SYMPOSIUM ON BUILDING SCIENCE AND THE PHYSICS OF BUILDING ENCLOSURE PERFORMANCE – PART 1

Sponsored by ASTM Committees E06 on Performance of Buildings and Committee D08 on Roofing and Waterproofing

October 21-22, 2018
Washington Hilton
Washington, DC, USA

Symposium Chairs: Dan Lemieux Wiss, Janney, Elstner Associates Washington, DC Jennifer Keegan GAF Parsippany, NJ

ABOUT THE SYMPOSIUM
This symposium will provide a forum for the exchange of ideas on current research regarding building science and the physics of building enclosure and whole building performance, with an emphasis on transitions between the horizontal and the vertical and the critical points of intersection; testing and assessment of heat, air, and moisture transfer; energy use, and the environment
SUNDAY, OCTOBER 21, 2018

8:00 AM  
**Opening Remarks**  
Dan Lemieux and Jennifer Keegan, Symposium Chairs

**KEYNOTE SPEAKER**

8:15 AM  
**Dr. John Straube**

**SESSION 1: ENERGY USE AND CONSERVATION**

9:15 AM  
**Energy Codes and Standards: Do They Reflect Best Practice in Building Enclosure Performance?**  
Tat Fu, Simpson Gumpertz & Heger

9:45 AM  
**History, Continued Changes and Impact of Increased Performance Values Required of Exterior Building Enclosures by ASHRAE 90.1**  
Paul Johnson, Smith Group

10:15 AM  
**BREAK**

10:30 AM  
**Physics of HVAC Interaction with Enclosure Systems and People**  
Paul Totten, WSP

11:00 AM  
**Balancing Building Enclosure Performance and the Conservation of Modern Materials**  
Kyle Normandin, Wiss, Janney, Elstner Associates, Inc.

11:30 AM  
**The Hirshhorn Museum: Predicted Energy Use Improvements for a Mid-20th Century Brutalist Landmark**  
Niklas Vigener, Simpson Gumpertz & Heger

12:00 PM  
**LUNCH (On Your Own)**
SESSION 2: ANALYSIS AND MODELING

1:15 PM
Integrating CFD Simulations and Condensation Risk Assessment: Project-Specific Analyses to Better Inform Design of Buildings
Scott Bondi, Simpson Gumpertz & Heger

1:45 PM
Role of Initial Moisture Content on Hygrothermal Models and Envelope Performance
Carly Wagner, WDP & Associates

2:15 PM
Hygrothermal Performance Evaluation of Drainage Components and Sheathing Membranes when Subjected to Climate Load
Michael Lacasse, National Research Council Canada

2:45 PM BREAK

3:00 PM
Osmosis and the Blistering of Liquid Applied Waterproofing Membranes
Elyse Henderson, RDH Building Science

SPECIAL GUEST
Mr. Kevin Kampschroer, Director, U.S. General Services Administration

3:30 PM
Owner’s Perspective
Mr. Kevin Kampschroer, Director - Office of High Performance Buildings and Chief Sustainability Officer for the U.S. General Services Administration

4:30 PM CLOSING ANNOUNCEMENTS

4:45 PM ADJOURN FOR THE DAY

5:00 PM RECEPTION
MONDAY, OCTOBER 22, 2018

8:00 AM
Opening Remarks
Dan Lemieux and Jennifer Keegan, Symposium Chairs

SESSION 3: SOLUTIONS AND A PATH FORWARD

8:10 AM
Design Criteria and Solutions to Common Issues in Building Envelope Design
Adam Rizor, CDC, Inc.

8:40 AM
Unintended Consequences: A Review of Critical Details, Serviceability and Durability of Modern High-Performance Facades & Leveraging BECx To Avoid These Issues
Jennifer Keegan, GAF and Matt Ridgway, Intertek

9:10 AM
Two Federal Agencies and a Contractor: Enclosure Commissioning of a Design-Build Project
Andrea DelGiudice, Wiss, Janney, Elstner Associates, Inc.

9:40 AM BREAK

SPECIAL GUEST
Dr. Robyn Pender, Building Physicist and Conservator, Historic England

10:00 AM
The Virtue of Necessity: Learning from Buildings of The Past
Dr. Robyn Pender, Building Physicist and Conservator, Historic England (English Heritage)

10:45 AM
Panel Discussion
Dr. John Straube, Mr. Kevin Kampschroer, Dr. Robyn Pender

11:45 AM
Closing Remarks
Dan Lemieux and Jennifer Keegan, Symposium Chairs

12:00 PM SYMPOSIUM ADJOURNS