Web Site

### ASES SOLAR 2018 BOULDER, CO

The ASES conference returns to Colorado, to continue the conversation on maximizing renewable energy, and to forge pathways for communities in every state to follow in achieving renewables-driven electrification, climate resilience, and clean-energy-driven opportunities for all.

ASES has designed this conference to be an engaging summit of members, partner organizations, and guests. All participants will be encouraged to hear the facts and weigh the controversies, share research and experience, and consider how supporters of high-renewables goals nationwide can work together to address the challenges and speed our collective progress toward full reliance on sustainable, renewable energy.

In a departure from previous conferences, the Call for Participants, now open, will focus on these tracks, plus competitive opportunities for outstanding presentation and posters on a cross-section of other relevant topics. We acknowledge that there are many topics—and many pathways—that we would like to explore, and indeed, this 2018 National Solar Conference is the start of a multi-year commitment to continuously re-broaden our focus.

Submit your proposal in our Call for Participants: opened February 15, and **Closing April 2, 2018**. See <<https://www.ases.org/conference/>> for details.

### SASBE 2018 SYDNEY

#### Abstract submission deadline 15 Apr 2018

The 6th Smart and Sustainable Built Environment (SASBE) conference to be held in Sydney, Australia 4–7 December at the University of Technology Sydney. We hope to see you there!

The SASBE Conference returns to Australia where the first conference was hosted in Brisbane in 2003. In the intervening years the conference has been hosted at 3-year intervals in Shanghai, Delft, Sao Paulo, and Pretoria, providing a unique forum for cross-disciplinary and interdisciplinary exchanges in the field of Smart and Sustainable Built Environments.

This conference will pay particular attention to planning, urban design, and architecture that is not only sustainable but also smart. The conference will retain its broad interest in sustainable building research and practice, while creating a special focus on two issues relevant to emerging urban initiatives: (1) smart cities and the opportunities new technologies bring to design of sustainable cities with data and the spatial performance of how the smart city manifests itself and (2) planning and design of sustainable cities under the severe constraints of climate change. These issues call for a design rather than a technological response.

For more information see <<https://www.sasbe2018sydney.com/>>.

—Leena Thomas

• continued next column



photo: SASBE web site

## EULOGY FOR STEPHEN HAWKING

By all accounts, mastermind Stephen Hawking was a marvel of science. Not only did he survive a debilitating illness for decades longer than doctors prognosticated, he uncovered groundbreaking discoveries about the nature of gravity and the very origin of the universe. In his dying days, his final warning to humanity: **stop climate change at all costs.** [I nominate *Hawking for honorary SBSE!*—ed.] Read more at <<https://www.greenbuildermedia.com/green-builder-media-new-posts>>. 🖱

—Sara Gutterman

## STUDENT LIGHTING COMPETITIONS

IES LOS ANGELES

**Entry Deadline is Apr. 19, 2018**

The Illuminating Engineering Society Los Angeles Section (IESLA) has announced its 2018 Russell Cole Memorial Lighting Design Competition. Established to honor Russell Cole, founder of Cole Lighting, and his commitment to lighting education and the IESLA, the competition is open to undergraduate and graduate students in an accredited design or engineering program in the Southern California counties of Los Angeles, Orange, Ventura, San Bernardino, or Riverside.

The 2018 project competition brief asks students to design the lighting for a lobby with a water feature. Entrants must complete an online registration form as part of their entry. Project entries are due April 19, 2018. All supporting materials can be downloaded via the competition web site.

Questions should be addressed to Erin Powell and Kate Furst, IESLA Design Competition Committee via email at <[iesladesigncompetition@gmail.com](mailto:iesladesigncompetition@gmail.com)>.

