

## SUSTAINABILITY IN EXISTING BUILDINGS



## NUUTTUQ



## TUPIKHAQ



## UNDEFINED BOUNDARIES



photo: Todd Williams Billie Tsien Architects

SBSE faculty-sponsored AIA/ACSA COTE Top Ten for Students Competition winners. Sustainability in Existing Buildings sponsored by Meredith Sattler, Nuuttuq and Tupikhaq sponsored by Claude Demers and André Potvin, and Undefined Boundaries sponsored by Jonathan Bean.

## STUDENT RECOGNITION

### WINNERS OF THE 2021 COTE TOP TEN FOR STUDENTS COMPETITION

*[As one would expect, SBSEers who teach studios and their students were again recognized by the COTE Top Ten for Students. Congratulations to all! You can discover much more about their projects at <<https://www.acsa-arch.org/competitions/2021-cote-competition/winners/>>.—ed.]*

The American Institute of Architects Committee on the Environment (AIA COTE), in partnership with the Association of Collegiate Schools of Architecture (ACSA), have selected the recipients of the 2021 AIA COTE Top Ten for Students Competition. The competition recognizes ten exceptional studio projects that demonstrate designs moving towards carbon-neutral operation through creative and innovative integration of design strategies such as daylighting, passive heating and cooling, materials, water, energy generation, and sustainable systems. The program challenged students to submit projects that use a thoroughly integrated approach to architecture, natural systems, and technology to provide architectural solutions that protect and enhance the environment.

**Low Carbon Architecture: New Approach Toward Sustainability in Relation to Existing Buildings** by Mahsa Hedayati with Faculty Sponsors: Paul Emmons, Susan Piedmont-Palladino, & Meredith Sattler, Virginia Tech.

**Tupikhaq** by Paola Araya-Valdes, Juliette Paget, and Victoria Deslandes-Lyon with Faculty Sponsors: Claude Demers & André Potvin, Université Laval.

**Undefined Boundaries** by Ana Astiazaran with Faculty Sponsors: Michael Kothke, Laura Carr, Darci Hazelbaker, & Jonathan Bean, University of Arizona, and Collaborators: Brian Farling, Amanda Schwarz, & Shawn Swisher.

**Nuuttuq** by Caroline Roux, Guillaume Couture, and Rosemonde Gadoury Salvail with Faculty Sponsors: Claude Demers & André Potvin, Université Laval. 🙌

—ACSA web site

## SBSE ELECTION YEAR

This odd year (2021) *[Maybe less odd than 2020.—ed.]* contains our biennial fall election. We've seen no one campaigning, so we're asking you SBSEers to put your best foot forward and run (or nominate someone) for one of the elective posts and sit with a voice on the Board of Directors? Let Georg and me know your intentions by 30 Jun. You may run/nominate for:

- President-Elect
- Secretary
- Treasurer

It's time to throw in your hat! (I did it years ago and retained it as you may have noticed.) 🙌

—Bruce Haglund

## ENERGY DESIGN TOOLS

We finally have all the UCLA energy design tools hosted on our server at <<https://energy-design-tools.sbse.org/>>. *[Check it out!—ed.]*

I guess there are some folks out there who will appreciate the move since the UCLA server has often been down exactly when students needed to download the installers. 🙌

—Georg Reichard

## LETTERS TO THE EDITOR

I tried to sign in on Amazon Smile to donate to the Society of Building Science Educators, and it said it would check to be sure that it was an eligible charity, and then I heard nothing more... That might be a good way to add to the scholarship fund.

—Murray Milne, UCLA

*SBSE is not an eligible charity...alas, we're a non-profit professional organization. So, you don't get a tax break for donating, but you can deduct a lifetime membership as a business expense.—ed.*



Even your solicitations are funny! 🙄

—Mark DeKay, UTenn

*Humor works! The pages are filled. I hope the gentle nudge for candidates for office works as well!—ed.*

## RADIANCE WORKSHOP

photo: Arhizalidhor



Loisos + Ubbelohde and the School of Architecture of the University of the Basque Country (UPV/EHU) are pleased to invite you to the 2021 International Radiance Workshop at the Bizkaia Aretoa Convention Center in Bilbao, designed by architect Alvaro Siza and opened in 2010. The event will take place as the traditional two-day workshop 19–20 Aug. An optional Radiance training session will be offered on 18 Aug for those interested in learning more about rendering with Radiance.

