SBSE RETREAT ’20 BECOMES RETREAT ’21

As many of you may have anticipated already, due to international travel restrictions and the risks of spreading COVID–19 infections, the SBSE board decided to postpone this year’s retreat until the summer of 2021.

Our retreats build on personal interaction and networking between faculty and students, which simply cannot be achieved by moving the event online. Thus, our current plan is to hold the next retreat in the Detroit area, at the originally proposed Manresa Retreat House, as previously advertised for the 2020 retreat. All submitted session proposals will be considered automatically for inclusion in the 2021 Retreat. A call for additional/alternative proposal submissions or revisions to existing proposals will be announced at a time closer to the new date.

The event organizers, Kriss Nelson and James Leach (University of Detroit Mercy), remain enthusiastic hosts for the retreat next year and appreciate your understanding the difficult decision to postpone. Mary Guzowski, Margot McDonald, and Sandy Stannard, our previously assigned SBSE Retreat California 2021 retreat team are happy to take a pause, and think about 2022. Let’s all stay healthy, take it one day at a time, and be back in touch with them at the end of the year.

—Georg Reichard

FREE ASES WEBINARS

ASES is temporarily offering its webinars for free to everyone. Stay well and watch them at <https://www.ases.org/webinars/> . The ASES webinar series will vary from technical content to everyday information pertaining to solar and renewable energy, in addition to ASES programs like content from the National Solar Conference and the National Solar Tour!

Also you can watch all 2018–2019 ASES webinars on the YouTube channel <https://www.youtube.com/playlist?list=PLmHHyZjVaNR71u61zoe7Wa9OeW2Y1kkv> and past 2020 webinars on the ASES GoToChannel <https://www.gotostage.com/channel/ases> .
LETTERS TO THE EDITOR

It seems the world has awoken afresh to the term “webinars”! We find ourselves inundated like never before! We just finished a series on “How to make alternatives to soaps and cleansers from kitchen food items, so that we don’t pollute water”—quite a mouthful, I know, but an overwhelming response. Our next series is on “Culture—Climate—Connections” over the next week and “Lighting” on something called World Lighting Day (when did that get created?!).

Is SBSE planning anything online these days? A program or course to which we can contribute content? We have loads of stuff to share from India.

—Gaurav Shresty, Swaraj

Since the retreat has been postponed until next summer, the Board is planning to host the Annual Meeting on-line with a social hour afterward. Stay tuned!—ed.

Do you think it would be good to put the WSU and UI WOOD + collaboration in the SBSE News. Here is a link to the story prepared by WSU News <https://news.wsu.edu/2020/05/13/designing-with-wood/>. If you are fine with this inclusion, can we quote the same text, or shall I write something new?

—Omar Al-Hassawi, WSU

The collaboration included competitions for WSU grad students and UIIdaho third-years designing mass timber buildings. Let’s encourage our readers browse the web site and see for themselves!—ed.

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SBSERs SPONSOR 4 TOP–10 WINNERS

AIA and ACSA have announced the winners of the 2019–2020 COTE Top Ten for Students Awards. See <https://www.acsa-arch.org/competitions/2020-cote-competition/winners/>.

Claude Demers and André Potvin (Université Laval) advised Copain, Copain? by Audrey Rochon, Anton Zakharov, and Melanie Niget. See <https://www.acsa-arch.org/competition-winners/winner-copain-copain/>. The guidelines of the project were to provide a versatile and environmentally friendly building system, using passive strategies to control the light and thermal aspect of the building. The hypothesis proposes an extension of 875 sq.m. for the Joseph Paquin primary school located in the city of Charlesbourg (Québec, Canada). The continental weather allows Québec to have all four seasons with winter its longest, with quite wide temperature variation from summer to winter.

Claude Demers and André Potvin (Université Laval) advised Matriochkas by Marie–Hélène Cliché, Michael Comtois, and Étienne Vigneau. See <https://www.acsa-arch.org/competition-winners/winner-matriochkas/>. The purpose of the project was to develop a prefabrication process that could be adapted to any existing school. The system developed is versatile and allows the development of spaces adapted to different sites. To test that system, we analyzed a particular site and an existing school. Then, we created two annexes on both sides of the existing school.

Steven Juroszek and Jaya Mukhopadhyay (Montana State) advised Library of Play by Nicole Andersson. See <https://www.acsa-arch.org/competition-winners/winner-library-of-play/>. The Children’s Branch of the Bozeman Public Library acts as a set of flexible and nonflexible spaces, housing programs that promote playfulness, learning, and creativity through the vehicles of toys and games. Largely catering to children and retired adults, the toys provide an opportunity for peer and intergenerational play. Like the objects that it collects, catalogues, stores, distributes, and creates, the spaces within the library function to bring joy, lightness, and a sense of entertainment to the community; the building itself also being like a “toy” that can be assembled and reassembled as a form of creative expression. The Seed Bank and gardens dispersed throughout the Library provide another layer of activity and community collaboration.

