Edwin Lee

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OBJECTIVE

To leverage my skills as a proficient programmer, mechanical engineer, and numerical analyst in the field of advanced building and system simulation.

EDUCATION

Doctor of Philosophy, Mechanical Engineering
Oklahoma State University, Stillwater, OK ..... May 2013
THESIS - A Generalized Pipe Heat Transfer Model for Whole Building Simulation Applications
GPA 4.00

ENGINEERING EXPERIENCE

Research Engineer ..... May 2013 – Present
National Renewable Energy Laboratory, Golden, CO

- Contributed to the Technology Performance Exchange (TPEx) via Data Entry Form development, dataset processing, and development of the logic and scripts to convert TPEx datasets into components on the Building Component Library
- Began leading technical development of EnergyPlus, overseeing the technical changes accompanying the translation from FORTRAN to C++, and StarTeam to GitHub

Graduate Assistant ..... January 2006 – May 2013
Oklahoma State University, Stillwater, OK

- A complete re-write of the EnergyPlus central plant simulation, including solution algorithms, pump model re-work, and updating component model design
- Developed a generalized horizontal ground heat exchanger model that includes interaction with a basement zone, specifically for use with foundation heat exchangers
- Performed experimental measurement and modeling of transport delay phenomena in piping systems
- Worked closely with the Center for the Built Environment at University of California, Berkeley, providing simulation support for Underfloor Air Distribution System research with EnergyPlus

PUBLICATIONS

Raftery, P., E. Lee, T. Webster, T. Hoyt and F. Bauman. 2014. *Effects of furniture and contents on peak cooling load*. Energy and Buildings: 85:445-457.

Studer, D., K. Fleming, E. Lee and W. Livingood. 2014. *Enabling Detailed Energy Analyses via the Technology Performance Exchange*. Proceedings of the ACEEE Summer Study, Pacific Grove, CA, USA.

Lee, E., D. Fisher and J. Spitler. 2013. *Efficient Horizontal Ground Heat Exchanger Simulation with Zone Heat Balance Integration*. HVAC&R Research: 19(3):307-323.

Lee, E. and D. Studer. 2013. *TIP 287: Reducing Technology Evaluation Costs Through a Technology Performance Exchange. Deliverable 2.5: Draft Data Entry Forms*. NREL Report No. TP-5500-60219.

Xiong, Z., E. Lee and D. Fisher. 2013. *Development of a Horizontal Slinky Ground Heat Exchanger Model*. ASHRAE Transactions: 119(2).

Chandrasekharan, R., E. Lee, D. Fisher and P. Deokar. 2013. *An Enhanced Simulation Model for Building Envelopes with Phase Change Materials*. ASHRAE Transactions: 119(2).

Cullin, J., Spitler, J. and E. Lee. 2013. *Preliminary Investigation of the Effect of Horizontal Piping on the Performance of a Vertical Ground Heat Exchanger System*. ASHRAE Transactions: 119(2):302-311.