See <<https://www.radianceworkshop2020.com/>>. 🙄

—Susan Ubbelohde

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## MORE STUDENT RECOGNITION!

### OREGON WINS THE SOLAR DECATHLON



graphic: Team Riparian

In a historic win, a team of UO architecture students, led by Ihab Elzeyadi, has won two international 2021 Solar Decathlon Design Competition awards: the First Place Gold Trophy for their Dr. Martin Luther King Jr. Elementary in Portland, OR, in the Elementary School Division and the Grand Jury Award across all divisions of the competition.

U.S. Secretary of Energy Jennifer Granholm presented the award to Elzeyadi and the Team Riparian students Lauren Bennett (MArch, class of 2022), Kyle White (MArch, class of 2022), and Jared Levie (BArch, class of 2022) at the virtual ceremony on 18 Apr.

See <<https://archenvironment.uoregon.edu/architecture-studio-makes-history-first-place-win-2021-solar-decathlon-design-competition>> for all the details. 🙄

—UO College of Design Communications

### IDAHO STUDENTS NAMED TO METROPOLIS' FUTURE 100



graphic: Will, Brendan, and Tyler

Will Huynh, Brendan Lempesis, and Tyler McCurdy's vertical studio proposal for reimagining the ruins of Mackintosh's GSA.

Two students—Ruina Du and Nguyet (Will) Huynh—in Bruce Haglund's Graduate Project studio were honored by *Metropolis* as being among the top 50 interior design and 50 architecture students graduating this year in North America chosen to be the inaugural Metropolis Future 100. Nominated by their instructors and mentors, they hail from some of the best architecture and interior design schools in the U.S. and Canada, from Harvard University to California College of the Arts, and call everywhere from Atlanta to Toronto home. They are a diverse group—with many identifying as BIPOC or LGBTQIA—who advocate for openness, equity, and inclusion through their work and extracurriculars. They are leaders on their campuses who are sure to be forces in the industry.

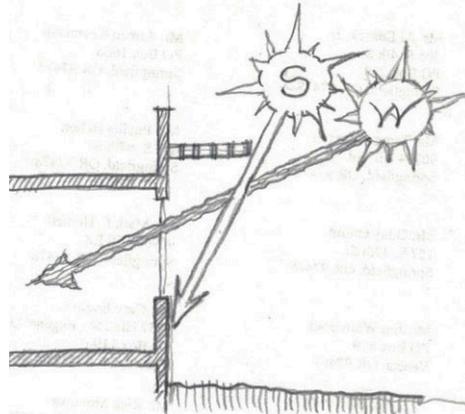
Read all about it at <[https://info.metropolismag.com/future100?utm\\_campaign=MET%20Bi-Weekly%20Newsletter&utm\\_medium=email&\\_hsmi=119143439&\\_hsenc=p2ANqtz-9mw6Iz11RC09TFbYyP8asBLrz35uwMj16Nk5THnVXp4mZE-KZqSYH0XOaDFWSFIU-jxbGnG-7X-ez4CI4B-VSzN9FFkA&utm\\_content=119143439&utm\\_source=hs\\_email](https://info.metropolismag.com/future100?utm_campaign=MET%20Bi-Weekly%20Newsletter&utm_medium=email&_hsmi=119143439&_hsenc=p2ANqtz-9mw6Iz11RC09TFbYyP8asBLrz35uwMj16Nk5THnVXp4mZE-KZqSYH0XOaDFWSFIU-jxbGnG-7X-ez4CI4B-VSzN9FFkA&utm_content=119143439&utm_source=hs_email)>. 🙄

—Lauren Volker

## MORE LOW-TECH DESIGN

### NATURAL SHADE

One fundamental truth that ECS students struggle with is the offset between the solar seasons and the heating/cooling seasons. For example, we often want heat at spring equinox, and want to avoid solar gain around the fall equinox. Designing around this difference is essential in passive cooling strategies as they depend on minimizing solar loads in the cooling season while still providing plentiful daylight. Students who slept through these classes sometimes bluff through the question in their design studio diagrams with a section proving that their south windows are shaded at noon on the summer solstice and in full sun at noon on the winter solstice. Those who didn't sleep through the class may attempt movable shading devices or other mechanical approaches, or revert to reflective or dark-tinted glass, or severely limited glazing area. As many of us have seen, mechanical approaches tend to wear out and never be replaced. Static systems don't address the problem of the solar/thermal offset at all.



