

PAYETTE NEWS



Over the past decade, academic medical institutions have been implementing a new class of high-end imaging technology. These go beyond the natural evolution of conventional imaging technology, such as ever increasing resolution, power and accuracy.

Trends in High-End Imaging

The emphasis has been shifting from equipment that improves traditional techniques, to one that enables new capabilities.

Given the high cost of the equipment associated with traditional imaging facilities, there is a natural pressure to use these spaces for clinical purposes, maximizing the number of cases. What is unique about these new types of facilities is the integration of research capability into the clinical realm. The introduction of research functions also enables access to outside funding, such as research grants from the National Center for Image-Guided Therapy (NCIGT), which is NIH's central resource for all aspects of research into image-guided procedures.

This new type of imaging facility, integrating clinical and research functions, is driven by new programmatic initiatives,

including: the development, testing and refinement of innovative surgical techniques; the invention of new image-guided therapies; the reengineering of surgical implants, devices and the creation of new translational settings required to accommodate a new generation of multidisciplinary teams.

New imaging suites serve the dual purpose of a state-of-the-art clinical environment and high-end research laboratory. They are medical and surgical research environments, housing a vast array of advanced imaging equipment and interventional surgical systems. Multidisciplinary teams of specialists use this equipment array to efficiently and precisely guide treatment — before, during and after surgery — without the patient or medical team ever leaving the operating room. These operating and imaging research suites encourage

collaboration among multidisciplinary teams of surgeons, interventional radiologists, imaging physicists, computer scientists, biomedical engineers, nurses and technologists.

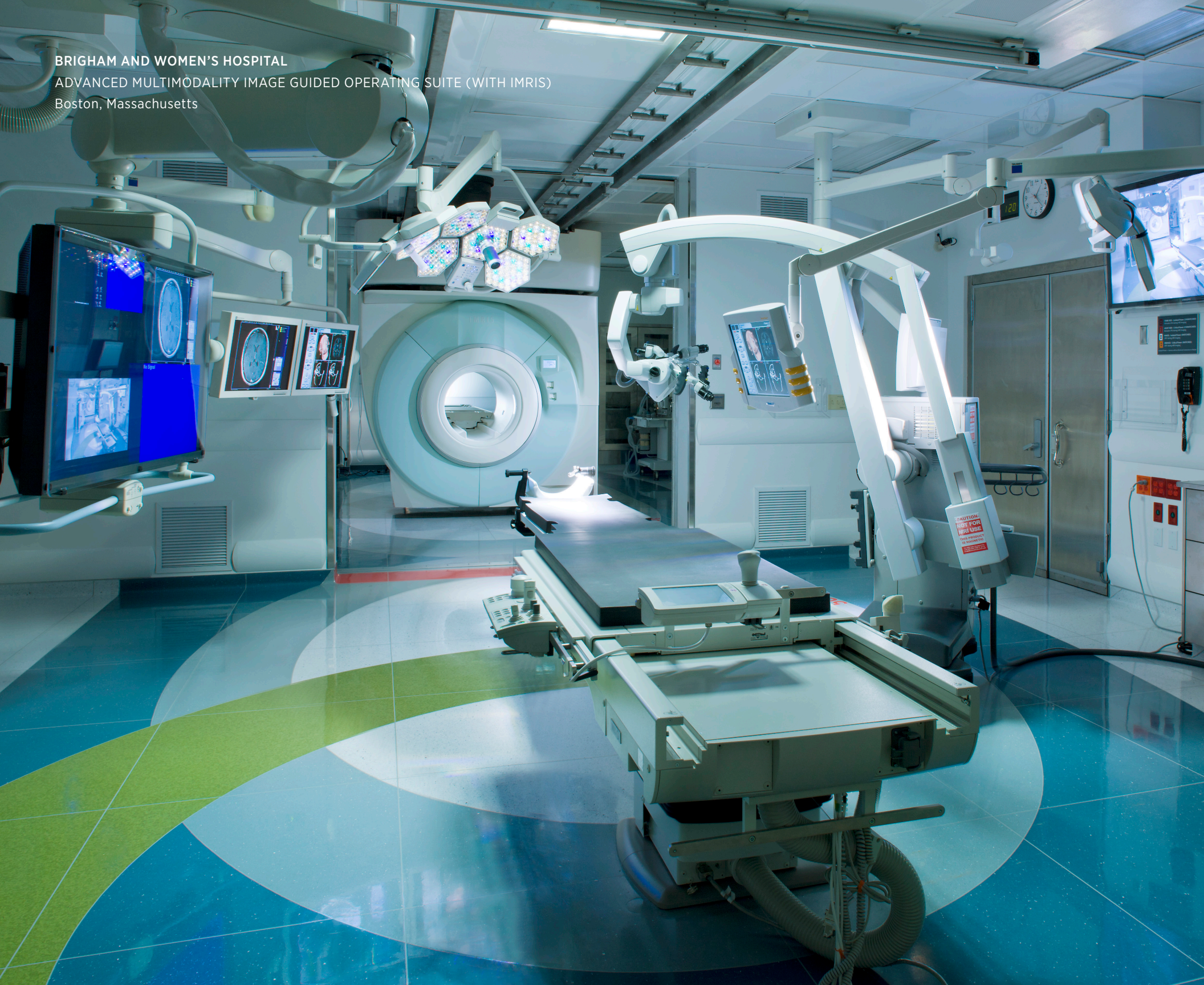
In order to accommodate this integration, a new type of facility is needed. Payette has been leading the way with several projects that push the envelope along this new path.