IES NEW YORK CITY

Entering its 18th year, the Illuminating Engineering Society's New York City Section's (IESNYC) annual student competition continues to promote a greater awareness of lighting by engaging with New York area students who are enrolled in design programs. Each year, the competition brief focuses on a specific property of light and asks students to interpret the idea by designing a 3-D built model. The theme for the 2018 competition was "Bound by Light" and the competition brief states: "Bound by Light," challenged students to construct a three-dimensional study that explores connections through light. "Without connections, we are in the dark. From a child with a flashlight reading beneath a bedsheet, a glowing screen connecting people on different continents, or lighting a candle to send messages to the great beyond, light can create or enhance our links, networks, and relationships. Explore how light can affect connections—interpersonal, intercultural, technological, or something more—in our everyday lives."

The competition event and exhibition took place March 8, 2018, at the Metropolitan West Pavilion, at 639 West 46th St. in New York City. All questions should be emailed to: <[studentcompetition@iesnyc.org](mailto:studentcompetition@iesnyc.org)>. 🖱

—Elizabeth Donoff

## CONFERENCE PREVIEWS [CONT.]

ALTERNATIVES TO THE PRESENT.

### A Conference on Architecture, Urbanism, Sociology, Development & Planning

01-02 November, 2018, Kent State University, Cleveland.

**Abstract deadline: 05 June 2018**

<<http://architectureemps.com/cleveland/>>

This conference is organized by the Kent State University and the research organization AMPS and the scholarly journal *Architecture\_MPS*.

It forms part of an international publishing network PARADE (Publication and Research in Art, Architectures, Design, and Environments) involving Routledge, Taylor&Francis, Intellect Books, UCL Press, Cambridge Scholars Publishing, Vernon Press and Libri Publishing.



Cleveland today.

Photo: Kent State web site

Books published so far that are related to this conference series:

- *Housing Solutions Through Design*. Libri Publishing
- *Digital Futures and the City of Today*. Intellect Books
- *From Conflict to Inclusion in Housing*. UCL Press
- *Imaging the City—Art and Creative Practices in the City*. Intellect Books
- *Housing the Future*. Libri Publishing
- *Urban Documents, Design Practices and Social Criticism Through the Lens*. Intellect Books
- *Reflections on Architecture, Society and Politics*. Routledge.

More information: <<http://architectureemps.com/cleveland/>>.

Questions: <[info@architectureemps.com](mailto:info@architectureemps.com)>.

IBPC2018 SYRACUSE

The theme of IBPC2018 is "Healthy, Intelligent, and Resilient Buildings and Urban Environments." It will provide a forum for scientific, technological, and design exchanges through multiple platforms: 1) presentations of original research and development work and findings, 2) demonstrations and exhibitions of innovative green building technologies, and 3) discussions of future challenges and opportunities. It will cover a wide range of research topics cutting across multiple scales of the built environmental systems ranging from nano-material applications, to occupants' micro-environments, to rooms and whole buildings, and to neighborhood and urban scales, see <<http://ibpc2018.org/conference-topics/>>. The goal of the conference is to advance the collective understanding of the nature and behavior of the cyber-physical systems at these different scales, how they interact, and what can be done to optimize their design and operation for healthy, intelligent, and resilient buildings and urban environments.

Registration for the conference will open in mid-March, 2018.

On behalf of the organizing committee, we cordially invite you to participate in this important event, and look forward to your contributions! 🖱

—Chetna Chianese, Syracuse

## STUDENT JOB OPS

OXFORD BROOKES UNIVERSITY

Closing date for these posts is 18 Mar 2018

We are pleased to announce three new full-time Research Associate posts based in the Low Carbon Building (LCB) Research Group at the School of Architecture in Oxford Brookes University (Oxford, UK). The LCB Group has a strong international reputation in the field of carbon mapping (RIBA award-winning DECoRuM model), building performance evaluation, climate change adaptation of buildings, and low carbon communities.