Ulrike Passe (Iowa State) advised Bazaar 324 by Anannya Das and Connor Mougin. See <https://www.acsa-arch.org/competition-winners/winner-bazaar-324/>. Bazaar 324 is a net–zero project set in an old warehouse district in downtown Memphis, TN. The area is marked as a “special development” zone lending endless opportunity to the site apart from the 8–story limit. With an old 3–story brick dry goods warehouse and a corner lot, the decision was made for the site to serve as porous bazaar space with apartment complexes. This combination would solve a number of the local needs—it would create jobs by offering the opportunity for dozens of local entrepreneurs to own a small retail space, it would create affordable housing above the open bazaar and supplement costs by mixing in market-value units, and it would establish a grocer within walking distance for the residents of the food desert that is downtown Memphis.

—Bruce Haglund
The Solar Decathlon Design Challenge (SDDC)—formerly the Race to Zero—is an annual student design competition sponsored by the U.S. Department of Energy’s Solar Decathlon program. SDDC invites student teams to develop proposals for net-zero energy buildings that address real-world issues in the building design and construction industries over one or two academic terms. Proposals are evaluated according to ten criteria: energy performance, engineering, financial feasibility and affordability, resilience, architecture, operations, market potential, comfort and environmental quality, innovation, and presentation quality. There are six building type divisions: elementary school, office building, attached housing, mixed-use/multifamily, urban single-family, and suburban single-family.

Teams include students in architecture, engineering, construction management, and other degree programs. Teams are encouraged to engage community and/or industry partners outside their institutions. SDDC is a two-stage competition with finalists being invited to present their work to a panel of industry experts at NREL in Golden, CO. Due to the pandemic, teams presented via a virtual conference rather than at an in-person event.

SBSE faculty sponsored many of the award-winning teams including the two Grand Prize winners—Team Getting Too Attached with their “Peace Village” project, advised by Mary Rogero and Mary Ben Bonham (Miami University) and Team POLARIS with their “Little Dipper Elementary” project, advised by Ihab Elzeyadi (Oregon).

Two teams, one advised by Edoarda Corradi Dell’Acqua (IIT) and one advised by Jonathan Bean (Arizona) won their divisions. In the Office Building Division, Edoarda’s Team River Heights–Vertical River won for the design of a 15-story office building in the Chicago River District master plan. In the Mixed-Use/Multifamily Division Jonathan’s Team Sunblock won for the repurposing and additions to an abandoned strip mall in Tucson.

There were also several honorable mentions (3rd place) in different divisions from SBSE faculty—Jonathan Bean (Arizona), Tom Collins (Ball State), Edoarda Corradi (IIT), Sarah Kleintob–Lowe and Lisa Iulo (Penn State), Georg Reichard (Virginia Tech). Full info is at https://www.solardecathlon.gov/2020/design/challenge-results.html.

SBSE Faculty Take the SDDC Grand Prizes and More

The Solar District Cup challenges multidisciplinary student teams to design and model optimized distributed energy systems for a campus or urban district. These systems integrate solar, storage, and other distributed energy capabilities across mixed-use districts, or groups of buildings served by a common electrical distribution feeder. The competition engages students across the engineering, urban planning, and finance disciplines to reimagine how energy is generated, managed, and used in a district.

Teams compete in one of multiple divisions, each structured around a distinct district use case. A winner is selected for each division, based on the quality of their solar energy system design. The strongest designs provide the highest offset of annual energy and greatest financial savings, determined by a techno-economic analysis conducted by students and evaluated by judges. The goal is to design, model, and present the most reliable, resilient, and cost-effective system possible.

Ball State’s Architecture Building (pictured above) was central to one of three District-Energy–Use case studies in the inaugural DOE/NREL Solar District Cup competition; winning team entries were adjudicated and awarded on 26–27 Apr.

More info at https://www.energy.gov/eere/solar/solar-district-cup>. Class of 2021 team registration opens 30 Apr 2020 and remains open through 29 Sep 2020, although additional team members can be added at any time.

—Bob Koester
We’ve translated the Regeneration-Based Checklist for Design and Construction into Hindi. The checklist is something I stumbled on back in 2010 when developing India’s national rating system (GRIHA) into a “Large Development” version (i.e., for sites greater than 50,000 hectares). I fell in love with the checklist then and there.

