

LISE NANOTECHNOLOGY RESEARCH FACILITY

Harvard University
Cambridge, MA



PROJECT DESCRIPTION

Harvard's new Laboratory for Interdisciplinary Science and Engineering (LISE) is a state of the art nanotechnology research facility. The building contains a number of vibration sensitive labs, a Class 10 cleanroom and ten ultra-low vibration labs. Acentech provided a range of services for this project including architectural acoustics, mechanical system noise and vibration control and structural dynamics (footfall-induced vibrations on above-grade floors). We also provided specific structural dynamics analyses related to the loading dock and material transport corridors, particularly as they might affect the vibration environment in the cleanroom.

One of the unique and forward thinking aspects of the design was a series of ten rooms in the basement designed for ultra-low vibration environments. The rooms were designed with double concrete block walls for sound isolation and each room contained a massive inertia block (right, upper photo) that could be utilized by the researchers if needed. At present there is no need for the blocks to be fitted with vibration isolation systems, but this capability has been included in the design in the event that it is needed in the future.

Subsequent to base building completion, Acentech was involved in the fit-out of user-specific labs. This included the design of the audiovisual systems for conference rooms which include presentation systems and audio conferencing capabilities.

Acentech

CONSULTING SERVICES

- Architectural acoustics
- Mechanical system noise and vibration control
- Vibration measurements
- Structural dynamics
- Audiovisual systems

REFERENCE

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