

# Kavli Institute for Particle Astrophysics and Cosmology

STANFORD LINEAR ACCELERATOR CENTER  
MENLO PARK, CALIFORNIA

## Project Narrative

The Kavli Institute for Particle Astrophysics and Cosmology is designed to facilitate collaboration between theoretical and experimental physicists working to explore current problems in particle astrophysics and cosmology. Located at the Stanford Linear Accelerator Center (SLAC), the 25,000 sq. ft. building provides offices, labs, and meeting rooms for the researchers as well as a state-of-the-art auditorium for lectures and conferences.

The building anchors the central SLAC quad with materials and massing sympathetic to existing buildings and provides a prominent image of SLAC to visitors entering the campus. Views to the Stanford Campus and the Bay are framed through large office windows and a double-height bay window at the east end.

Principles of sustainability and resource-efficiency are integral to the design. Proper solar orientation, sunshading, and spectrally-selective glazing control direct sun penetration while allowing for daylighting and views through large window openings. A mixed-mode mechanical system featuring an underfloor-air distribution system combined with natural ventilation provides heightened comfort and occupant control while significantly reducing energy use. Efficient lighting fixtures and occupancy sensors reduce lighting energy use.

The plan organization and a raised-access floor system allow for maximum flexibility to meet ever-changing research needs without costly modifications over time.

## Energy Performance Data

Detailed energy modeling was not completed for this project. Since the chilled water used for cooling is drawn from a campus loop, it is extremely difficult to monitor actual energy performance. However various sustainable strategies incorporated into the building's design promise exceptional energy efficiency and occupant comfort, including:

- 1.) Proper solar orientation and sunshading, which keeps the direct sun and heat out while allowing excellent daylighting.
- 2.) Underfloor air delivery (UFAD), which allowed the team to introduce air at relatively high temperatures and low velocity during cooling mode.
- 3.) Natural ventilation through operable windows and clerestories. This is not tied into the controls system and is mostly intended for use during the spring and fall when outside temperatures are appropriate.