*This eloquent diagram notes both the ability to shade all the noon south sun on the summer solstice and admit all the south sun on the winter solstice. [Warning: It's only valid for sun-facing apertures in a planar wall, e.g. not for London's oval GLA.—ed.]*

Vegetation, either trees or vines, are a traditional approach to shading one to three story buildings in our temperate winter/hot summer seasons. They provide shade when needed, and allow solar gain when desirable. My favorite shade here in the Willamette Valley is a grape trellis. It almost always provides significant shading in time for the first blast of heat in late May or June



*Spring vs. Summer. Fred's south porch with a grape vine trellis in early April is in full mid-day sun (porch design by Michael Shellenbarger) vs. same porch is mostly shady on June 1. By mid-June, the grapes will provide 100% shade.*

and full cover by July. In late summer and fall, the leaves turn color and, with the first frost, they fall away and let all solar benefit flood into the building, right about when it's desired.

The downside of vegetative solutions is maintenance. Grapes need to be picked in the fall [*and squashed and made into wine? Oh dear!—ed.*] and pruned in late fall or winter. Summer pruning may be needed. Trees planted close to buildings can cause problems, and, when they die, can take years to grow to a significant height. The other challenge, as with many climate control strategies, is that today's climate won't be the future's climate. What works well now might not work at all in ten or even five years. Yet, vines can be quickly planted and re-trained in two or three years for more climate-appropriate vegetation. Trees, on the other hand, can take decades to reach the height needed for significant building shading. 🍷

—Fred Tepfer

## EVENTS

### PLEA 2022



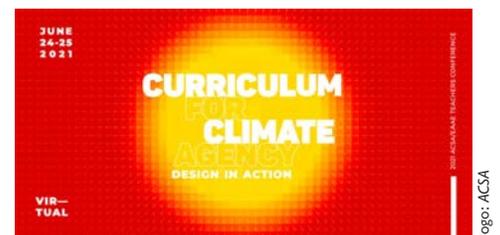
The PLEA conference, "Will cities survive? The future of sustainable buildings and urbanism in the age of emergency," will take place in Santiago, Chile, 23–25 Nov 2022. More information and content are now available on the recently launched web site <<https://plea2022.org/>>. The Call for Abstracts, closes **1 Aug 2021**.

*[SBSE is well represented—Pablo La Roche and Ulrike Passe are on the scientific committee and Isabel Rivera is on the organizing committee.—ed.]* 🍷

—Waldo Bustamante

### ACSA TEACHERS CONFERENCE

**Curriculum for Climate Agency: Design (in)Action** [*inaction?—ed.*]



As cross-continental educators, we must collectively address our global emergency as well as the opportunity to circumvent architecture's role in perpetuating it. These pedagogies require deconstruction of architecture's master narratives as much as a ground-up envisioning of its future. In order to change the course of architecture's curricula, we must re-assemble our core values by asking critical questions concerning our future contributions to our climate. Join the discussion virtually 24–25 Jun. See <<https://www.acsa-arch.org/conference/2021-acsa-eaee-teachers-conference/registration/>> for details. 🍷

—ACSA

## SBSE PEOPLE

✦ **John Quale** is stepping down as chair at New Mexico so he will be starting ecoMOD8 in the Fall. He will also run a seminar on eco-REM0D. (renovating homes in low-income neighborhoods). But, he needs to find grants and gifts to make it happen. ✨

## ARCC-EAAE 2022

Call for Abstracts > **Deadline 15 Jun 2021**



Photo: ARCC/EAAE

The Architectural Research Centers Consortium (ARCC) and the European Association for Architectural Educators (EAAE) is pleased to announce ARCC-EAAE 2022, an international joint conference hosted by Florida International University (FIU) in Miami, in partnership with the Education Commission of the Union of International Architects (UIA). The theme of the 2022 conference is the RESILIENT CITY: Physical, Social, and Economic Perspectives.