1. Research Associate in Residential Energy Demand (2 posts): The four year RESIDE (Residential building energy demand reduction in India) project aims to assess all aspects of the residential energy use, including performance of the building fabric; in-home appliances; indoor environment and occupant behavior, to underpin a residential building energy code. For further information see <[https://my.corehr.com/pls/oburcruit/erq\\_jobspec\\_details\\_for\\_m.jobspec?p\\_id=048378](https://my.corehr.com/pls/oburcruit/erq_jobspec_details_for_m.jobspec?p_id=048378)>.

2. Research Associate in Building Performance Evaluation (1 post): The post is designed to help with the implementation of externally-funded projects in the Low Carbon Building (LCB) Group, which include Whole Life Performance plus projects on indoor environment and staff productivity and the ZERO PLUS project on positive energy settlements.

For further info visit: <[https://my.corehr.com/pls/oburecruit/erq\\_jobspec\\_details\\_form.jobspec?p\\_id=049238](https://my.corehr.com/pls/oburecruit/erq_jobspec_details_form.jobspec?p_id=049238)>.

—Rajat Gupta

## RYERSON UNIVERSITY

We have three open positions (2 PhD, 1 MAsC) and are always interested in recruiting passionate students. If you are interested in a MAsC or PhD position in our Research Group (BeTOP), please email with the subject line “BeTOP Application” Umberto Berardi. The application should include a cover letter outlining why you are interested in the Lab’s research, your relevant experience, and your CV. 📧

—Umberto Berardi

## RESEARCH REPORTS I

OXFORD BROOKES UNIVERSITY

### United Nations funded research on mainstreaming sustainable social housing in India

The urban housing shortage in India is currently estimated at 18.78 million, more than 95% of which pertains to low-income groups. This is why the Government of India aims to construct 20 million social housing dwelling units through the Housing for All by 2022 mission. For the last 18 months, Rajat Gupta from the Low Carbon Building Research group in Oxford Brookes University (Oxford, UK) has been leading a United Nations funded research project on “Mainstreaming sustainable social housing in India” (MaS-SHIP), with researchers from TERI and DA in India and UN-Habitat.

MaS-SHIP aims to identify what the impacts and benefits of housing production at a scale, such as that of the Housing for All by 2022 mission could be—for our environment, our economy, and our communities—and to provide a method for identifying the most appropriate building materials and technologies for social housing projects. This is no easy task in an inherently data-poor environment.

Using a multi-criteria decision support system, the project is developing a Sustainability Index (SI) to help developers, practitioners, and policy-makers with decision making in their choice of building materials and construction technologies in an Indian social housing context.

The project has produced a background study entitled “Mainstreaming Sustainable Social Housing in India: Definition, Challenges and Opportunities,” which is available at <[http://docs.wixstatic.com/ugd/caf2de\\_829d1d976a8c42f989c8b03b7de9d0e0.pdf](http://docs.wixstatic.com/ugd/caf2de_829d1d976a8c42f989c8b03b7de9d0e0.pdf)>. The MaS-SHIP team is also conducting a large-scale field survey of 750 social housing residents to record their perception of indoor environment in their homes, across five new-build social housing developments located in the five different climatic zones of India.

The project builds on previous research led by the Low Carbon Building Research Group on greening social housing internationally for UN-Habitat <<http://www.brookes.ac.uk/about-brookes/news/researchers-author-major-un-report-on-greening-social-housing/>>.

For more information about the MaS-SHIP project, please contact Prof Rajat Gupta, <[rgupta@brookes.ac.uk](mailto:rgupta@brookes.ac.uk)>. 📧

—Rajat Gupta



Attendees of MaS-SHIP stakeholder dialogue workshop.

Photo: Rajat Gupta

## BOOKS FOR SBSEERS AT A DISCOUNT

Alison Kwok is sharing discount deals on two recent books in her repertoire. Enjoy!

