CENTER FOR INTEGRATED BUILDING SYSTEMS
College of Engineering, Architecture and Technology

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Graduate Research Assistantships Available, MS/PhD, Energy and Environmental Science at Oklahoma State University

Major Advisor: Craig R. Bradshaw (craig.bradshaw@okstate.edu)

Desired Starting Semester: Summer or Fall 2023

Position Descriptions: Are you interested in energy or the environment? Consider one of the two open positions below at Oklahoma State University.

Position 1 – PhD or Post Doc: Development of models for heat pumps and their components, including compressors and heat exchangers, with low-Global Warming Potential (GWP), flammable, working fluids. The models developed will require use of first principles as well as machine learning techniques such as ANN and Elastic Net. The position will include interfacing with industry partners for knowledge transfer and collaboration. It will also include an opportunity for experimental efforts to supplement model development efforts, as desired by the candidate. This position is supported by the Center for Integrated Building Systems (CIBS). Will consider post-doc applications as well as PhD student applications. Desired skills include strong background or aptitude with Python/MATLAB/Julia or other interpreted languages as well as some experience with codebase management through GitHub or similar. For more information about the PhD program or to apply: https://go.okstate.edu/graduate-academics/programs/doctoral/mechanical-and-aerospace-engineering-phd.html

Position 2 – MS Position: Will develop and execute experiments on refrigeration compressors, and their components, to study the influence and optimal use of low-GWP refrigerants. It will utilize state-of-the-art test facilities to study compressor performance at OSU. This project is supported by CIBS, its industry partners, and the Oklahoma Center for the Advancement of Science and Technology (OCAST).

Position 3 – MS Position: This position will develop an experimental apparatus to study tornado formation. The experiment will explore the correlation between condensate formation and thermodynamic nonequilibrium on the generation of infrasound in tornados. It will utilize state of the art environmental chambers at OSU to execute these experiments. This position will be supported by Dr. Brian Elbing and the Gordon Moore Foundation.

For positions 2 and 3, desired skills include background in refrigerant, airflow and psychrometric instrumentation, strong fundamentals in fluid mechanics and thermodynamics and an interest in independent development of laboratory experiments. For more information about the MS program or to apply: https://go.okstate.edu/graduate-academics/programs/masters/mechanical-and-aerospace-engineering-ms.html

General Application Information: Reach out to Dr. Bradshaw with CV ahead of application. If there are questions regarding the application process, contact maeacad@okstate.edu.

1/3/2023