

Westford Building Science Update

Sunday, August 3, 2014 – Westford, MA

The Westford Building Science Education Update focused on teaching resources for “building science fundamentals” and also the infusion of building science into traditional courses. Patrick Huelman moderated the meeting. He provided the introduction and a summary of recent activities, including the Toronto Building Science Education Workshop¹ and the Race to Zero Student Design Competition².

Joseph Lstiburek presented his work to support the Competition and the development of key resources. He announced that he is developing an update to the Moisture Control Handbook by December 2014. He will also be developing a building science fundamentals text, with slides, by mid-2015. Both books will be available online for free, though hard copies will be sold by Building Science Press. He also noted the need for teaching modules, perhaps one-hour U-Tube lectures, to support infusion of building science in traditional courses.

Julie Szabo presented the building science education program at Ryerson University – which might provide a model for building science curricula for other schools. Chris Schumacher discussed the need for lecture slides addressing the fundamentals.

Amanda Hatherly, [Santa Fe Community College](#), discussed their SimBuilding NSF grant project to develop and evaluate innovative online simulation games based on building science. They are currently in the development phase of SimBuilding but are using an earlier design tool (Energy3D) to engage students and get feedback on their experience learning about design considerations for houses, which will inform the development of SimBuilding. Energy3D can be found here: <http://energy.concord.org/energy3d/> [If training organizations and colleges are interested in being part of the beta testing of SimBuilding as its developed, please contact Amanda Hatherly at Amanda.hatherly@sfcc.edu.

Finally, the follow-on efforts were addressed including Joint NIBS/Criteria Task Group webinars to identify and review requirements for building science fundamentals and the infusion of building science into traditional courses. Planning efforts for a Toronto Workshop Sequel were addressed, as well as the upcoming DOE Task Force Meetings in St. Louis. (See Westford Update Agenda)

Numerous side meetings on building science education took place over the next few days at the 18th Annual Westford Building Science Symposium.

¹ The *Toronto Building Science Education Workshop*, April 6, 2014, as well as previous meetings and workshops, addressed institutional and other issues impeding building science education in universities and colleges. Possible solutions to the issues were raised, and priority near term actions was suggested. The need was identified for having good building science fundamentals courses, in the first two years of undergraduate programs, and infusion of building science into traditional courses (since crowded curricula left little room for new courses). Also, continued support for special courses such as “building science for building enclosures, and building forensics, was noted. Other issues addressed the need for accreditation and licensing organizations to include building science requirements. Finally, it was suggested that a sequel to the Toronto workshop be held to address solutions to the issues, and preparations begin now – particularly concerning building science fundamentals and infusion of building science in traditional courses. The Westford Update began these preparations.

² At the end of April at the National Renewable Energy Laboratory, Golden, CO, 28 teams from 26 schools participated in the *DOE Challenge Home Student Design Competition* Judging and Awards event. The Competition was found to be very successful in providing a multi-discipline, experiential learning project that engaged students in mastering critical building science education skills. The competition, now called the “Race to Zero” would be conducted annually. Teams with good management skills and teams from schools with good building science fundamentals training did better in the competition. Continued improvement of building science education resources should help future competitions

Agenda –Westford Building Science Education UPDATE

- Introductions (Patrick Huelman)
- Brief Update (Patrick Huelman)
 - ✓ Criteria Task Group –
 - Workshops & Webinars – (Toronto, listing of results over last year)
 - Teaching Resources
 - Supports Student Competition
 - Calibrates Matrix
 - Race to Zero
 - Matrix, Methodology (relationship to Competition) – St. Louis schedule
 - ✓ Award for Excellence – need nominations; to be awarded at Competition awards in late April 2015, Golden, CO –
 - ✓ Race to Zero Student Design Competition – a multi-discipline experiential learning success –
- Important Teaching Resources for Universities & Student Design Competitions–
 - ✓ Building Science Fundamentals [Joe Lstiburek (BS fundamentals; infusion modules); DOE NASULGC modules; Ryerson, Concordia (Julie Szabo), BCIT, Waterloo/other fundamentals courses; EEBA/ACI; possible references]
 - ✓ Infusion of Building Science in Key Traditional Courses (e.g., modules, etc.)
 - ✓ Special Courses: Building Science for Building Enclosures; etc.
 - ✓ Teaching Resources relevant to Competition Submissions
- Request Participation/Support in development/modification of courses
 - ✓ Working Group (BS 101/201; Infusion– (Webinar resources offered by U MN)
 - ✓ Other