

PROFESSIONAL EXPERIENCE

Project Management

- **Client satisfaction** assurance

HVAC System Design

- Design of **advanced HVAC systems**, including laboratory ventilation and dedicated outdoor air systems (DOAS)
- **Temperature control system** application for building environmental comfort and energy efficiency

Energy Analysis

- **Design and implementation** of energy efficiency programs
- **Measurement and verification** of energy savings, for quality assurance and as part of third-party evaluations of efficiency programs
- **Performance optimization** of fan, pump, blower and compressed air systems



SELECTED PROJECTS

- **Health Care Facility Energy Studies & Energy Retrofit:** Project Manager and energy engineer for detailed, comprehensive energy studies and energy retrofit work at numerous health care facilities. Includes Gundersen Lutheran in La Crosse, Wisconsin, Bellin in Green Bay, Wisconsin, Aurora Sinai and St. Joseph's in Milwaukee, Wisconsin, and at least a dozen additional facilities.
- **Wilson College, Chambersburg, Pennsylvania:** Project Manager and mechanical engineer for the replacement and expansion of HVAC, electrical and plumbing systems for 51,000 SF of renovation and 21,000 SF of addition to a college science and laboratory building.
- **Luther College, Decorah, Iowa:** Project Manager and mechanical engineer for the design and installation of a campus-wide energy management control system (EMCS), resulting in a 17% annual reduction in energy costs.
- **Alliant Energy, Madison, Wisconsin:** Developed utility program applying energy management control systems (EMCS) to save energy and facilitate load management in customer facilities. Included preparation of RFP to select an EMCS vendor, development of proposed load management rates, and training of utility account managers and technical staff.
- **University of Wisconsin, Madison, Wisconsin:** Project Manager for the Energy Audit and Analysis of the Clinical Science Center, a 1.4 million square foot hospital, teaching and research facility.
- **Wisconsin Department of Administration, Madison, Wisconsin:** Project Manager for Michaels' participation in the evaluation of the Wisconsin Focus on Energy Pilot and Statewide programs. Michaels provided engineering support to the evaluation process, including energy calculation review and on-site measurement and verification of energy efficiency projects.

EMPLOYMENT HISTORY

- **29 years experience**
- President – Michaels Engineering
- HVAC and Energy Engineer – Michaels Engineering

EDUCATION

- **Bachelor of Science, Mechanical Engineering** – University of Wisconsin, Madison

REGISTRATION

- **Professional Engineer** – Wisconsin, Minnesota, Iowa, Illinois, North Carolina, Pennsylvania