



BUILDING SCIENCE EDUCATION WEBINAR

Webinar: May 5, 2015, 12:00 p.m. EDT

Presenters/Facilitators:

Patrick Huelman: [Joint Committee on Building Science Education](#); & U MN

Paul Totten: [NIBS/BETEC Education Committee](#); & Catholic University

Georg Reichard: Web Host; Virginia Tech

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NOTE: This Webinar will be recorded via WebEx and later posted. Participation in this Webinar shall be considered to be your acceptance of its recording and publication.

For assistance

You can contact Georg Reichard at:
reichard@vt.edu



AGENDA

- **Introduction & Announcements** *(5-10 minutes)*
 - *Contact Information; Webinar Webpage*
 - *Upcoming [Events](#); Meetings & Future Webinars*
 - *[Race to Zero](#) – You can register interest now for the 2016 RTZ competition*

- **Building Science Education Status Report** *(10-15 minutes)*
 - *Background & Objectives*
 - *Brief Recap of Last Webinar: Moving Forward on Infusion (Request for Input)*
 - *Current/Needed Practices*
 - *Teaching Resources, NEW textbook coming*
 - *Brief Discussion/Q&A*

- **Next Steps** *(5 minutes)*

- **DOE-PNNL Building Science Education Presentation** *(30 minutes)*
 - *[Background & Previous Work](#)*
 - *Current Work – Gathering Resources*
 - *Next Steps*
 - *Request for Information*
 - *Q&A*

- **Close** *(5 minutes)*



BUILDING SCIENCE EDUCATION WEBINARS

CONTACT INFORMATION

- WEBPAGE: <http://www.BuildingScienceEducation.net/Events/WEBINARS>
- Georg Reichard, Virginia Tech: reichard@vt.edu
- Patrick Huelman, U-MN: phuelman@umn.edu
- Paul Totten, Catholic U: Paul.Totten@wspgroup.com
- Cheryn Metzger, PNNL: cheryn.metzger@pnnl.gov
- Sam Taylor, JCBSE: sam@buildingscienceeducation.net

www.BuildingScienceEducation.net/Events/WEBINARS



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Building Science WEBINARS

These Webinars are co-hosted by the [NIBS/BETEC Education Committee](#) and the [Joint Committee on Building Science Education](#).

Objectives/Background for the Current Series of Webinars:

- Webinar Series to Fulfill Needs Addressed in [Toronto BSE Workshop](#)
 - Infusion of Building Science into Traditional Courses (resources and methodologies);
 - Identify, Review & Share Resources for a Building Science Fundamentals course
 - And, as time permits, address Specialized Courses, e.g., Building Science for Building Enclosures, Building Forensics, Commissioning, etc.
- Develop "Easy" Steps to Begin or Expand & Improve Building Science Education – In Spite of University Constraints
- Share Results on Committee Website
- Facilitate Infusion of Best Building Science Practices in Teaching Resources for Traditional Courses – through
 - Authors and Reviewers of Textbooks and Key References
 - Development of modules and handouts for target Traditional Courses

Building Science Education Webinars

April 2, 2015 Webinar - Emphasis of the webinar was infusion of building science best practices into traditional courses (curriculum and teaching resources). VA Tech provided the WebEX resources.

- [April 2nd Slides](#)
- [WebEx Recording of the meeting.](#)

May 5, 2015 Webinar - See [WebEx Information & Tentative Agenda](#)

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ANNOUNCEMENTS AND UPCOMING CONFERENCES/EVENTS

➤ Announcements

- 2015 Race to Zero results are posted on DOE & BSE websites
- 2016 Race to Zero – register interest
- Date confirmed for Washington BSE (Toronto Sequel) Workshop

➤ Upcoming Events – www.BuildingScienceEducation.net/Events

- NOTE: Call for Papers Deadlines
- AIA Convention (Atlanta): May 13, 2015 BE Commissioning Workshop
- ASHRAE (Atlanta): June 27 – July 1, 2015
 - DOE Roadmap meetings; preparations for BUILDINGS XIII, new Commissioning SPC.
- Westford BSE Update: August 2, 2015
- Washington, DC BSE Workshop (NIBS/ASTM/JC/???): January 11, 2016
- 3rd Residential Design & Construction Conference (Pennsylvania): March 2016
- BUILDINGS XIII BSE Update: December 2016



