

Manfred Kehrner | Senior Associate



EDUCATION

- University of Applied Science, Munich
 - Dipl.-Ing., Technical Physics, 1993

PRACTICE AREAS

- Building Science
- Numerical Simulation
- Hygrothermal Performance
- Peer Review
- Forensic Analysis
- Expert Witness

PROFESSIONAL AFFILIATIONS

- ASHRAE
- ASTM International
- Frontiers in Built Environment

TECHNICAL COMMITTEES

- ASHRAE TC 1.8 - Mechanical Systems Insulation, voting
- ASHRAE 1.12 - Moisture Management in Buildings, voting
- ASHRAE 4.4 - Building Materials and Building Envelope Performance, voting
- ASHRAE SSPC 160 - Criteria for Moisture-Control Design Analysis in Buildings, voting
- ASTM C16 – Thermal Insulation
- ASTM C16.33 – Insulation Finishes and Moisture, chair
- ASTM E06 - Performance of Buildings

EXPERIENCE

Manfred Kehrner joined WJE in 2017. He has been involved in researching, testing, and analysis of exterior envelope and concrete systems. He has helped develop WJE's hygrothermal laboratory and computational fluid dynamics initiative for analysis of building enclosures.

Prior to joining WJE, he was involved in the research and investigation of building science issues and developed analytical methods to advance the industry. He worked for more than twenty years at Fraunhofer IBP, Germany, in the area of hygrothermics and has been group manager for software development where he was responsible for development, quality control and sales of WUFI® products. Mr. Kehrner was a senior building scientist at the Oak Ridge National Laboratory (ORNL), where he was in charge of a variety of types of research in building science. Following his work at Fraunhofer and ORNL, he became president of the start-up company justSmartSolutions LLC in the field of building science consulting. Since 2011, Mr. Kehrner has been the Official WUFI® Collaboration Partner for USA/Canada.

REPRESENTATIVE PROJECTS

Numerical Simulation

- WUFI® Pro 5.x - Germany: Head of Development and Quality Control until 2011
- WUFI® 2D 3.x - Germany: Head of Development and Quality Control until 2011

Peer Review

- Editorial Board Member of the journal *Frontiers in Built Environment - Sustainable Design and Construction*

AWARDS

- ASTM C16 Award of Appreciation, 2017
- WUFI® software was recognized as one of the "2013 Top 10 Green Building Products" by Building Green Inc. in Vermont, 2013
- Moisture Safety Prize from the Moisture Research Center at Lund University, Sweden, 2011 (with development team at Fraunhofer IBP)

SELECTED PUBLICATIONS

- M. Kehrner, "Don't Mess with Mr. Hyde—Modern Hygrothermal Performance

Assessment," *Interface: Technical Journal of RCI*, October 2017, Vol. XXXV No. 9.

- D. Fisler, M. Kehrner, F. Babineau, "Sensitivity Analysis of Moisture Dependent Properties of Roofing Materials," ASTM Symposium on Advances in Hygrothermal Performance of Building Envelopes, Materials, Systems and Simulations. ASTM International, West Conshohocken, PA, 2017.
- S. Pallin, M. Kehrner, "Risk of Condensation in Mechanically Attached Roof Systems in Cold U.S. Climate Zones," *Drying and Wetting of Building Materials and Components*, ISBN: 978-3-319-04531-3.
- S. Pallin, M. Kehrner, A. Desjarlais, "Hygrothermal Performance of West Coast Wood Deck Roofing System." ORNL/TM-2013/551, 2013.
- S. Pallin, M. Kehrner, "A Hygrothermal Probabilistic Risk Analysis Applied on Residential Unvented Attics," Proceedings of Conference on Thermal Performance of the Exterior Envelopes of Whole Buildings XII, Clearwater, FL, 2013.
- M. Kehrner, S. Pallin, "Hygrothermal simulations of foundations: Part 1—Soil Material Properties," *Journal of Building Physics*, 2012.
- M. Kehrner, J. Christian, "Measurement of Exterior Foundation Insulation to Assess Durability in Energy-Saving Performance," *ORNL Report ORNL/TM-2012/159*.
- H.M. Kuenzel, A.N. Karagiozis, M. Kehrner, "Assessing the Benefits of Cavity Ventilation by Hygrothermal Simulation," Proceedings of Building Physics Conference, Laboratory of Building Physics, Catholic University Leuven, Belgium, 2008.
- M. Kehrner, T. Schmidt, "Radiation Effects on Exterior Surfaces," Proceedings of Nordic Symposium on Building Physics 2008, Copenhagen.
- M. Kehrner, H.M. Kuenzel, K. Sedlbauer, "Ecological Insulation Materials—Does Sorption Moisture Affect their Insulation Performance?" *Journal of Thermal Envelope and Building Science*. SAGE Publications, January 2003.

CONTACT

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