The challenge of creating cities and landscapes resilient to social and environmental change lies at the core of critical research in the design disciplines. These challenges are the consequences, direct and indirect, of a warming planet with nearly 8 billion diverse inhabitants, an increasing number of whom reside in coastal (mega) cities amid conditions of growing inequity, vulnerability and disparities in public health. Around the globe and at a range of scales, the professions and disciplines involved in the design and development of environmental and urban systems, are harnessing technologies and practices, both well-established and at the cutting edge, to play a significant role in formulating responses to such ecosystem stressors. Through its focus on urban resilience, the 2022 ARCC-EAAE International Conference addresses the multiplicity of ways in which new design pedagogies, research, and innovation, carried out across our disciplines and professions, empower us to educate a new generation of built environment designers, and to meet the strategic imperatives of this historical moment.

See <<http://www.arcc-arch.org/arcc-eaae-2022/>>. ✨

—ARCC

## SBSE RETREAT UPDATE

### SCHOLARSHIPS FOR VIRTUAL AND IN-PERSON RETREAT PARTICIPATION

This summer's retreat will be a hybrid event with in-person attendance limited to 22 SBSEers. The retreat web site has been updated at <<https://www.sbse.org/retreats/sbse-retreat-2021-networks>>. We're looking forward to a lively and convivial event! Faculty and students can apply for scholarships to fund participation at the retreat.

As is usual, the Cook Trust will support faculty members from developing countries to participate in the retreat. In recognition of the continuing uncertainties around international travel, instead of travel support, for the 2021 SBSE Retreat the Cook Trust will support remote participation with a \$400 honorarium. Scholarship recipients will give a recorded presentation, participate in a live question and answer session, and selected other portions of the retreat to be determined by time zone alignment. The application requires a short statement regarding the applicant's building science background and the expected impact of virtual participation in the retreat. It is the intention of SBSE and the Cook Trust that faculty travel scholarships will return in 2022. For details see <<https://www.sbse.org/scholarships/jeffrey-cook-faculty-retreat>>.

Students able to travel to Detroit, MI, in August 2021 are encouraged to apply for a Student Retreat Scholarship. These \$775 scholarships, which are funded by the sale of the Sun Angle Calculator, offset lodging and travel expenses for student retreat participants. Scholarship recipients will give a brief presentation to introduce themselves to other participants at the retreat. Scholarships are intended for students interested in a career teaching building science and require a short statement on the applicant's coursework, teaching experience, and the expected impact of participation in the retreat. For details see <<https://www.sbse.org/scholarships/sbse-student-retreat>>.

Applications for both faculty and student scholarships are **due 30 Jun 2021**, with notification decisions in early July. Questions about the scholarships? Care to volunteer for the scholarship committee? Get in touch with Jonathan Bean, SBSE Scholarship Chair, at <[j.bean@arizona.edu](mailto:j.bean@arizona.edu)>. ✨

—Jonathan Bean

## PASSIVE HOUSE ACCELERATOR

The accelerator is a catalyst for zero carbon building. We cultivate a collaborative platform for sharing innovation and thought leadership in Passive House design and construction. The Global Passive House Happy Hour (Wed 4 pm pacific / 7 pm eastern) is a fast, fun, factual, and interactive space where leading Passive House practitioners share design challenges, lessons learned, and building science. Construction Tech Tuesday (Tue 4 pm pacific / 7 pm eastern) features builder and tradesperson-focused presentations diving into the technical, technique, and technology of Passive House construction.

Register to receive the zoom link for CT Tuesday: <<https://passivehouseaccelerator.com/construction-tech-tuesday>>.

Register to receive the zoom link for the Happy Hour: <<https://passivehouseaccelerator.com/global-happy-hour>>. ✨

