I had an interesting summer. I’ve been attempting to build (mostly my self) a cabin sustainably up in the Poudre Canyon northwest of Fort Collins, CO, not far from where we had a summer retreat at the Colorado State Mountain Campus up at Pingree Park. The Cameron Peak Fire started on 13 Aug about 20 miles up from my site. I was one of the first group of people forced to evacuate. Fortunately I had a place to stay with a brother who lives in Estes Park. It was a tense couple of months! I was very lucky (good karma?) that the fire ran up and over my property (two houses just up the road from me burned to the ground). The only problem I have is two rather large rocks in my access drive. A firefighter told me that a bulldozer cutting a fire line above me knocked a boulder loose that came down and hit the top of my retaining wall, split in half, and landed in my drive (better in the drive than in the cabin!). I had it removed by a contractor from Fort Collins on the condition that he got to keep one or both of the pieces. He took one and left the other at the base of the drive. The fire exploded into the largest in Colorado recorded history. It threatened the CSU Mountain Campus, but the firefighters did a remarkable job of protecting the buildings there. For those who I took to the Shambala Mountain Center, they lost several outbuildings, but the Great Stupa survived (a testament to concrete construction). While holed up in Estes Park I was able to watch Ed Mazzia’s CarbonPositive RESET! Teach-In that included several SBSE participants. Very impressive!

—Chris Theis

Planning for the next retreat is on-going. We anticipate all the presenters accepted for last summer will be reinvited for this summer and we’ll call for additional presentations. As the travel situation related to COVID-19 restrictions is currently unclear, it is not certain that the retreat will be in person, but we plan to hold a retreat no matter what—in person, virtual, or both.

We have confirmation from our cancelled venue for last summer, the Manresa Jesuit Retreat House in Bloomfield Hills, MI, that they will hold the dates of 2–5 Aug for the SBSE Retreat. They are not requiring any particular commitment at this time.

—James Leach, Bruce Haglund

CLIMATE CHANGE AFFECTS US ALL

2021 RETREAT TEASER
LETTERS TO THE EDITOR

I’m a junior in the Bachelor of Design program in Architecture at Minnesota. I came across your site because my professor, Mary Guzowski, submitted some images from my studio project last semester that ended up on the front page of your Fall 2020 newsletter.

Something that has been on my mind recently was possibly becoming a professor of architecture or design. I’d love to learn more about SBSE and how becoming an educator might be possible. I also saw the scholarship opportunities on page 7 and was curious if you had to be a part of SBSE to apply.

—Kayla Reed, Minnesota

For the scholarships, you need to be a member, but the dues are only $15 for students. As an organization we encourage students to work toward teaching positions, most prominently through scholarships to our annual retreats, which are networking and mentoring opportunities. Many of our former retreat scholars are now teaching at schools around the world!—ed.

Joining SBSE will probably be in the future for me, most likely on the next summer solstice, so I can think a little longer about what I want to do with my career. Thanks for explaining how the scholarships work. I’m going to ask Mary about why she became an educator, and try to keep up with the newsletters.

—Kayla Reed, Minnesota

FOCUS ON KUNGA

The Kunga Accessory Dwelling Unit (ADU) is a teaching, community outreach, and research project that creates learning and research opportunities through resilient, sustainable, and socially-just design and construction, linking architectural students with faculty, researchers, community partners, neighborhood citizens, professionals, jurisdictions, and industry partners. It is the inaugural project of the new Design-Build Salt Lake program (D+BSL) at the University of Utah’s School of Architecture, and is the second ADU that Salt Lake City has ever permitted.

D+BSL is an immersive experience where students develop affordable and resilient residences from first sketch to final construction. It teaches students about physical design and construction, testing research questions about buildability, affordability, and performance. Linking the school with community partners supports regional communities through engagement, co-design, and building activities.

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The clients are Lhanzey Tenzin (behind wheelchair) and Phurbu Dima (in wheelchair). Back row left to right: Nicole Zinnanti, Brayden Weir, Cecilia Rothert, Colby Kalian, Yuna Semenova, Blake Larson, Tim Hulse, Chase Gubler, Chase’s wife, Aant’s wife, Aant Esmaeili. Front row from left to right: Jörg Rügemer, Blake Nelson, Jason Wheeler.
POP QUIZ
How many SBSEers are on this year’s ARCC Board? Congratulations to all! 🌟
—Bruce Haglund

FOCUS ON KUNGA [CONT. FM P2]

project discussions, and research simulation sessions to help find a code-permitable design solution and to optimize the building’s aesthetics, functionality, and performance at a given budget.