Now, I wanted to ask you, how can we use it for a national-level, green schools initiative that we’re trying to develop? Can we adapt it? If so, who do we give credit to?

[You certainly may use it and modify it to your project. Credit the Society of Building Science Educators (SBSE). I’d love to see the modified version (in English, too!).—ed.]

With your approval we’ve sent forth the proposal to the national schools body in India. We haven’t heard from them yet! Don’t know what to make of it. They must be dealing with their own stuff, putting things online, grading students for the past year’s work, prepping for the next academic year [and dealing with the pandemic—ed.]. Anyway, I’ll keep you posted. I really do hope we can take this evaluation tool to the whole world.

—Gaurav Shorey

Rajat Gupta of the Low Carbon Building Research Group (Oxford Brookes University [OBU], UK) has led a pioneering UK–India research study to develop and nurture adoption of building performance evaluation (BPE) in the booming green building marketplace of India.

The two-and-a-half year UK–India Newton Fund-sponsored Learn–BPE project by OBU in collaboration with CEPT University (India) brought together the disciplines of building science and social science, to develop, test, and refine, for the first time, a customized building performance evaluation (1-BPE) approach for the Indian subcontinent.

* continued next column
PET PLASTIC BOTTLE HOUSE IN NEPAL

FOR AN EARTHQUAKE-AFFECTED FAMILY IN NEPAL

In 2015, massive earthquakes of 7.8 and 7.4 magnitudes struck Nepal, resulting in adverse economic and infrastructure damage as well as many human casualties. Government of Nepal identified 625,000 houses as fully destroyed and 180,000 houses as partially damaged. In response to the disaster government, private, and non-government organizations initiated numerous housing recovery projects to support earthquake-affected people. Bottle house is one such project, completed in 2019, that provides safe shelter to an earthquake-affected family in a village located in Kavre district. It was implemented by a local NGO, Architecture Sans Frontieres Nepal (ASF Nepal), together with Bottle by Bottle—UK from the University of Nottingham.

An interesting feature of this new house is that it has all earthquake-resistant features and is built using waste Polyethylene Terephthalate (PET) plastic drink bottles filled with sand. These plastic bottles replace burnt bricks, a conventional building material. PET plastic bottles are packed with locally available sand and bonded with cement–mud mortar. This project trained locals about earthquake resistant technologies and PET plastic bottle house technology. Also, a workshop was conducted for students from Acme Engineering College, Purbanchal University, and Kathmandu University pursuing undergraduate degrees in Architecture in order to share knowledge about bottle house. After the workshop students volunteered a few days for construction of the house, a good learning experience for students seeking knowledge in alternative building materials. In Nepal, commercial large-scale recycling plants for plastics are not available and much of the plastics are dumped into already strained landfill sites. Over 7,000 plastic mineral water bottles were used to build this bottle house. After completion of the bottle house, it was handed over to the earthquake-affected family.

Above: Bottle house under construction. Horizontal and vertical seismic reinforcement bands are for structural safety. Below: Bottle house completed and ready for handover to the earthquake-affected family.

---Rupesh Shrestha

INDIA’S GREEN BUILDING MARKETPLACE [CONT.]

The project built upon several years of research on building performance evaluation (BPE), pioneered by OBU’s Low Carbon Building Research Group. The integration of BPE in architectural and educational curricula in India was demonstrated through workshops, summer/winter schools, classroom-based courses, and master’s-level dissertations. The final report of the Learn–BPE project is available at <https://caf2de20-327b-4f80-8fbf-788300c08f54.usrfiles.com/udg/caf2de_a6f307ebccc34e92acc25a759df388c2.pdf>.

Scaling-up BPE in India

In a rapidly developing country like India, there should be a heightened sense of urgency for a widespread adoption of BPE, which will likely need to happen in both formal education and building industry symbiotically, ideally driven by both policy (energy code) and market transformation (“green” rating systems). Thus the Learn–BPE project has promoted the integration of BPE in India through the formal educational system of architecture and engineering, and training industry professionals through a continuing education approach, all to help produce a new cadre of building performance evaluators who are competent across a relevant range of technical and social aspects of building performance. I-BPE is available at <https://www.tandfonline.com/doi/full/10.1080/09613218.2019.1525962>.

