Multiple PhD positions are available in the Building Energy and HVAC&R Systems Research Group (http://hvac.ua.edu) at the Department of Mechanical Engineering in The University of Alabama located in Tuscaloosa, Alabama starting from August 2018 or later. 12-month stipend, tuition and health insurance will be covered for this position.

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

*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 (analyzing HVAC&R and control systems in buildings, energy-efficiency improvement, building performance modeling and simulations)
- Excellent English language skills, written and spoken

*The following skills are desired but not required:*

- A Master’s degree in engineering
- Knowledge of building simulation program including EnergyPlus and/or TRNSYS
- Knowledge of building controls and automation systems
- Knowledge of heat pump system
- Knowledge of object oriented modeling language Modelica/Dymola
- Knowledge of statistics fundamentals
- Knowledge of Matlab

*Emphasis will also be placed on:*

- The candidate’s motivation 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 was established by Dr. O’Neill. The lab is actively conducting research in the area of building technology covering integrated building energy and control systems design, modeling and optimization, building commissioning, real time decision support system in buildings for fault detection and diagnostics, ground source heat pump systems, low energy/net zero energy buildings, building and grid integrations, uncertainty qualifications in buildings, smart and connected communities. Past and current supports are from the Department of Energy, ARPA-E (Advanced Research Projects Agency-Energy), ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers), NSF (National Science Foundation), New Buildings Institute, and industry.

Established in 1831, the University of Alabama currently serves over 37,000 students. Ranked among the top 50 public universities in the nation in U.S. News and World Report’s annual college rankings for more than a decade, the University offers an impressive array of academic programs leading to bachelors, masters, and doctoral degrees. More information on The University of Alabama can be found at http://www.ua.edu.

The University is located on a beautiful 1,168 acre residential campus in Tuscaloosa, a dynamic and resilient community of over 150,000 in central Alabama. Tuscaloosa is conveniently located between Atlanta, New Orleans, and the white sandy beaches of the Gulf coast. The area offers excellent climate, minimal urban congestion, and abundant outdoor recreation. The Tuscaloosa community provides rich cultural, educational, and athletic activities for a broad range of lifestyles.