**The Green Studio Handbook: Environmental Strategies for Schematic Design, 3rd ed.**

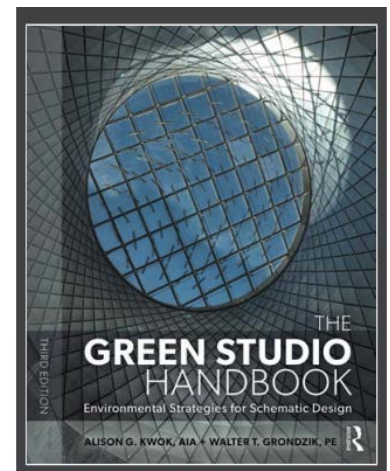
20% Discount Available, enter the code FLR40 at checkout

**Passive House Details: Solutions for High-Performance Design**

20% Discount Available with discount code FLR40

To take advantage order your copies directly from the Routledge web site <<https://www.routledge.com/>>. 📧

—Alison Kwok



cover: Routledge

## RESEARCH REPORTS II

### LRC STUDY TESTS THE IMPACT OF CIRCADIAN LIGHT ON ALERTNESS

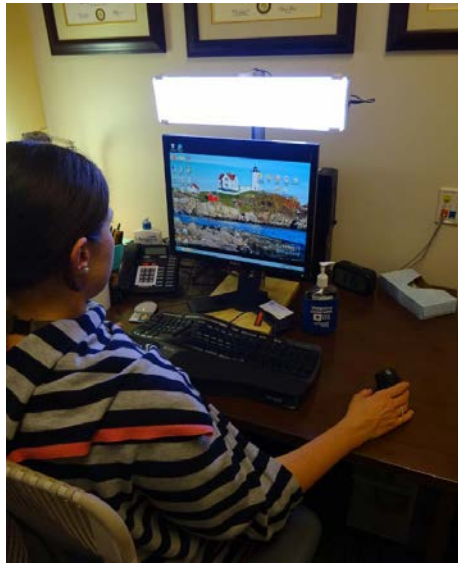
The most recent in a series of office lighting studies is now available.

In 2017 the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute published a study showing that office workers who receive a robust dose of circadian-effective light experience better sleep, and lower levels of depression and stress, than those who spend their days in dim or low light levels. The team of LRC researchers, led by Mariana Figueiro and sponsored by the U.S. General Services Administration, measured existing light levels for 109 participants at five federal office buildings designed to maximize daylight availability indoors. The research team found that even in open offices with many, large windows, office workers were not receiving enough light to stimulate their circadian system during the day, due to factors such as cloud cover, desk orientation, and window shade position.

In response to these findings, the LRC team theorized that supplemental electric lighting could be used to ensure that office workers receive enough light during the day, and put their theory to the test in this new study, installing circadian-effective lighting for 68 participants at four U.S. government offices, including locations in Reykjavík, Iceland, and Riga, Latvia, near the Arctic.

The LRC is one of the few groups conducting field-based light and health research.

—Rebekah Mullaney



Government employee basking in circadian-effective lighting.

photo: LRC

### PERFORMANCE SIMULATIONS BY BALL STATE'S CERES

CERES has assisted the COPE Environmental Center <<http://www.copeenvironmental.org/>> with energy and passive system performance simulations (thermal, solar and ventilation) for their newly opened Sustainable Education Center facility in Centerville, IN, designed and constructed to meet the Living Building Challenge.

In fact, we are now engaged in the year-long documentation of building design criteria, design process, performance modeling, and performance tracking to assure that the LBC criteria are met for certification.

Real-time solar monitoring data can be viewed at <<https://monitoringpublic.solaredge.com/solaredge-web/p/kiosk?guid=4426b996-0606-434d-88a6-3fd5d7fc632b>>.

View drone video footage taken during construction at <<https://www.youtube.com/watch?v=OxNcFnMmFBU&feature=youtu.be>>.

CERES web link: <<http://cms.bsu.edu/academics/centersandinstitutes/ceres/news>>. 🖱

—Bob Koester



image: COPE web site

## OPPORTUNITY

Submit a paper for publication in a Virtual Special Issue of *Building and Environment*, "Light in the Built Environment: More than just vision."

