

## Aircuity case study

# The Jackson Laboratory for Genomic Medicine

## Savings and Smooth Operations Right from the Start

**T**HE JACKSON LABORATORY (JAX) is an independent, nonprofit organization focusing on mammalian genetics research to advance human health. Jackson Lab's headquarters opened in Bar Harbor, Maine in 1929 and today is home to 38 biomedical research teams. In an effort to expand their research impact, Jackson Labs proposed The Jackson Laboratory of Genomic Medicine. The new 16-acre, 183,845-square-foot, state-of-the-art genomic research facility is located on the campus of the University of Connecticut Health Center (UConn Health) in Farmington, Connecticut.



JAX is acutely aware of the large amount of energy consumed by a research facility. Based on the organization's priority of sustainable operations and focus on energy reduction initiatives, Jackson Labs wanted to ensure the new facility was designed to operate as efficiently as possible from the very beginning. The building also needed to be flexible in order to respond quickly to changes in research trends and accommodate unknown end users. To meet the goals of flexibility, the team of

Centerbrook Architects, Tsoi/Kobus & Associates, BVH Integrated Services and BR+A acting as the energy modeler needed to create a modern research space that could accommodate a variety of scenarios while keeping sustainability a priority.

### BUILDING OFF PAST SUCCESS

Aircuity was well known to many of the team members of Jackson Labs as they had previously installed a similar system in their East Research Building on their Bar Harbor campus. Aircuity was also installed in the UConn Health Center and architects Tsoi/Kobus & Associates had designed Aircuity's centralized demand control system, into a research lab at a leading hospital. Based on the ongoing energy savings that Aircuity was generating for Jackson Labs, the project engineers from BVH worked with Aircuity's channel partner, Flow Tech Inc., to design the solution into the new genomics facility as well.

### ENERGY SAVINGS, IEQ, FIRST COST AND MORE

Designing Aircuity into the Farmington, CT facility enabled Jackson Labs to achieve a substantial energy reduction while maintaining a high indoor environmental quality (IEQ). Additionally it helped the building run efficiently right from initial commissioning. Aircuity's solution was deployed in over a dozen training and conference rooms, a fitness center, a 200 seat auditorium, approximately 10,000 ft<sup>2</sup> of core service laboratories, 5,000 ft<sup>2</sup> of procedure rooms, 10,000 ft<sup>2</sup> dry lab space, and over 17,600 ft<sup>2</sup> of traditional wet laboratories.

The Jackson Laboratory traditionally follows established guidelines of 12 ACH occupied, 6 ACH

unoccupied, however Aircuity allowed for air change rates to be reduced to 4 ACH occupied and 2 ACH unoccupied in the new facility. Compared to the organization's typical baseline, Aircuity is saving Jackson Labs approximately \$80,000 annually. When combined with eligible energy conservation utility incentives, the project had a payback of approximately 3 years.

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John Fitzpatrick, Senior Director, Facilities  
**The Jackson Laboratory**

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In addition to the operational benefits of energy savings and IEQ, installing Aircuity's platform provided first cost savings. Aircuity was used to complement the inclusion of chilled beams and overall lower air flows, which allowed for a reduction in the size of such components as fans and ductwork. These reductions also facilitated a first cost savings.

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### SMOOTH OPERATIONS

The Jackson Laboratory for Genomic Medicine was completed in October of 2014 and is fully operational. Staffing of researchers has begun with

over 150 employees currently occupying the facility and will continue to grow over the next several years with an overall target of 315. The building's flexible layout, energy efficiency, and high IEQ leads to smooth operations, which is used as a recruiting tool to help draw top talent. While it is early in the building's lifespan, initial operating conditions have met performance expectations for air quality, thermal comfort, and energy consumption.

### ABOUT THE JACKSON LABORATORY

The Jackson Laboratory is an independent, non-profit biomedical research institution and National Cancer Institute designated Cancer Center based in Bar Harbor, Maine, with a facility in Sacramento, Calif., and a new genomic medicine institute in Farmington, Conn. It employs a total staff of more than 1,600. Its mission is to discover precise genomic solutions for disease and empower the global biomedical community in the shared quest to improve human health. For more information visit: [www.jax.org](http://www.jax.org).

### ABOUT AIRCUITY

Aircuity creates smart airside solutions through its intelligent building platform, significantly reducing energy costs and improving the indoor environmental quality for occupants. As the demand control solution, Aircuity optimizes ventilation rates through its patented technology. As a result, commercial, institutional and lab building owners can lower operating costs, protect occupants and verifiably reduce energy use by as much as 60 percent. Founded in 2000 and headquartered in Newton, MA, Aircuity's solutions have benefited over 400 organizations such as Google, Amazon, Eli Lilly, Masdar City, the University of Pennsylvania, and the University of California-Irvine. For additional information on the company and its solutions, please visit: [www.aircuity.com](http://www.aircuity.com).

