SANTA CLARA UNIVERSITY

Department of Mechanical Engineering

Mechanical Engineering Seminar Series

Building Performance Simulation for Buildings and Communities: Advances and Challenges

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Date: Wednesday, March 1, 2017
Time: 4:00 – 5:00 pm
Location: Bannan Engineering, EC 326

Abstract

Building performance simulation can be a powerful tool to support the design and operation of low energy buildings and communities. In this talk, Dr. Hong will share his experience in research, development and application of building performance simulation in the building life cycle. He will introduce latest development of EnergyPlus, and discuss opportunities and challenges of modeling existing buildings considering available sensor data and new modeling methods, as well as modeling the stochastic and diverse nature of occupant behavior in buildings. He will also introduce two energy retrofit analysis tools his team developed, one for individual buildings and the other for city- or district-scale group of buildings.

Biography

Dr. Tianzhen Hong is a Staff Scientist and Deputy Head of Building Technology Department of Lawrence Berkeley National Laboratory (LBNL). He leads a research team working on data, methods, modeling and simulation tools, and policy for design and operation of low energy buildings and sustainable urban systems. He is co-leading the urban systems initiative at LBNL. He is an editor of Energy and Buildings, and published more than 100 journal articles, conference papers and technical reports. He is currently leading the IEA EBC Annex 66: Definition and Simulation of Occupant Behavior in Buildings, which has more than 100 researchers from 20 countries. He received B.Eng. and Ph.D. in Building Science, and B.Sc. in Applied Mathematics from Tsinghua University, China.

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