As a result of Salt Lake City’s jurisdiction needing 7.5 months for a complete ADU permit, the student team decided to prefabricate the building parallel to the permitting process. A visit of a local prefab manufacturer led to a simple solution for interlocking wall components, manufactured for temporary assembly, disassembly, transport, and final site assembly, which helped them design and construct the 750 SF project within AY 2019/20.

The project’s performative, passive-to-active design strategies include site-specific design with south-facing orientation, daylight studies to enhance passive solar heat gain and luminous comfort, and passive house components—including enhanced performance values for walls (R-32), roof (R-60), and floor slabs (R-40)—leading to a Passive House air infiltration rate of 0.6 ACH50. An optimized Active Building Compact Core system with Post-Occupancy Monitoring provides future performance data, allowing interpretation of performance measures implemented for their feasibility and ROI. 🌟
—Jörg Rügemer

TAD CALL

The Editorial Board of Technology + Design (TAD) would like to share its current Call for Papers <https://tadjournal.org/call-for-papers/> and invite contributions for the upcoming Intelligence issue.

The Intelligence issue welcomes a broad range of submissions that include human, social, and cultural responses across multiple forms of intelligence, including conceptual frameworks, workflows, user interactions, and post-occupancy evaluations. This issue seeks current and emerging research on building automation, smart systems, design recommendation tools, machine learning, generative design, spatial reasoning, cognitive modeling, human-computer interaction (HCI), mixed reality, and ethics that rigorously examines the role intelligence can play in the built environment. All scales and modes of inquiry are encouraged from intelligent materials to smart cities, from experimental to constructed work.

Manuscripts for double-blind peer review are due 15 Jan 2021. The requirements for peer-reviewed manuscripts are outlined in the TAD Author Guide <https://tadjournal.org/author-guide/>. 🌟
—TAD Editorial Board

JOB OP AT IIT

Assistant/Associate Professor in Building Technology at the IIT College of Architecture.

We seek someone with expertise in advanced building technologies—including building envelope systems, environmental control systems, and the measurable outcomes of building performance—and with experience integrating these into studio-based architecture courses. Additional expertise is expected in sustainability, net-zero practices, life-cycle assessment, and carbon-neutral design. A peer-recognized record of innovative teaching and research is expected.

For more detailed information, please visit the ACSA website at http://www.acsa-arch.org/job/assistant-associate-professor-building-technology/>. 🌟
—Eva Kultermann
Many of us were looking forward to spend time in Spain this September, in beautiful A Coruña. COVID-19 stopped all those hopes and the whole conference went virtual. What a huge undertaking to bring such an event online. We are now accustomed to meetings on Zoom, but networking? PLEA is always a great moment to reconnect with colleagues from across the globe, but how would that work virtually? I did have a few chats with colleagues whom I had not yet met in the prepared coffee break room—the coffee I had to make in my kitchen. I think the best opportunity is to scan the participant list and send notes across the globe to friends one had hoped to meet so they can at least acknowledge their attendance. It was the best we could do. Luckily, some communication followed via email with the hope for the next face-to-face meeting. The biggest challenge was the time difference, thus many presentations were only available in the very early morning in the U.S., thus I missed many keynotes. The general theme of the post-carbon city continues a thread I have seen across other conferences and in the previous two PLEA meetings—as computational capacity increases, research addresses the urban climatic interaction and the building-microclimate interaction. The Best Paper Award by the team from Ben Gurion University in Israel (Evyatar Erell, Bin Zhou) is a good example—“The Effect of Increasing Vegetation Cover on Energy Demand for Heating and Cooling Buildings in a Dense Mediterranean City”.

For years SBSE and the Cook Charitable Trust have awarded travel scholarships to students presenting papers at PLEA. With no travel, the travel scholarships were converted into registration stipends and served more students.

On 1 Jan 2021 Richard Hayes will become the Interim Executive Director for the Association for Preservation Technology (APT) <https://www.apti.org/>.

