

McCardell Bicentennial Hall Fact Sheet

Welcome to Middlebury College's multidisciplinary science facility, McCardell Bicentennial Hall. Completed in 1999, the building is home to seven academic departments (Biology, Chemistry and Biochemistry, Computer Science, Geography, Geology, Physics, and Psychology) and three programs (Environmental Studies, Neuroscience, and Molecular Biology and Biochemistry). Well-designed laboratories foster excellent science teaching and student/faculty research in an attractive, yet efficient setting. McCardell Bicentennial Hall's prime classroom space is used by science and non-science departments, with around 40% of the student body having at least one class scheduled in the building each term. In the summer, McCardell Bicentennial Hall becomes a major hub for both Middlebury's Language Schools and our active student/faculty science research programs. The building also houses the Armstrong Science Library, and a team of technical support personnel who work closely with students and faculty on research and teaching projects.

The building's design incorporates a number of **innovative features**. Eight Generic Laboratories can be reconfigured each term to meet the particular needs of the classes meeting in each space, thereby maximizing the efficient use of the building. Study lounges with bench seating and worktables are clustered at the end of each wing, and are used for lab breakout sessions, small group meetings, and individual study. Informal learning spaces, equipped with chalkboards, tables, and comfortable chairs, are located on the east and west sides of the Tormondsen Great Hall, and foster collaborative study, bull sessions, and conversations among students and faculty. The Tormondsen Great Hall itself, with its five story high atrium and window walls, serves as the building's "town square," visibly linking the various floors to create a more-intimate atmosphere, and encouraging collegial interactions among the various departments. Ethernet connections, where students may plug laptop computers into the campus network, are located in virtually every room in the building, including all of the public spaces listed above.

A good way to **tour the building** is to start at an upper floor and wend your way down. The west wing houses the generic laboratories, while most of the "wet" (utility-intensive) laboratories are located in the north wing. Most classrooms and seminar rooms open off of the main staircase.

A fine aerial view of the campus and Tony Smith's *Smog* sculpture can be had from the **7th floor** roof level, where the observatory is located (accessible via the left-hand elevator—change cars at the 6th floor, if necessary)

The building's floors are arranged largely by department. The **6th floor**, which offers the highest view of the Great Hall from its west corridor bridge, houses most of the **Computer Science Department's** labs and offices. The greenhouse, open during normal working hours, is also found here.

The **Physics Department's** labs and offices are located in the **5th floor** south wing, while 5th floor north houses the large **chemistry teaching labs**, as well as many student-faculty research labs and faculty offices.

Many of the **Geology Department's** labs and offices are in the **4th floor** south wing, and the remainder of the labs and offices of the **Department of Chemistry and Biochemistry** as well as a number of **biology labs** are located in the north wing.

Geography, including the Geographical Information Systems laboratory, is located in the **3rd floor** south wing, while most of the **Biology Department's** labs and offices are in the north wing.

The **Psychology Department's** labs and offices open off of the main level of the Great Hall on the north end of the **2nd floor**. Also fronting on this floor are the **Armstrong Library**, and in the south wing, the group of lecture halls that comprise the Symposium Suite.

Finally, the **1st floor** holds a high-tech lecture hall and seminar room, public computer labs, and the **Geology Department's** Lake Champlain research labs and major instrument facilities, including the scanning electron microscope (SEM). The instrument and modelmaking shops as well as other science support facilities are also located on this floor.

In keeping with Middlebury College's long-standing commitment to the environment, McCardell Bicentennial Hall incorporates a number of **"green" building features**. Most evident to visitors is the architectural millwork, which is made from certified, sustainably-harvested timber. The lumber was milled to make maximum use of each log, which means that many so-called "defects" such as unusual grain patterns, knots, and the like—which actually add character to the wood—are on display. The floors in the corridor are finished with linoleum (made from vegetable oil) rather than sheet vinyl. The gypsum wallboard is made partially from recycled material, and the roof deck is made from recycled plastic lumber. Less obvious, but even more important, are energy-saving features such as a heat-recovery loop to extract winter warmth or summer cooling from the building air before it is exhausted to the outside; extensive use of natural lighting; motion detectors in every room to turn off the lights should the room become unoccupied; high-efficiency fluorescent lighting; and triple-glazed high-E windows.

For **more information** about the building, contact Tim Wickland, Director of Sciences Support Services; office, MBH 333; telephone 443-5421.

General Facts about McCardell Bicentennial Hall

Architects: Payette and Associates, Inc., Boston, MA

Engineers: R. G. Vanderweil, Boston, MA

Builder: Barr and Barr, Inc., Framingham, MA

Size: 116,000 net square feet of program space; 226,000 gross square feet

Millwork: 125,000 board feet of sustainably-harvested timber, 2/3 of which is from small Vermont family woodlots; primarily red oak, but also sugar- and red maple, beech, birch, ash, and cherry (each floor on each wing, and each lecture hall, has a single type of wood).

Cost: \$38.6 million building construction cost; \$47.3 million total project cost

Time frame: building occupied in September, 1999; total time from initial planning stages to occupancy: 10 years; design phase: 1.5 years; construction phase: 26 months

Occupants: over 90 faculty and staff from 7 academic departments (Biology, Chemistry and Biochemistry, Computer Science, Geography, Geology, Physics, and Psychology); 3 programs (Environmental Studies, Neuroscience, and Molecular Biology and Biochemistry); Sciences Technical Support Services staff; and the Armstrong Science Library.

Academic Program Spaces

5 seminar rooms: 148, 331, 430, and 530 (18 seats each); and 631 (10 seats)

3 classrooms: 338, 438, and 538 (35 seats each)

4 lecture rooms: 104 (60 seats), 216 (150 seats), 219 (50 seats), 220 (100 seats)

3 open computer classrooms: 116 and 117 (24 seats total); 161 (in library, 12 seats)

8 generic laboratories in west wing on levels 3, 4, and 5

22 specific-function teaching laboratories: 7 in Biology (235, 360, 365, 366, 370, 464, 467);

4 in Chemistry (459, 557, 560, 563); 2 in Computer Science (505 and 632); 2 in Geography (317, 319);

2 in Geology (417, 419); 4 in Physics (509, 511, 517, 520); and 1 in Psychology: 236

48 Student/Faculty research spaces: 300-600 net square feet each

Numerous support and instrument labs

Major Building Facilities

Armstrong Science Library (levels 1W and 2W; entrance on 2)

Observatory dome (24" telescope) and 5000 square foot roof deck (three 8" telescopes)

Geographical Information Systems (GIS) laboratory (level 3S)

Advanced optical microscopy laboratory (level 3N)

Nuclear Magnetic Resonance (NMR) spectrometer (level 5N)

Scanning Electron Microscope (SEM) and Geology analytical instrument labs (level 1N)

Chemistry analytical instrument labs (levels 4N and 5N)

Animal facility (level 2N)

Instrument fabrication and repair, metalworking, welding, and woodworking shops (level 1N)