Guest Editor: Dr. Mariana G. Figueiro (Lighting Research Center, Rensselaer Polytechnic Institute, USA)

**Submission deadline: September 30, 2018**

Light isn't just for vision and yet, lighting in most buildings has been manufactured, designed, and specified to meet visual requirements (i.e., task performance, comfort, aesthetic appreciation) and address energy-conservation concerns, more or less exclusively. Research has shown that light impacts people in ways other than visually. Light reaching the back of our eyes sets the timing of our biological clocks and tells us to "do the right thing at the right time." Light also impacts our emotions and can be used to give us perceptual cues about the environment, which may help us navigate a space at night, for example. Finally, light can be used to promote alertness during the day and at night, similar to a cup of coffee. Given how important light is in the built environment, this call for a virtual special issue on lighting is accepting original research and review papers on the following topics: 1) specifying and measuring light in the built environment; 2) light for visibility and visual comfort; 3) light for perception and aesthetics; 4) light for health and wellbeing; 5) light for alertness.

### Submission Guidelines

Only original manuscripts can be submitted. Authors are invited to follow the link "Submit Your Paper" located on the left side of the journal web site, to submit a manuscript to this Virtual Special Issue (VSI:Light in Built Env).

Mention the name of the Special Issue in your cover letter. All manuscripts will be peer-reviewed in accordance with the established policies and procedures of the journal. The final papers will be selected for publication based on the results of the peer review process and the reviews of the Guest Editor and Editor-in-Chief.

For more info visit <<https://www.journals.elsevier.com/building-and-environment/call-for-papers/virtual-special-issue-on-light-in-the-built-environment-more>>. 🖱

—Rebekah Mullaney

## CAL POLY POMONA ENTRY



image: Kaley Ryan &amp; Yousyina Yussef

*"Students in this studio learned basic principles that they were able to implement and test using building simulation tools. The workflow to design low carbon buildings that they learned in the studio was probably more important than the final product, and is something they'll take with them into their future careers." 🙌*

—Pablo La Roche,

## THE 2030 CURRICULUM PROJECT UPDATE

# Shaping the next generation of ARCHITECTS



graphic: Architecture2030

Architecture 2030 has teamed up with leading educators in the US to compile cutting-edge courses for Architecture and Planning Schools.

The 2030 Curriculum Project integrates climate and environmental issues into design studios, history courses, and other program areas, creating a sustainability model for architecture and planning programs nationwide.

We are excited to share the successful projects and coursework, which provide a framework for expanding curricula to address the most pressing issues of our time.

The syllabi and projects are now publicly available, see <<http://architecture2030.org/shaping-the-next-generation/>>. 🙌

—Architecture2030

## SBSE CALENDAR

## 2018

- Apr 17–19 Getting to Zero Nat'l Forum/Pittsburgh, PA, USA
- Apr 20–22 Race to Zero 2018/Golden, CO, USA
- May 1–4 Living Future 18/Portland, OR, USA
- May 16–19 ARCC–EAAE 2018/Philadelphia, PA, USA
- Jun 4–7 SimAUD Conf/Delft, NETHERLANDS
- Jul 15–18 SBSE Retreat 2018/Walnut City, IA, USA
- Aug 5–8 ASES Solar 2018/Boulder, CO, USA
- Sep 23–26 Int'l Bldg Physics Conf 2018/Syracuse, NY, USA
- Dec 4–7 SASBE 2018/Sydney, AUSTRALIA
- Dec 10–12 PLEA 2018/Hong Kong, CHINA

## 2019

- Jul 24–26 Int'l Conf Structures & Architecture/Lisbon, PORTUGAL 🙌

## SUMMER ISSUE SUBMITTAL DEADLINE—JUNE 1



SBSE NEWS  
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TO: SBSE MEMBERS & FRIENDS  
PLANET-WIDE



OUR 2¢  
EMILY\* MAIL

*\*Emily McGlohn is fulfilling Seth Holmes' term as Secretary*