Hazem Rashed-Ali has been nominated for the ACSA 2nd VP position.

We have launched an updated version of ClimaPlus, an early-design web tool developed to facilitate the design of naturally ventilated and hybrid/mixed-mode buildings that are energy-efficient and low-carbon. The tool is being used for teaching in a residential course at MIT, as well as in a Massive Open Online Course (MOOC) on Sustainable Building Design that we developed in collaboration with the MIT Energy Initiative.

ClimaPlus allows you to do analysis for any location in the world where there is climate data available. You can select a file from over 2,000 locations that are available in the web tool or load your own climate data in EPW file format. Outdoor and indoor climate analysis charts can be exported to vector images for editing. Please go to <http://climaplusbeta.com/> to explore more.

Contact us at <aarsano@mit.edu>.

Alpha Yacob Arsano & Christoph Reinhart

—Ulrike Passe

Season’s greetings from Moscow!
Oxford Brookes University

1. Professor Rajat Gupta and Matt Gregg from the Low Carbon Building Research Group at Oxford Brookes University, won a Best Paper award at the International Sustainable Ecological Engineering Design for Society (SEEDS) conference held in September 2020. Their paper titled “Performance of distributed energy resources in three low energy dwellings during the UK lockdown period,” examines household energy use and performance of low carbon technologies in Yorkshire, during the COVID-19 lockdown. The research study is part of a five-year £3.6 million EU-funded project—Zero Plus on zero energy settlements.

The study explored the change in daily energy use and performance of distributed energy resources (DERs) such as electro-chemical batteries, during the COVID-19 lockdown period from 23 Mar to 31 May 2020. The research found that the use of smart home batteries coupled with rooftop solar panels, resulted in over 95% reduced average direct grid consumption during peak hours. The estimated cost benefit to homeowners using smart energy systems in the study produced annual savings of between £260 and £438.

2. Rajat Gupta and Matt Gregg won the second Best Paper award at the International Building Simulation and Optimisation (IBSO-V) conference 2020 held at Loughborough University in September 2020. The research paper is based on domestic energy mapping for enabling large-scale domestic energy retrofits, and is titled “Spatially-based urban energy modelling approach for enabling energy retrofits in Oxfordshire.”

The study describes the application of a data-driven, GIS-based approach to identify suitable dwellings rapidly and accurately, achieved by mapping and modelling baseline energy use and potential for energy retrofit measures. The research focused on an area in Bicester (Oxfordshire), with the highest level of energy poverty, at 11%. The area also had over 10% of households with vulnerable residents, with disability or long-term health problems. Energy assessments in the selected area shows that a package-based approach, comprising building fabric, heating system upgrade, and solar panels, is effective at significantly reducing energy consumption and energy bills, as well as fuel poverty.

To find out more about the research papers or the awards please contact Rajat Gupta, <rgupta@brookes.ac.uk>.

—Rajat Gupta

University of Washington

The Design Technology stream of Master of Science in Architecture at the University of Washington provides the opportunity for architects, engineers, and other qualified individuals to pursue advanced research on topics that include design computing, building performance simulation, sustainable systems and design, high-performance buildings, materials and fabrication, structural analysis, life cycle analysis, building decarbonization, food-water-energy nexus, and other related topics.

A total of 45 quarter credits comprise the curriculum with 36 credits of coursework and 9 credits of thesis. Application Deadline is 15 Feb 2021 for autumn quarter entry.

More information and application materials are available at <https://arch.be.uw.edu/admissions/ms-arch/ms-arch-design-technology/>. For more info contact <inanici@uw.edu>, Mehlika Inanici (Director of Master of Science Program in Architecture—Design Technology stream).

—Mehlika Inanici
**SOLAR 2021 CALL**

SOLAR 2021: Empowering a Sustainable Future, the 50th Annual National Solar Conference, 3–6 Aug 2021, Boulder, CO, University of Colorado Boulder

The American Solar Energy Society (ASES) has opened the Call for Participation for their 50th Annual National Solar Conference, SOLAR 2021. This conference is focused on the theme, “Empowering a Sustainable Future,” highlighting innovations and advancements in renewable energy technology and its equitable adoption. SOLAR 2021 promises to cover the most important and empowering content to drastically reduce carbon emissions now.