—Sydney Gladu



Photo: James Leach



Graphic: Passive House Accelerator

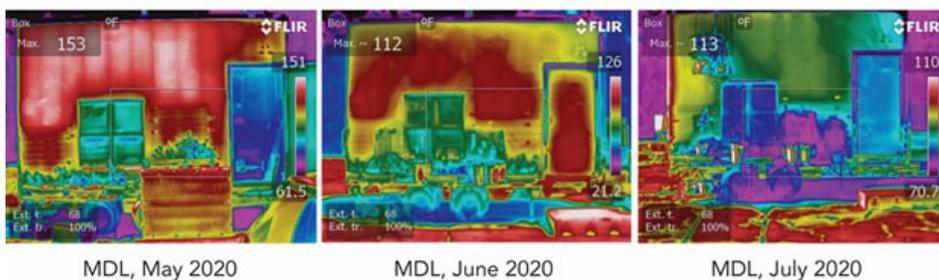
## RESEARCH NEWS

### IOWA STATE UNIVERSITY

It was exciting news when the Iowa State University's Sustainable Cities Team was awarded an NSF INFEWS grant in summer 2019. Our goal is to develop a flexible co-simulation framework that includes social and biophysical data for urban food, energy, and water system (FEWS) analyses to assess current and future conditions, with focus on local food production. Our comprehensive analysis includes climate dynamics, changes in land cover, built forms, and energy use, as well as their related impacts. We will identify a set of factors that could drive system changes related to policies, crop management methods, social interactions, changing technologies, and market forces affecting food production in order to improve system functions, increase system resilience, and enhance sustainability. A stakeholder advisory board in our study area in and near the City of Des Moines, IA, is part of the team. In spring 2020, our team conducted focus groups to develop the framework and to identify a set of "what if?" scenarios that could lead to more sustainable local food systems for Des Moines in its rain-fed agricultural areas. Using input from these meetings and online surveys for both agricultural producers and consumers are now underway.

We're using the Soil and Water Assessment Tool (SWAT), an eco-hydrological model, to quantify crop growth, hydrological cycling, nutrient transport, erosion processes, sediment transport, and transport of pesticides/pathogens associated with cropping systems and other land management practices. We include inputs for climate, topography, soil, land cover and crop management systems to generate outputs including streamflow rates, evapotranspiration, subsurface tile drainage flow, as well as nitrate, phosphorus, and sediment loads to characterize current conditions for watersheds linked to the Des Moines area. To allow detection of upstream and within-metro effects on water quality, our SWAT models include the North and South Raccoon River, the Middle Des Moines River, and the Lake Red Rock watersheds. Data from the past 20 years has been used to calibrate the initial model.

To integrate microclimate around buildings into the energy balance, we're using computational fluid dynamics (CFD) and US DOE's EnergyPlus to compute heating and cooling loads for buildings at a neighborhood scale. We're using sensitivity analyses based on weather research forecast (WRF) model data sets to compare simulations for scenarios with and without trees and other vegetation. This work is enabling us to explore impacts of changes to surface composition in urban and near-urban environments (current hard/impervious and heat-reflecting surfaces vs. potential future soft/pervious and heat absorbing vegetative surfaces in urban agricultural production systems).



In order to experimentally verify potential for reduced heat transfer to buildings through shading from nearby food and non-food plants we grew vegetation near the Mobile Diagnostics Lab (or "MDL," a one-room trailer) to measure the effect of shade that blocks radiation and provides evaporative air cooling during summer 2020. We planted tomato, two species of shrubs, and wisteria in front of the south façade of the MDL, parked in an area receiving direct sunlight. Based on infrared camera data (image above), the area behind the plants was 10-30 °C cooler (blue) than were surfaces directly exposed to the sun (red). This year we are growing more vegetables. The first overall team project paper was recently published in *Frontiers* (see <<https://www.frontiersin.org/articles/10.3389/fdata.2021.662186/full>>) and will be presented later this summer at IBPC 2021 and at Building Simulation 2021.

—Ulrike Passe

### OXFORD BROOKES UNIVERSITY

Radical decarbonisation of social housing dwellings through whole-house energy retrofits, a research grant of over £1.35m has been awarded by the UK Government's Social Housing Decarbonisation Fund to Oxford Brookes University for a research and innovation project called REFINE—Radical decarbonisation of social housing through whole-house energy retrofits. Warwick District Council is a partner in the project.



Typical whole house retrofit project.

The project will see 50 social housing dwellings in Warwickshire with low energy ratings undergo ambitious whole-house energy retrofits using some of the latest technology available. The homes selected will have added wall insulation, replacement windows with high-performance triple glazing, under floor and loft insulation and mechanical ventilation with heat recovery to reduce the risk of damp and mould, and fresh filtered air. Operational cost reductions in the retrofit will be promoted by improving efficiency in both design and construction, and reducing the likelihood of remedial work.

The Low Carbon Building Research Group of Oxford Brookes University will undertake building performance evaluation of the homes to examine to what extent whole-house energy retrofits work, for whom, and under what circumstances.

