

### **Course Registration - Follow the Link...**

The course fee is \$1,195 per person (US funds. The course fee includes lunches, coffees, soft drinks, dinner, etc. (The course fee does not include travel, accommodation or dinners not at the summer camp clubhouse).

In order to register please follow the registration instructions in the link...carefully. Register early – and recall that this event is by invitation only so please do not pass on the link. We will close the registration once the event is at capacity.

### **Hotel Information - Follow the Registration Link...**

The course is being held at the Westford Regency Inn & Conference Center, 219 Littleton Road, Westford, MA, 01886. The hotel is located at Exit 32 off I-495, approximately 10 miles south of Lowell, MA. Links to the room blocks at the Westford Regency Inn & Conference Center will be sent to you with your registration receipt. Please reserve your rooms in the room blocks under the name of the registrant. You will also receive additional information about travel, other hotels, and the after party with your registration receipt.

The hotels have run out of rooms regularly during this event. So register early. If you get stuck and do not have a room reserved, and the hotels are full, contact us and we will try to help you.



## **Summer Camp XXVI**

### **Twenty-Sixth Westford Symposium on Building Science**

August 5, 2024 to August 7, 2024

I would like to invite you to the twenty-sixth Westford Symposium on Building Science. In continuing with past tradition, “building science summer camp” features intensive discussions on building science in both a formal and informal setting.

Westford XXVI – features numerous presenters/facilitators. Also in keeping with tradition the lead presenter/facilitator for each of the subject areas is one of the foremost practitioners in the subject area.

#### **Course Dates**

Monday, August 5 through Wednesday, August 7, 2024.

#### **Course Outline**

Presentations begin each day at 8:30 am

Lunch will be provided each day between 12 noon and 1:00 pm

Presentations will end Monday at around 5:00 pm and Tuesday at around 4:00 pm

Symposium will close Wednesday at 3:00 pm

## Monday AM Session

8:30 am to 10:00 am

Hartwig Kunzel

### ***“Lessons From 70 Years Of Building Science Field Investigations”***

Prof. Dr.-Ing. Kunzel is the Head of Department, Hygrothermics, Fraunhofer Institute for Building Physics, Germany. To say he is a legend is an understatement. He is the "godfather" of WUFI "Warme Und Feuchte Instationar"...Hartwig will present on face seal stucco and coating systems, IR-reflective facades, impact of vapor diffusion in fibrous and foam insulation, the hygrothermal behavior of assemblies...and anything else he feels like talking about.

----- **MORNING BREAK 10:00 AM TO 10:30 AM** -----

10:30 am to 12:00 noon

Brian Hubbs

### ***“Forensic Engineering Of Building Enclosures and Facades”***

Brian Hubbs, P.Eng. is a pioneer in investigating and explaining the causes of failures and how to fix them. Brian points out that it is both an art and a science...that it involves multivariable analysis to eliminate things that are not contributing to the failure and narrowing in on the contributory failure mechanisms. Brian is the "H" in RDH Building Science and one of the best "facadists" around. He is a graduate from the University of Waterloo.

----- **LUNCH 12:00 NOON TO 1:00 PM** -----

## Monday PM Session

1:00 pm to 2:30 pm

Foster Lyons

### ***“Adhesion”***

Foster Lyons is a chemical engineer, builder and building science consultant to architects. Foster points out that there is not a single structure, in the history of structures, that does not have something adhered to something else. Yet, adhesion is a topic fraught with misunderstanding and misconception. Why is it so hard to break concrete but so easy for stones to fall off walls?

----- **AFTERNOON BREAK 2:30 PM TO 3:00 PM** -----

3:00 pm to 4:00 pm

Tessa Bradley

### ***“Not Being Passive About Passive House”***

Tessa Bradley is a principal of the Artisans Group, Olympia, WA. The Artisans Group combine building science and elegant design. Tessa will present on low-carbon solutions, energy efficiency, net-zero Passive House designs and retrofits.