SOLAR 2021 will take place in Boulder, CO, which has become an example of sustainable practices for communities across the country. The conference will be held on the University of Colorado’s Boulder campus which has earned the STARS Gold rating for sustainability achievements in 2018 and is home to the first zero-waste collegiate athletic program, plus the first collegiate recycling program in the United States.

ASES invites you to submit a proposal for a presentation or poster. You can opt to present a ten-minute oral presentation, a five-minute switch presentation, or a poster. You can choose one or two of the six conference tracks. The submission requires a 100-word-max. bio, as well as 100–200-word abstract, and a brief pitch. ASES is interested in research and development, but not sales. Learn more and submit at <https://ases.org/conference/>.

The submission deadline is 15 Jan 2021.

—Carly Rixon

**AWARDS GALORE**

**ARCC ANNOUNCES 2021 SBSE FRIENDLY AWARDS**

Among the ARCC awards were three given to SBSEers Vivian Loftness, Mike Kroelinger, and Siobhan Rockcastle. For the full slate of awards and details see <http://www.arcc-arch.org/2021-arcc-awards-program-announcement/>.

The Board of Directors of the Architectural Research Centers Consortium (ARCC) announces annual awards in support of recognizing and advancing state-of-the-art research in architecture and related design fields.

Given her innovative, sustained, and high impact of building science research spanning more than three decades, the ARCC Board of Directors is pleased to announce the recipient of the 2021 ARCC James Haecker Award for Distinguished Leadership in Architectural Research is Vivian Loftness (Carnegie Mellon).

Given his active leadership, generous mentorship, and tireless advocacy for advancing architectural research in various capacities throughout a distinguished career, including propelling the mission of the ARCC during his service on the Board, the ARCC Board of Directors is pleased to announce the recipient of the 2021 ARCC Mary Kihl Distinguished Service Award is Michael D. Kroelinger (Arizona State).

Based on the exploratory and creative nature of her research in human-centric daylighting design using advanced simulation methods, and promise in the field, the ARCC Board of Directors is pleased to announce the recipient of the 2021 ARCC New Researcher Award is Siobhan Rockcastle (Oregon).

Full details at <http://www.arcc-arch.org/>.

—Chris Jarrett

**2021 AIA GOLD MEDAL THE INSTITUTE’S HIGHEST HONOR**

The American Institute of Architects has named Edward Mazria, FAIA, as the 2021 AIA Gold Medal winner, recognizing the outstanding efforts of the Santa Fe, NM–based Architecture 2030 founder to raise awareness about the role of the built environment in climate change among the design and construction industries, political leaders, and the general public.


—Edward Keegan

• continued next page
Desert Lodge Update

You may be interested to see the results of our Desert Lodge student competition—some great ideas. There was a really big difference between the students who tackled the physics of the design and those who simply used some very fancy graphics packages to create amazing desert images. You can see the winning entries on the web site <https://www.extremelodge.org/home/competition/>. It has really whet my appetite to build an extreme desert tent (and test it, of course, at Burning Man!).

—Sue Roaf

SBSE Scholarships

SBSE is accepting applications for Open Scholarships. This scholarship supports SBSE student member participation in any building science-related conference not otherwise supported by SBSE. The application requires a 200–300-word statement describing how the student will benefit from participation in the conference. The award amount is variable and may be used to fund participation at conferences held in 2020 or planned for 2021.


Questions: email Scholarship Chair Jonathan Bean at j.bean@arizona.edu.

—Jonathan Bean

PLEA Lifetime Achievement

Edna Shaviv received the 2020 PLEA Lifetime Achievement Award, long overdue. Edna is truly a pioneer in all things that combine bioclimatics and computation. In the early ’70s she initiated the research and teaching of computer-aided architecture design and in the early 80s researched and taught bioclimatic and passive solar architecture. She is the founder and head of the “Climate and Energy Laboratory in Architecture” at the Faculty of Architecture & Town Planning at the Technion.

Many of Edna’s students are now faculty who teach and research PLEA-related topics. In her presentation, she said proudly, “There is now at least one architect with knowledge of PLEA in every architecture office in Israel.” Edna was and still is highly influential on Israel’s energy code.