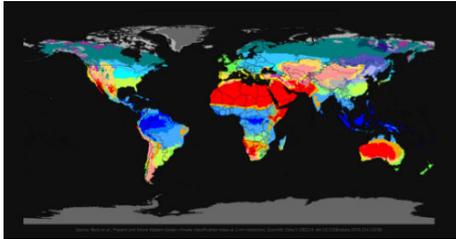
Before and after retrofits, each home will be measured for its building fabric thermal performance. The energy use and indoor environmental conditions will be monitored. The householders will be advised on how to manage their energy use with the new measures in place. 🖐️

—Rajat Gupta

## STUFF FOR YOU

### CLIMATE SCOUT

CallisonRTKL launched CLIMATE SCOUT, a free web-based application that provides climate-specific design advice at the building scale by pairing Köppen-Geiger climates with building scale design strategies from Architecture 2030's Palette. See <<https://www.callisonrtkl.com/climate-scout-intro/>>. After clicking on the world map to select a climate zone, the application links to a page in which



the user selects and combines appropriate strategies for the climate in a diagram that is populated in real time through this selection process. We pre-selected strategies by climate zones by comparing the 27 building-scale strategies from the 2030 palette with the 30 Köppen-Geiger climate subtypes. Clicking on the strategy icons provides basic strategy information with links to the 2030 Palette with even more information and examples. The tool does not visualize climate data, or quantify the impact of the strategy on thermal comfort, but the strategy selection process in real time allows for a strong and immediate visual connection between the climate and the architectural idea that could connect strongly with some users. This is the first version, and we expect to add new features in the second version so suggestions are welcome!

—Pablo La Roche

### NEW SPECIAL C&B ISSUE OUT

#### URBAN DENSIFICATION

Guest editor: Jacques Teller

How can urban densification be defined, monitored and controlled to create positive outcomes and avoid unintended consequences /negative impacts?

This special issue investigates the specific challenges, impacts and fragilities that urban densification creates in many cities and the different scales where these can be found. See <<https://www.buildingsandcities.org/journal-content/special-issues/urban-densification2.html>>. 🖱

—Richard Lorch

## BALL STATE'S LIVING BUILDING

We just received word that the Cope Environmental Center in Centerville, IN has been certified as a Living Building by ILFI (see <https://copeenvironmental.org/living-building/>). It joins the ranks of only 28 other buildings to have achieved this (LBC) level of designed and confirmed operational performance.

CERES at BSU assisted the Cope Environmental Center with energy and passive system performance simulations (thermal, solar and ventilation) for their newly opened Sustainability Education Center facility in Centerville, IN, designed and constructed to meet the Living Building Challenge by Kevin McCurdy, AIA (a BSU CAP Grad), LWC Inc., Architects, Richmond, IN.

Realtime solar monitoring data, drone video footage taken during construction, and more photos are available at <<https://www.bsu.edu/academics/centersandinstitutes/ceres/news>>. 🖱

—Bob Koester



photo: Cope Environmental Center

## ARCC 2021 IN REVIEW

### ARCC 2021: PERFORMATIVE ENVIRONMENTS



photo: ARCC

*Ce n'est pas Virtual Tucson!*

Over 250 participants joined us in Virtual Tucson, with 66 double-blind, peer-review research papers and 23 research poster presentations addressing the theme of Performative Environments. Keynote speaker Eyal Weismann of Forensics Architecture demonstrated his team's pioneering techniques in spatial and architectural analysis, open source investigation, digital modeling, and immersive technologies; Peggy Deamer of Yale and The Architecture Lobby charged the audience to re-examine the status-quo structures that shape inequities in the profession while underscoring the real value architects offer society and the public good; and Michelle Addington, Dean at UT Austin, challenged architectural researchers to pursue climate change head-on, in spatial, geopolitical, economic, and cultural terms. Plenary sessions with Billie Faircloth of KieranTimberlake, Jon McKenzie of Cornell, Nicolas de Monchaux of MIT, Mona El Khaffif of UVA, Mae-ling Lokko of RPI and Gray Read from FIU raised important questions and reflections on "performance" in its varied permutations.

