



#### 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

- American Society of Heating, Refrigerating, and Air-Conditioning Engineers
- ASTM International

#### TECHNICAL COMMITTEES

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

#### EXPERIENCE

Manfred Kehrer 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 capability 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 was group manager for software development where he was responsible for development, quality control, and sales of WUFI® products. Specifically, he was the Head of Development and Quality Control of WUFI® Pro 5.x and WUFI® 2D 3.x until 2011. Mr. Kehrer then worked as a senior building scientist at the Oak Ridge National Laboratory (ORNL) where he oversaw various types of research in building science. Following his work at Fraunhofer and ORNL, he was president of the start-up company justSmartSolutions LLC in the field of building science consulting until 2017. Since 2011, Mr. Kehrer has been the Official WUFI® Collaboration Partner for USA/Canada.

#### REPRESENTATIVE PROJECTS

- Medline Distribution Center - Auburndale, FL: Field investigation to determine the cause of sweating slab syndrome
- Major Fitness Club - Landsdale, PA: Numerical simulation to determine the cause of moisture accumulation and mold growth
- Farmers Union GTA Building - Falcon Heights, MN: Computational Fluid Dynamics simulation on exterior wall assemblies to determine the impact of ventilation strategies on its hygrothermal performance

#### 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

- David Finley and Manfred Kehrer (2022); Air Infiltration and Its Consequences for Building Enclosures in Hot/Humid Climate, Proceedings of the 2022 IIBEC International Convention and Trade Show.
- Manfred Kehrer and Michael Scheffler (2021), A New Methodology for Evaluating the Weathering Durability Performance of Limestone Using WUFI, ASTM STP162820200004.
- David Finley and Manfred Kehrer (2019); ASHRAE 90.1 and Cold Weather Condensation, Proceedings of the 2019 IIBEC Building Enclosure Symposium.
- Manfred Kehrer, "Don't Mess with Mr. Hyde—Modern Hygrothermal Performance Assessment," *Interface: Technical Journal of RCI*, October 2017, Vol. XXXV No. 9.
- Simon Pallin and Manfred Kehrer, "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.
- Simon Pallin and Manfred Kehrer, "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.
- Manfred Kehrer and Simon Pallin, "Hygrothermal simulations of foundations: Part 1—Soil Material Properties," *Journal of Building Physics*, 2012.
- Manfred Kehrer and Thomas Schmidt, "Radiation Effects on Exterior Surfaces," Proceedings of Nordic Symposium on Building Physics 2008, Copenhagen.
- Manfred Kehrer, Hartwig Kuenzel, and Klaus 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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