—Ulrike Passe

Sabine Medal from the Acoustical Society of America

The Wallace Clement Sabine Medal is presented to an individual of any nationality who has furthered the knowledge of architectural acoustics, as evidenced by contributions to professional journals and periodicals or by other accomplishments in the field of architectural acoustics.

This year’s awardee is Gary Walter Sieben for internationally recognized original and enduring contributions to the measurement, education, and practice of architectural acoustics.

Gary Sieben’s contributions to the field of architectural acoustics have spanned four decades of advancing, disseminating, and implementing architectural acoustics knowledge as an educator, researcher, and practitioner. He has contributed core room acoustics measurement techniques funded by the National Science Foundation (NSF) and has educated a generation of architect acousticians who are now in practice, teaching in the academy, and holding senior levels in academic administration in the U.S. and abroad. His scholarly contributions include significant articles, papers, seminars, and book chapters as well as the education of thousands of undergraduate and graduate students and dozens of masters and doctoral students specializing in acoustics. Sieben has also implemented both precedent and emerging acoustical knowledge as the principal of his nationally recognized firm, Sieben Acoustic, a consulting practice with projects that span from large-scale community soundscapes to detailed noise control solutions in highly technical spaces. His continuing service to the ASA and the profession extends to collaboration on the refinement and development of national and international acoustics standards. As an architect acoustician, Gary’s commitment and achievements in advancing acoustics through practice, research, and education are outstanding and inspiring.

Gary is only the 19th recipient since the award was inaugurated in 1957.

—Martin Gold

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—Sue Roaf
STUDENT PHOTOGRAPHY COMPETITION

UN–Habitat and the Laboratory of Architecture and Environmental Design (LaCoMoFa) of Biskra University invite young photographers and students from all over the world to submit images documenting their community’s contributions to improving the quality-of-life in cities, highlighting the connections between urban and rural areas, as well as the links between cities and their regions.

We invite photographers across the globe to engage creatively with the topic “valuing our communities, cities and regions” and to submit their photographs by 10 Jan 2021.

Send a high-resolution photo (s) and the story behind it to <unhabitat-url@un.org> and cc <lacomofa@univ-biskra.dz>.


—Noureddine Zemmouri

LOW TECH SOLUTIONS

As 2020’s biblical waves of plagues rolled over our little corner of the U.S. (extreme weather, pandemic, wildfire, and all the rest), several of us have noticed the emergence of simple applications of building science concepts. Some of these came from people educated in this field. Many others came from general common sense and an intuitive knowledge of comfort, air quality, and health. I plan to document this kind of thinking, call it low-tech, adaptive, or intuitive building science. I hope you enjoy these examples, and I particularly hope that you will contribute ideas, observations, images, and many questions. (E-mail Fred <ftepfer@uoregon.edu>.)

Let’s start with the most basic example, how to stay warm. The coronavirus pandemic has moved our social lives outdoors, which may have been great in August, yet became progressively more challenging through the fall. Here are a few friends maintaining comfort through conduction and through radiation on a cold evening in late November. Note in particular the innovative use of a puppy. (Hey! Only a cozy one-dog night? Not too cold then! And is that innovative use of a toilet bowl as a fire pit?)

—Fred Tepfer

SBSE CALENDAR [COVID–19 RESTRICTIONS MAY CAUSE CANCELLATIONS]

2021

Mar 15–17 — Getting to Zero Forum 2021/New York, NY, USA
Apr 7–10 — ARCC Int’l Conf 2021/Tucson, AZ, USA
Apr 8–9 — 13th Int’l Conf on Climate Change/Vancouver, CANADA
May 19–22 — EDRA52 Conf/Detroit, MI, USA
Jun 16–18 — Aamps Conf 2021/New York, NY, USA
Jun 24–26 — ACSA/EEAE Teachers’ Conf/Brooklyn, NY, USA
Aug 2–5 — SBSE Retreat/Bloomfield Hills, MI, USA (new date)
Aug 3–6 — ASES 50th Solar Conf/Boulder CO, USA
TBD — Reynolds Symp 2021/Portland, OR, USA (new date)

WINTER ISSUE SUBMITTAL DEADLINE—DEC 1

SBSE News

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To: SBSE Members & Friends
Planet-wide