2016 RACE TO ZERO – REGISTER INTEREST

- Register your interest now in the 2016 RTZ competition
- Receive updates and access to RTZ resources
- Begin planning & preparations now
 - Formation of multi-discipline teams
 - students, faculty, industry partners, etc.
 - Integration/coordination with Fall/Spring academic courses
 - Build relationship with industry partners
 - advisors, mentors, internships, financial support, etc.
- Review 2015 RTZ results (Posted on DOE & BSE Web)
- Contact racetozero@ee.doe.gov



BACKGROUND/OBJECTIVES FOR CURRENT WEBINAR SERIES

- **Webinar series to fulfil needs identified in the Toronto BSE Workshop**
 - Resources and methodologies for infusion of building science into traditional courses.
 - Identify, review, and share resources for a building science fundamentals course.
 - And, as time permits, provide support for specialized courses
 - e.g., Building Science for Building Enclosures, Building Forensics, Commissioning

- **Develop “easy steps” to begin, expand, and improve building science education**
 - That can accommodate existing University constraints and limitations.

- **Share results on Joint Committee website**
 - Working Files – Under Review
 - Peer Reviewed Resources



BRIEF RECAP – INFUSION OF BUILDING SCIENCE

Infusion of Building Science into Traditional Courses (*see Webpage*)

- **Longer Term – Key Textbooks/References**
 - Infusion of building science best practices into textbooks and associated slides, graphics, etc.
 - Identify and engage potential reviewers and authors
- **Near Term – Improve Traditional Courses -**
 - Review curricula, texts, slide sets, videos, etc.
 - Provide best practice errata (slides/handouts) to counter bad, incomplete, or misleading practices
 - Introduce “why” of best building science practices
- **Please Identify and Share**
 - Recommended target courses for infusion
 - Recommended modules and other resources
- **Note current online BSC and BSL resources**



INFUSION OF BUILDING SCIENCE INTO TRADITIONAL COURSES

Help Build Our Infusion Knowledge Base

(see April 2 Presentation on Webinar Webpage)

- **What courses do you recommend for initial infusion?**
- **What textbooks and other resources are recommended or required for these courses?**
- **Do the course slides and recommended reading assignments represent best practices?**
- **Provide examples of problem content in such resources, and suggested corrected slides, errata handouts, etc.**
- **Expose students to details showing best building science practices.**
- **Share approaches for infusing the “why” such details represent best practices.**



BUILDING SCIENCE BASIC FUNDAMENTALS

➤ The Need

- Provide anchor for the infusion of building science into traditional courses, studios, and teaching resources.
- Might be offered in the Sophomore or Junior year
 - perhaps adapting related courses (e.g., Sustainability, Environmental Systems)
- Many offer fundamentals of building science in Junior or Senior Year
 - but provide infusion of basic building science modules in earlier coursework

➤ Current Status

- Building Science Fundamentals textbook (with supporting lecture slides)
 - Under development, draft expected by August 1
- “Race to Zero Fundamentals” webinars
- Many slides from Building Science presentations posted
- Some curricula now shared



BUILDING SCIENCE FUNDAMENTALS TEXTBOOK

- “**Building Science Fundamentals**”, by Joseph Lstiburek, is geared to undergraduate students in engineering, architecture, and construction management. Based on the *Moisture Control Handbook, Builder Guide Series, and the* two day Building Science Fundamentals course
 - with graphics extracted from the **Building Insight** series

- **Supporting PowerPoint slides** will be provided to University/College course instructors
 - slides will be fully modifiable by the instructors

- **Availability of First Draft for Review**
 - expected by August 1, 2015



BUILDING SCIENCE FUNDAMENTALS

Open Discussion

Facilitated by: Paul Totten, Pat Huelman, and Georg Reichard



NEXT WEBINARS – INTERIM PREPARATIONS

- **Please comment on the following tentative dates:**
 - Plan to restart the webinar series in September

- **Please provide information requested in the past two webinars**
 - Help build the “Infusion Knowledge Base”
 - Provide input for shared curricular materials
 - Review of the new “*Building Science Fundamentals*” textbook



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MAY 5TH, 2015

Cheryn Metzger, PNNL

Sam Rashkin, DOE



CLOSING REMARKS



BUILDING SCIENCE EDUCATION WEBINARS

Thank You – Let's Stay in Touch

- WEBPAGE: <http://www.BuildingScienceEducation.net/Events/WEBINARS>
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