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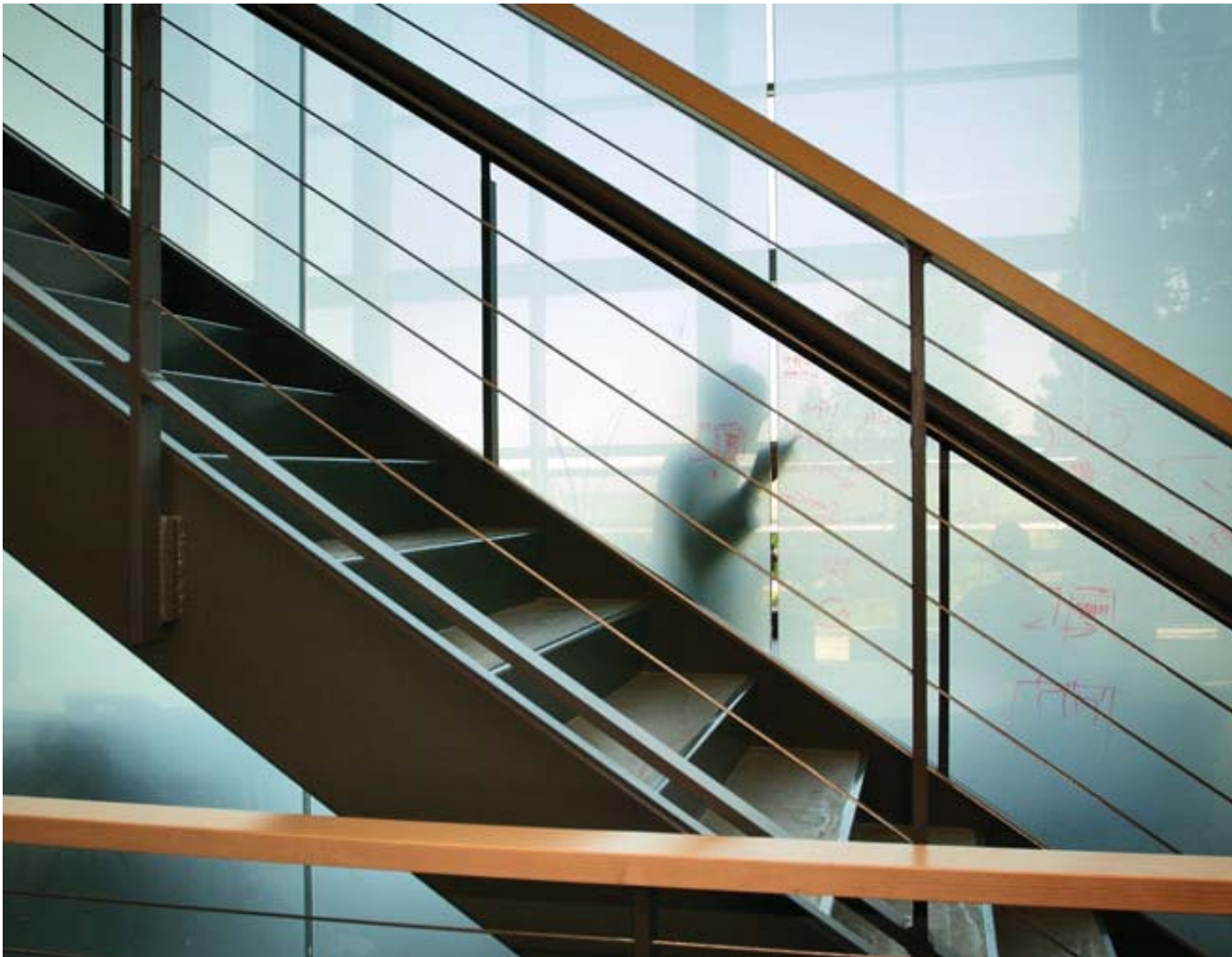
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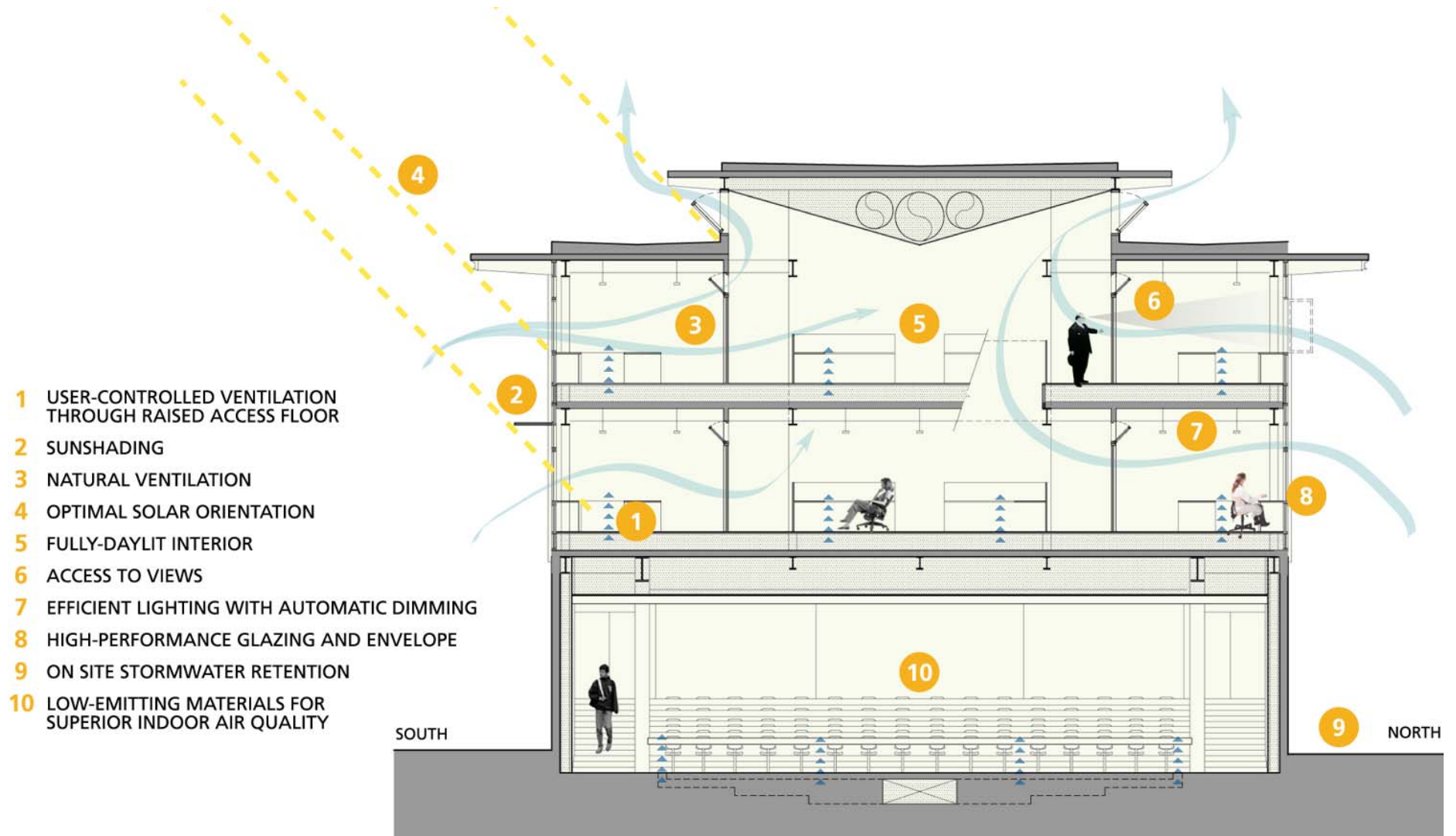
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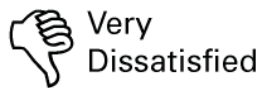
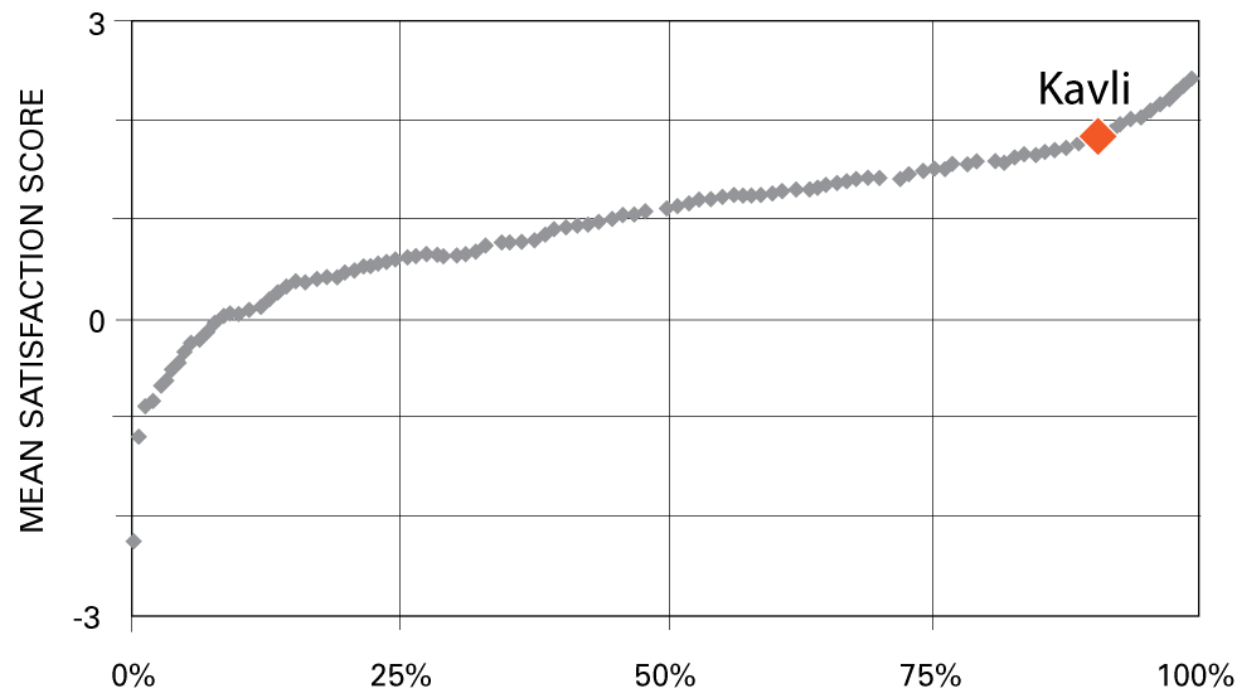


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## Center for the Built Environment Post-Occupancy Survey Rankings



◆ Represents other surveyed buildings in the CBE database

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## Project Team

Architect of Record: EHDD Architecture

General Contractor: Devcon Construction

Structural: Rutherford & Chekene

Mechanical: Stantec (formerly Keen Engineering)

Electrical: JRA Electrical Engineering, Inc.

Civil: BKF Engineers

Acoustics: Charles M. Salter Associates

Cost: Oppenheim Lewis, Inc.

Landscape: GLS Landscape Architecture

Lighting/Daylighting: Benya Lighting Design

Soils: Lowney Associates

Waterproofing: Simpson Gumpertz & Heger

## Photo Credit

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