Merit Award
Up to US $10M

ROBERT L. PREGER INTELLIGENT WORKPLACE
CARNEGIE MELLON UNIVERSITY

Pittsburgh, PA

JUROR'S COMMENTS

The building addition is an attentive combination of design, architectural details and daylighting, which helps enhance the workplace and complement and reinforce the existing, historical building.

This project is a 7,000 sq. ft. living laboratory constructed as a rooftop addition to an existing academic building on a large urban university campus. The laboratory mission is to research office environments and innovations aimed at improving the quality of work life for the 50% of U.S. workers who work in offices through advances in individual comfort and productivity, organizational flexibility, technological adaptability and environmental sustainability.

In addition to its primary research focus, the project had to fit the environment of the historic building upon which it is sited as well as the surrounding campus. By breaking the massing of the new structure into a series of modular bays that support asymmetrical saw-tooth

hipped-roof configurations, the roof form not only maximizes solar orientation but creates a breakdown in scale sympathetic with the roofscape of the campus. Each of the 4.8m bays is enclosed by a high-performance curtain wall system and solar control system. The rhythms and color reflect both internal structure and program needs as well as the rhythms of the historic terra cotta facade.

The internal planning is conceptualized as an "intelligent village" to maximize interaction while retaining opportunities for occupants to withdraw into "coves" of greater privacy. Working with major vendors of workstation technology, researchers will test new workgroup configurations and provide feedback to manufacturers on how to more fully integrate their products with HVAC, lighting and ergonomic technologies. Throughout the project, opportunities to integrate multiple building systems in a flexible manner have been addressed. The exposed structure made of recycled steel was designed with modular, bolted connections that allow for the integration of mechanical, electrical and telecommunications systems. This

modular steel system demonstrates the design's flexibility and potential use in other facilities with differing size requirements. Below the raised floor system, the spacing of the structural members forms the "chassis" of the building, allowing the reuse of the project's concept in future projects.

The $4 million facility provides training in material, component and systems choices and their integration for performance and in instrumentation and metrics for evaluating performance and occupancy comfort. The facility enables the interchangeability and side-by-side demonstrations of innovations in HVAC, enclosure, interior and telecommunication components and assemblies. As a "lived-in" office, research and educational environment, the facility provides a testing ground to assess the performance of new products in an integrated, occupied setting.

The facility is not a temporary demonstration project but rather a dynamic environment for teaching and evaluating how integrated building components, systems and assemblies affect building performance. In-house post-occupancy research is critical to validating simulation and assessing performance in an integrated setting. As a testbed of new ideas and a demonstration center for successful innovations, combined with innovative "officing" concepts and portable diagnostics, the facility is a unique living laboratory of office environments.

PROJECT TEAM

ARCHITECT:
Bohlin Cywinski Jackson,
Wilkes-Barre, PA

OWNER:
The Center for Building Performance and Diagnostics, Carnegie Mellon University, Pittsburgh

STRUCTURAL ENGINEER:
R.M. Gensert and Associates, Pittsburgh

STEEL FABRICATOR:
Littell Steel Company, New Brighton, PA

STEEL ERECTOR:
Alpha Steel, Kittanning, PA

STEEL DETAILER:
Littell Steel Company, New Brighton, PA

GENERAL CONTRACTOR:
Tedco, Carnegie, PA

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