Mechanical/Architectural Engineering
Texas A&M University
Ph.D. Position Opening in Smart and Connected Buildings, HVAC&R Efficiency and Decarbonization

Multiple Ph.D. positions are available in the *Building Energy and HVAC&R Systems Research Group* at **J. Mike Walker '66 Department of Mechanical Engineering** in Texas A&M University located in College Station, Texas starting from Fall 2023/Spring 2024 or later. 12-month stipend, tuition, health insurance, and conference travel will be covered for the position.

Students with a strong background in mechanical engineering (e.g., heat transfer, thermodynamics, dynamics and controls, etc.), architectural engineering, electrical engineering, building sciences and/or building modeling, simulation, or building controls are strongly encouraged to apply. Inquiries should be sent to Dr. Zheng O'Neill at zoneill@tamu.edu with a current CV.

For this position the applicant should have:

- Background in a relevant area such as mechanical engineering, architectural engineering, HVAC&R engineering, electrical engineering, and energy management
- Documented theoretical and practical experience with relevant methods (e.g., analyzing HVAC&R equipment/system and control systems, HVAC&R equipment modeling, building energy performance simulations and experiments)
- Excellent spoken and written English language skills

The following skills are desired but not required:

- A Master's degree in engineering
- Knowledge of whole building simulation program (e.g., EnergyPlus)
- Knowledge of building controls and automation systems and/or power grid system
- Knowledge of vapor compression cycle/heat pump system and/or desiccant
- Knowledge of object-oriented modeling language Modelica/Dymola
- Knowledge of statistics fundamentals, Matlab, Python and LabVIEW
- Hands on experiences with HVAC&R equipment and building automation system

Emphasis will also be placed on:

- The candidate's motivation, passion and personal qualifications for the position
- The ability to work in an interdisciplinary research team
- Personal creativity and innovation

The Building Energy and HVAC&R Systems Research Group (https://hvac.engr.tamu.edu) is actively conducting research in the area of building technology covering integrated building energy and control systems design, modeling and optimization; heat pump systems; dehumidification; occupant-centric control; grid-interactive efficient buildings, smart and connected communities; well-being in the built environment; and uncertainty qualifications in buildings. Current support is from DOE (Department of Energy), ARPA-E (Advanced Research Projects Agency – Energy), ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers), NSF (National Science Foundation), and private industry.

The Texas A&M University College of Engineering is one of the largest engineering schools in the U.S., and consistently ranks among the nation's top public undergraduate and graduate engineering programs. Mechanical Engineering is ranked **No. 4** internationally, **No. 1** nationally among mechanical engineering programs for 2022 by ShanghaiRanking, and **No. 7** among public institutions by 2023 U.S. News and World Report. More information can be found at https://engineering.tamu.edu/mechanical/index.html.

The University is located on a beautiful residential campus in College Station, a dynamic and resilient community in the center of the region known as Texas Triangle. It is 90 miles (145 km) northwest of Houston and 87 miles (140 km) northeast of Austin. The area offers excellent climate, minimal urban congestion, and abundant outdoor recreation. The College Station community provides rich cultural, educational, and athletic activities for a broad range of lifestyles.