

Michigan State University – Biochemistry Building

Client Challenge:

The Department of Biochemistry and Molecular Biology (BMB) is a group of about 40 faculty, 140 graduate students and post-doctoral research associates, and over 300 undergraduate majors. The department is a focal point for biochemistry and molecular biology teaching and research, not only nationally, but globally. The University began the process of renovating the six-floor, 142,000 sq. ft. facility to ensure research integrity, energy efficiency, and laboratory safety in this state-of-the-art facility.

Ingenuity IEQ Solution:

Ingenuity IEQ installed a fully integrated Phoenix Controls airflow control system providing optimized airflow to laboratories throughout the building. The system provides control of all critical airflow and space pressurization control in the facility. Fume hood control is optimized using the Phoenix Controls Zone Presence Sensor® that assures the fume hoods will continue to save energy, even when researchers do not close the fume hoods. Ingenuity IEQ also worked closely with MSU and the design engineer, Harley Ellis Devereaux, to implement a high performance Strobic Air high dilution exhaust system that efficiently and reliably removes fumes from the building envelope.

Result:

Ingenuity IEQ worked closely with the University and the project design team to assure that the laboratory airflow control system would meet peak airflow usage requirements while allowing significant reduction during the working hours. This allowed designers to reduce capital costs during the building of the project and has the long term benefits of significant energy savings every day of the year. This energy savings offers significant annual cost savings to the University while reducing the carbon footprint of the facility.

After five years of system performance, Ingenuity IEQ has teamed with MSU to assure that this facility continues to operate at peak performance with all of the research changes, additions and program modifications. An extensive re-commissioning program (RCx), implemented jointly by Ingenuity IEQ and the University, periodically provides a thorough re-commissioning of the laboratories, documenting changes, optimizing airflow, and assuring peak operational and safety levels. This program continually provides peace of mind that the University continues to maintain a safe and energy efficient environment for researchers while demonstrating a 15 – 20% energy savings each year.

“I anticipate the system will pay for itself through energy savings in less than two years.”

~ Lynda Boomer, MSU



Client:
Michigan State University

Facility type:
Research

Technologies:
Phoenix Controls; Strobic Air

Location:
Lansing, MI

Square Feet:
142,000

Number of floors:
6

Number of Hoods:
78

Energy Savings:
30% reduction - 82,000 CFM

Date occupied:
August 2004

Architect/Engineer:
Harley Ellis Devereaux

Construction Firm:
Christman Company