Building Technologies Research and Integration Center

Science Research Seminar Series

Technologies and Approaches for More Efficient, More Durable, and More Affordable Roofs and Attics

Wednesday
January 7, 2015
3–4 p.m.
Building 4500N, Room 250
Wigner Auditorium

Natural Exposure Research Facility in Charleston, South Carolina

Abstract

Roofs and attics are subject to greater temperature and humidity extremes than any other components of the building envelope. They are responsible for an appreciable amount of the building space conditioning load and are a significant source of greenhouse gas emissions. High-performance attic and roof systems that address these issues could significantly reduce US energy use and the US carbon footprint. In this presentation, Dr. Bill Miller will discuss the results of field studies on roof and attic systems in South Carolina and California and simulation tools being used to develop next-generation roof and attic systems.

Dr. William (Bill) Miller

Dr. Miller has spent 35 years conducting studies in building science, vapor compression refrigeration systems, and absorption heat and mass transfer. He earned his PhD in mechanical engineering from the University of Tennessee, Knoxville (UTK), in 1998 while working full time for the ORNL Energy Division (now Energy and Transportation Science Division). He holds a joint faculty position with the UTK College of Engineering, where he teaches part-time in the Mechanical, Aeronautical and Biomedical Department, and he is also a lecturer in Architecture and Design. His current work focuses on developing and demonstrating high-performance roof and attic systems.

OAK RIDGE National Laboratory

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