More at <<http://www.arcc-arch.org/arcc-announces-best-paper-and-best-poster-awards-at-arcc-2021/>>. 🖱

—ARCC2021

## BOOKS BY SBSEERS

LISA HESCHONG (IN REVIEW)

Lisa Heschong, the grandmother/goddess/muse of daylighting (well, at least that's how I think of her), has recently published *Visual Delight in Architecture*, which will undoubtedly become a classic read in design schools across the world, just as *Thermal Delight in Architecture* has been since its release in 1979. I recently had the pleasure of reading *Visual Delight in Architecture*, and I was blown away. The book is divided into four main sections: Part 1: Prediction; Part 2: Perception; Part 3: Motivation; and Part 4: Meaning. The book begins with a description of microscopic organisms that respond to light and concludes with an astronaut looking down at our dynamic world, in a beautiful story that eloquently communicates the emotional power of a view, and brings the entire book full circle. *Visual Delight in Architecture* is filled with personal stories, lessons learned, historical references, and innovative research—these different approaches seamlessly build upon one another to develop and communicate the importance of daylight and view in our built environment. Lisa is one of the best storytellers I have ever met, and she brings an uncanny ability to describe the most complex scientific issues through poetic metaphors and analogies in ways that allow the reader to understand complicated processes in a whole new way. She makes you think. She makes you reflect. She helps you learn while also triggering a deep curiosity that fosters new ideas and new avenues for further exploration. This is a book that should be used in building science classes (and more) everywhere—it is a brilliant, smart, and a fun read. *Visual Delight in Architecture* is available on Routledge's web site, Amazon, VitalSource Bookshelf, and more. Trust me, you don't want to miss this one.

*[The book is much bigger than I expected, having been a life-long devotee of the tersely written Thermal Delight in Architecture. I was also expecting an array of photos of delightfully lighted spaces, but Lisa leaves the images to your imagination fired by her prose. There are a few two-color illustrations like the Umberto I Galleria above. Thanks to Julia, I didn't have to read it all in a day and can consume the prose in a more delicious manner!—ed.]*

—Julia Day

CHITRAREKHA KABRE

I've been a member of SBSE since 2012 while I was a Fulbright Visiting Professor at North Dakota State University, Fargo. I'm also a recipient of the Jeffrey Cook 2019 Memorial Faculty Retreat scholarship for participating in Montana retreat. My stint as Fulbright visiting professor at NDSU and continued association with SBSE and USGBC led me to author my second book published by Routledge: *Synergistic Design of Sustainable Built Environments* <<https://www.routledge.com/Synergistic-Design-of-Sustainable-Built-Environments/Kabre/p/book/9780367564834>>.

The book introduces and illustrates a novel systems approach that fosters both design excellence and a leap toward a more biocentric (ecologically sustainable) design paradigm. This forward-thinking and highly illustrated book will be an invaluable reference to all those concerned with sustainable built environments and related architectural issues.

—Chitrarekha Kabre

BARBARA ERWINE

As the architectural emphasis on sensory design has gained increasing attention in the past few decades, many of you are adding this phenomenological perspective to your environmental design curricula. Over the past year, a number of you let me know that you wished my book, *Creating Sensory Spaces: The Architecture of the Invisible*, was more affordable to students; so I contacted the publisher, Routledge, asking them to provide a discount to students using the book as part of their architectural education. I'm now happy to let you know that Routledge heard your requests and is now providing a 30% discount code for this book to make it more affordable when

• continued next column



Umberto I Galleria, Naples, Italy, by architect Emanuele Rocco, 1887. From Chapter 11, *Selling Daylight*"

drawing: Garth von Ahnen

## CALLS FOR PAPERS

BUILDINGS AND CITIES

### Mainstreaming Personal Comfort Systems

Guest editors: Ed Arens (UC Berkeley), Hui Zhang (UC Berkeley), Rajan Rawal (CEPT University), Yongchao Zhai (Xi'an University)

### Deadline for abstracts: 6 Sep 2021

Personal Comfort Systems is a feasible technology that uses a small fraction of energy to provide a higher level of occupant thermal comfort (compared to HVAC systems). It can be retrofitted to existing energy-guzzling buildings. It is a win-win-win situation—especially as so many clients, designers and contractors are committed to addressing climate change. However, the construction and property industries have been slow to adopt this, even for “prestige” offices.

Full details: <<https://bit.ly/2S9Fouu>>.