---Rajat Gupta

MAZRIA PROFILE

Audrey Gray has written a stirring profile of Ed Mazria for Delacorte Review. Since I first saw him present his sobering slide deck (in the offices of Goody Clancy in 2002), I have admired Ed’s passionate commitment to empowering architects to embrace their role in reversing global warming. He has continued to marshal facts, data, and evidence to help the entire industry grasp its impact. I especially love that Gray used Mazria’s basketball roots as a metaphor in this story (it struck me as oddly timely, as we’re coming up on what would have been this season’s Final Four weekend). Instead of cheering March Madness this year, we’re weathering the coronavirus pandemic. And most of us who spend time thinking about climate change are thinking about how the pandemic is already shifting our lens on what must be done to avert disaster by halting emissions and reversing warming. In honor of Ed and so many others, let’s channel our learnings from this global event as we face the climate challenge. It’s here at delacortereview.org/2020/04/01/the-baller>.

---Kira Gould

---Rupesh Shrestha

---Rajat Gupta

---Ed Mazria for Delacorte Review
CALLS FOR PAPERS AND SPEAKERS

BUILDINGS & CITIES JOURNAL

See <https://www.buildingsandcities.org/calls-for-papers/>.

See <https://www.buildingsandcities.org/calls-for-papers/>.

—Richard Lorch

GETTING TO ZERO FORUM

Access the call at <https://gettingtozeroforum.org/forum-program/>, deadline 10 Jul 2020.


• GridOptimal: Outcomes and Lessons Learned (from 30 Jan 2020)
• A Call to Action for Zero Embodied Carbon (from 2 Apr 2020)

— Leada Fuller–Marashi

CITIES IN A CHANGING WORLD: QUESTIONS OF CULTURE, CLIMATE, AND DESIGN

Place: Virtual/New York, 16–18 Jun 2021
Organizers: City Tech, CUNY

Delegates can present virtually. The keynote and conference presentation will take place at City Tech, Brooklyn, NY. See <https://architecturemps.com/new-york-2021/>.

—Richard Lorch

BUILDINGS & CITIES JOURNAL

B&C Journal is open for submissions and now publishing its first volume of peer-reviewed research. All content is free (open access). Published papers can be found at <https://www.buildingsandcities.org/>, then click Latest Journal Content.

B&C welcomes papers on crossdisciplinary research and publishes a variety of peer-reviewed content: research, briefing papers, synthesis articles, policy analysis, replication articles, methods articles. The journal’s scope embraces the different scales of region, city, building stocks, neighborhood, street or block, and the individual site/building. Key issues include disciplinary boundaries and responsibilities, regulation and governance, research and practice. Understanding how these elements interact is critical for meeting the current challenges in policy and practice.

Forthcoming special issues in 2020 consider the topics of climate justice, carbon metrics, education and training for zero carbon, and urban densification.

Many book reviews that will be of particular interest to SBSE members:

• The Environmental Imagination
• Urban Energy Landscapes
• Design Guide for Low Energy Cooling
• Disaster by Choice
• Embodied Carbon in Buildings
• Energy Fables
• Effective Daylighting with High-Performance Façades
• Sustainable Construction

See <https://www.buildingsandcities.org/insights/reviews/>.

—Richard Lorch
VIRTUAL SIMAUD 2020 IN REVIEW

How to organize conferences or symposia in times of COVID–19? I was very skeptical about a virtual conference/symposium, but the SimAUD 2020 organizers Angelos Chronis and Gabriel Wurzer changed my mind completely. They created a magnificent three-day event, virtually in Vienna, with a bit of simulation and a lot of humor [vital in our virtual world—ed.].

While I had hoped to indulge again in Viennese architecture and culture, the SimAUD culture and community itself remained strong. A workable program and layers of presentations with sufficient amounts of discussion, very clever organization, and guidance through the days with time zone challenges like workshops starting at 6 am CDT, so I’ll have to catch up on those at a later date. A breakout café/bar was set up for side conversations, there is happy hour somewhere, any time—just no food and no travel—<http://www.simaud.org/2020/program.php> and oftentimes vivid discussion. Because one had to watch the actual presentations ahead of time, there was ample time for discussion.

Biggest challenge. Time zones, they basically had two sessions one for Asia/EU, the other for EU/USA with the keynotes in the middle, but for some I would have had to get up at 2 am and did not—so there were potentially two events with overlaps only for Europeans—the organizers were basically up for 16 hours. I hope they are taking a good rest now.

What worked. The important discussions about simulation in architecture and urban design continued. PhD students got feedback on their work and the publication credit they needed to move towards completion. The event was sufficiently interactive to feel the community, yet hope for the return to in-person presentation next year in Los Angeles.

For the presentations. There were papers, of course, then 12-minute recorded slidehows, and for the session itself each presenter prepared a 3-minute/3-slides overview as their basis for discussion. The slides were run centrally by the organizing team, which was sufficient for all who prepared and watched the full version ahead of schedule, and moderators had to be well-prepared. The audience member who wanted to join the stage for questions or comments was elevated to the panel and received the camera rights as well, see the screenshot above of the session where my grad student presented.