4:00 pm to 5:00 pm

Adam Broderick

Aaron Grin

***“MgO - Magnesium Oxide Sheathing Panels - no sweat..sweet”***

Adam Broderick is a Research Scientist and Aaron Grin is Global Residential Applications Technology Leader - both with DuPont Building Solutions. Is MgO a game changer? It had issues in the past. Not any more. They will cover test huts, environmental chambers and “sweating” boards in Denmark.

## Tuesday AM Session

8:30 am to 10:00 am

Marc Rosenbaum

### ***“Thermal Energy Storage In High Performance Buildings”***

Marc Rosenbaum, P.E., received a BS and MS from the Massachusetts Institute of Technology. He is the Founder and Principal of Energysmiths and built his first superinsulated house in 1978. Marc will discuss how energy storage both thermal and electrical aids grid penetration of renewables and builds resilience on-site. Mass...not the state...time constants and hydronic storage will be discussed.

----- **MORNING BREAK 10:00 AM TO 10:30 AM** -----

10:30 am to 12:00 noon

Kent Browning

### ***“Conservation Of Mass and Other Crazy Ideas”***

Kent Browning, PE is a principal of KWR Engineering Services, Austin, TX and has been commissioning buildings before commissioning buildings was called commissioning buildings. Kent keeps seeing the same kind of problems over and over again. He has several guidelines that general contractors and normal folks can use to indicate if a building will have issues. Kent promises not to charge a commission for this information...

----- **LUNCH 12:00 NOON TO 1:00 PM** -----

## Tuesday PM Session

1:00 pm to 2:30 pm

Bruce Harley

### ***“Load-Based Testing Of Heat Pump”***

Bruce Harley has an undergraduate degree in electrical engineering from Worcester Polytechnic Institute and was the technical director of the Conservation Services Group for many years. Most of his recent work is related to heat pumps. He points out that heat pumps can accomplish a lot, but there are many potential pitfalls; we need to get it right and avoid a "heat pump gate"...

----- **AFTERNOON BREAK 2:30 PM TO 3:00 PM** -----

3:00 pm to 4:00 pm

Steve Baczek

### ***“The Graphic Language of Drawings”***

Steve Baczek is an architect who understands communication, communication, and communication. Did I mention communication? The communication is verbal, graphical, artistic and sometimes "telepathic". There is a beauty in the details. Also note that sometimes the devil is in the details.

## **Wednesday AM Session**

8:30 am to 10:00 am

Andrew Steingiser

### ***"Passive House and The Shifting Energy Landscape"***

Andrew is an architect with RDH in Boston and a graduate of the School of Architecture at Syracuse University. As Passive House is applied to multi-family buildings things get interesting...that is an understatement...there is more...wait till we look at schools...Phius and TEDI do not always get along...Andrew will help put things in focus...

----- **MORNING BREAK 10:00 AM TO 10:30 AM** -----

10:30 am to 12:00 noon

Julie Klump

### ***"Saving Affordable Homes"***

Preservation of Affordable Housing (POAH) is a nonprofit developer, owner and operator of 20,000 affordable homes in multifamily buildings in twelve states and the District of Columbia. Julie is an architect and Vice President of Design and Building Performance for POAH. She has been involved in the retrofit and rehabilitation of thousands of existing homes and multifamily buildings and the design and construction of thousands of new affordable homes and multifamily buildings. Julie will discuss lessons learned and how to preserve affordability through high performance.

----- **LUNCH 12:00 NOON TO 1:00 PM** -----

1:00 pm to 2:00 pm

Duncan Prah

### ***"Passive-Regressive: Tales from the CUNY Building Performance Lab"***

Duncan Prah is an architect and the Director of Technical Services at the CUNY Building Performance Lab. He will share research projects and results conducted by the team at CUNY BPL...such as how well do those thousands of buildings in NYC actually perform and are those energy audits in NYC actually leading to any retrofits?

## **Closing Presentation:**

2:00 pm to 3:00 pm

Keith Simon

### ***"10-Year, 100-Year and 1,000 Year Buildings"***

Keith Simon, FAIA is an architect, VP of Design Phase Services for Salas O'Brien, and adjunct faculty at the UT-Austin School of Architecture. He has some thoughts on how to design buildings to last for an extremely long period of time. As a Fellow of the AIA, he has some strong opinions on some of the priorities of architectural firms and architectural schools.