### Modern Methods of Construction: Beyond Productivity Improvement

### Closing date for abstracts: 13 SEP 2021

This special issue investigates the externalities of modern methods of construction (MMC). It examines the dominant narrative used to promote MMC. Although an increased proportion of pre-manufactured value (PMV) may improve narrowly-defined site-based ‘productivity’, evidence is needed on the associated externalities and potential long-term adverse systemic consequences. What can be learned from previous attempts to modernise the construction process with industrialised methods?

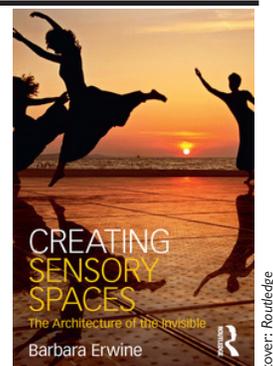
See <<https://www.buildingsandcities.org/calls-for-papers/cfp-mmc.html>>. 🙋

—Richard Lorch

## BOOKS [CONT.]

used as a text. So, if you are considering using it as a text for an upcoming class, please let your students use the code SS213 on the Routledge web site for the book discount. 🙋

—Barbara Erwine



cover: Routledge

## THE MI HUNT SIDEBAR



photo: Sue Roaf

I'm running the Hunt in honour of my own father, John Malcolm Aitken Ross, a Heriot Watt Civil and Mechanical Engineer (pictured above in 1935—I love my dad's knickerbockers!), cast from the same fine metal as those millions of Scottish Engineers who built the canals, railways, roads, infrastructures, shipping, and empires that shaped so much of the world we live in today. 🖐

—Sue Roaf

## MECHANICS' INSTITUTES – THE HUNT IS ON

The Mechanics' Institute movement for the education of the working classes began in Scotland in 1821, and spread like wildfire once the many benefits of 'education for working men' became clear. On 16 Oct 1821 the first Mechanics' lecture on chemistry was organised by Leonard Horner at St. Cecilia's Hall in Edinburgh. From this one lecture grew the Mechanic's Institute movement that was to profoundly change the educational prospects of working men around the world over the next century. By 1900 there were over 9,000 Institutes globally. Visit the General Society of Mechanics and Tradesmen of the City of New York <<https://generalsociety.org/>> today, and you'll find current evening classes on HVAC systems for the benefit of those who work during the day. To celebrate the MI Bicentenary, Heriot Watt, a university that evolved eventually from that first lecture, is holding a conference and a poetry and painting competition (See <<https://www.hw.ac.uk/alumni/watt-club/mechanics-institutes-worldwide-2021.htm>>). Anne Ormston and I are running a Mechanics' Institute's Hunt. We started by trying to record all the Scottish institutes from the 1820s onwards. Now we're opening up the Hunt to anyone, from anywhere, who has stories or photographs of their own local Mechanics' Institute, to let us know at <[hunt@mechanicsinstitutes.org](mailto:hunt@mechanicsinstitutes.org)>. This amazing movement changed the lives of so many individuals, and in so doing changed the very structure of societies around the world, educating, civilising, informing, and entertaining communities for two hundred years. What's more they did it in some beautiful buildings about which we would like to learn more. Please contact us with any information you might have on the Institutes and we'll keep you informed of progress in the MI Hunt. 🖐

—Sue Roaf



poster: Museum of Scotland

## SBSE CALENDAR [COVID-19 RESTRICTIONS MAY CAUSE CANCELLATIONS]

## 2021

|           |   |
|-----------|---|
| Jun 24–26 | ACSA/EAAE 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)   |
| Oct 24–26 | CATE 2021 Conf/virtual                            |
| Oct 27–29 | Built Environment Summit/London, UK               |

## 2022

|           |                               |
|-----------|-------------------------------|
| Mar 2–5   | ARCC/EAAE 2022/Miami, FL, USA |
| Nov 23–25 | PLEA 2022/Santiago, CHILE 🖐   |

## SUMMER ISSUE SUBMITTAL DEADLINE—SEP 1



SBSE News  
c/o Bruce Haglund  
Architecture Program  
University of Idaho  
875 Perimeter Drive MS 2451  
Moscow, ID 83844–2451  
[bhaglund@uidaho.edu](mailto:bhaglund@uidaho.edu)

To: SBSE Members & Friends  
Planet-wide



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