SimAUD video backgrounds were very clever, gave a sense of connectedness and spatial difference. The bar was, of course, “downstairs.” It presents a new sense of spatiality in times of a pandemic, where everyone can call into a conference from home, across the globe, and “meet downstairs for a drink.”

For the content. Simulation tools are getting very sophisticated, so more and more research can address the gaps in knowledge, previously out of reach due to lower computational powers. Ardeshir Mahdavi gave a very thoughtful keynote on the relationship of physics and mathematics and addressed the still challenging gaps in human behavior data collection and how that lack influences, or not, the simulation models. I am sure he left everyone with lots to think about.

Onwards to SimAUD 2021! 😊

—Ulrike Passe

BOOK NOOK


Rajat Gupta’s State of the Nation Review: Performance Evaluation of New Homes is available.

Funded by the UK’s Building Performance Network, it is a comprehensive report that provides an accessible review of key studies on new-build housing performance, BPE methods, analysis of metadata, and a look at the future of housing performance evaluation.

Using a combination of desk research and online survey with experts, the study identified the following resources on housing performance:

• Six research programs on housing performance
• Five repositories and eight metastudies that store and compile data from the individual housing performance evaluation (HPE) studies which originated from the research programs.
• Ninety-one new build HPE studies. For the first time, an online and interactive spatial map on housing performance in the UK has been created that locates the 91 HPE studies along with their metadata, such as number of dwellings studied, location tenure, study duration, study type, and data availability.

The 91 HPE studies cover 826 dwellings, of which 105 are Passivhaus and 721 Non-Passivhaus dwellings (low energy). See <https://building-performance.network/research/state-of-the-nation-domestic-buildings> for the report and interactive map.

—Rajat Gupta
LIGHT THERAPY

Introducing the LRC’s new Lighting for Healthy Living web site <https://www.lrc.rpi.edu/healthyliving/>.

This web site integrates recent developments in lighting research and education, bridging them to lighting applications in real-world situations by providing design suggestions that meet the unique needs of the people who occupy specific places.

To learn more about lighting and its impact on the circadian system, visit the Background page.

To learn more about how to apply circadian-effective design, visit the Application page.

—LRC

IN MEMORIAM—BARUCH GIVONI

I am sorry to inform you of the passing away of Baruch Givoni, one month before his 100th birthday. Baruch was a pioneer and guide, acknowledged and respected worldwide, and he was also a very modest and friendly person, loved by those who met him. He researched and published extensively, was active on numerous international organizations, and was honored with many prestigious awards.

Baruch was lucid and active to his last days. We had the great fortune to supervise together research students and publish research papers on topics touching on the most recent practices and most relevant topics.

— Isaac Meir

PLEA is collecting quotes in the PLEA web page <http://www.plea-arch.org/>. [Check this out! There are some seriously profound and touching postings from many of your SBSE colleagues and others from all over the world!—ed.] Also there’s a link to the ANTAC site (bioclimatic people) in Brazil where people are posting. See <https://www.antac.org.br/givoni?fclid=IwAR1DuEkV_6f3NV1KXiHEnvAJ5viw07BgfBVEjse_LV03DFIA5k8PAqloLW8>. [Mostly in Portuguese!—ed.]

SBSE, shall we create a Baruch Givoni award? 🌟

— Pablo La Roche

SBSE CALENDAR (COVID-19 RESTRICTIONS MAY CAUSE CANCELLATIONS)

2020

Aug 6–8       IES Annual Conf/New Orleans, LA, USA
Aug 12–14     BPAC & SimBuild/Chicago, IL, USA
Sep 1–3       PLEA2020/A Coruña, SPAIN
Sep 25–26     Reynolds Symp 2020/Portland, OR, USA
Oct 1–3       AIA/ACSA Intersections Conf/Philadelphia, PA, USA
Oct 8–10      PLDC2020/New York, NY, USA
Nov 11–14     EAAE–ARCC Intl Conf/Valencia, SPAIN (new date/venue)

2021

Mar 15–17     Getting to Zero Forum 2021/New York, NY, USA
Jun 16–18     Amps Conf 2021/New York, NY, USA
Jun 24–26     ACSA/EAAE Teachers’ Conf/Brooklyn, NY, USA
TBD          SBSE Retreat/Bloomfield Hills, MI, USA (new date) 🌟

FALL ISSUE SUBMITTAL DEADLINE—SEP 1

SBSE News
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To: SBSE Members & Friends
   Planet-wide

* Baruch Givoni was a founding member of PLEA and mentor to many SBSEers.