**Project Description**

- **Objective:**
  - Develop a method for evaluating the impact of occupant behaviors on building energy use.

- **Problem:**
  - Building energy simulation is inaccurate due to various occupants' behaviors.

**Discussion**

- Simulation program was validated with the actual energy use in HLAB building with error less than 14%.
- Adjustment of thermostat set point and clothing behavior could lead to more than 25% variation in interior offices and 15% variation in exterior offices, respectively.

**Approaches**

1. Measurements of energy use in HLAB offices
2. Energy consumption simulation and ANN model implementation for office buildings by EnergyPlus
3. Validation of the simulation results with measured data

**Results**

- Energy use measurement in VAV box
- Behavior data for ANN model training
- Energy use simulation results by implementing behavior ANN model

*Adjusting thermostat led to 25% variation of energy use in office*