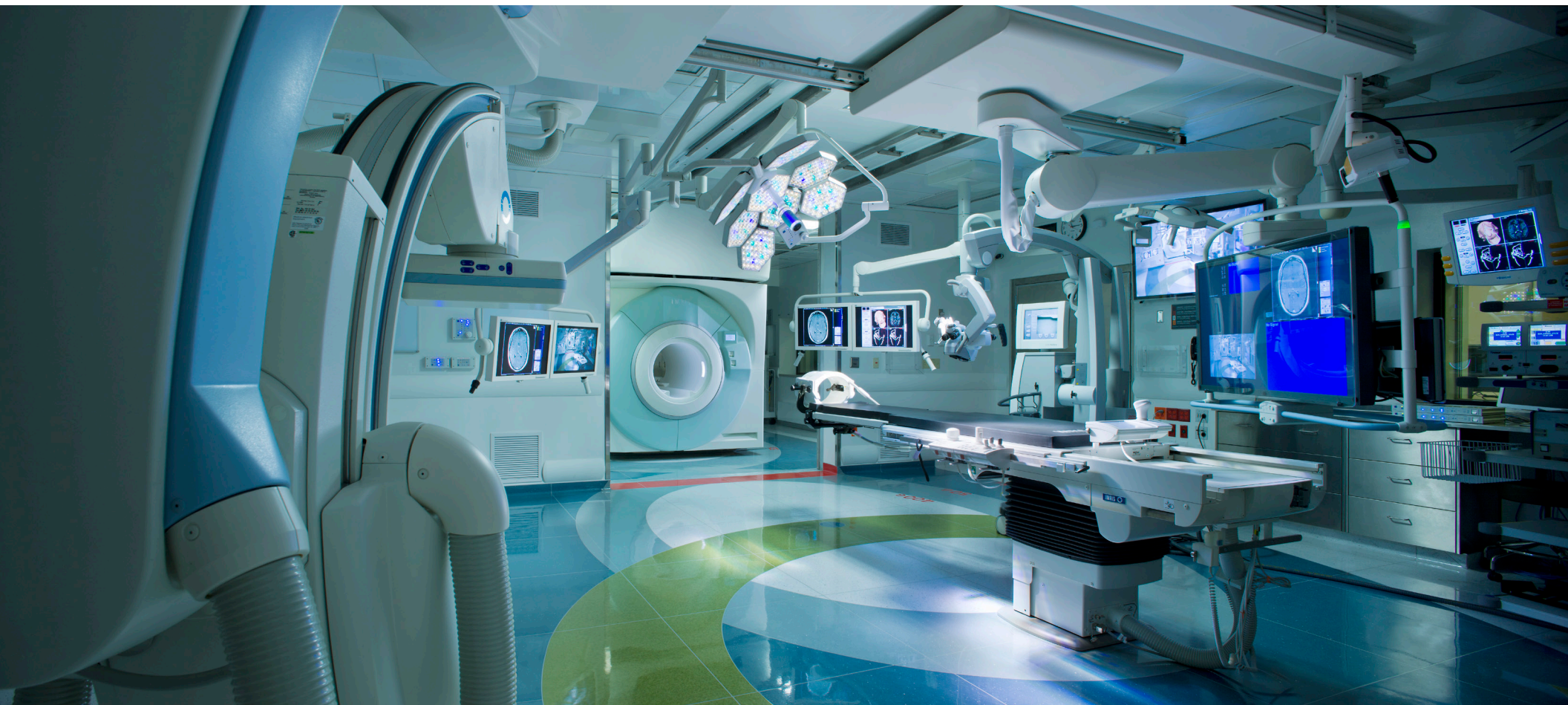
Earlier this year, the Advanced Multimodality Image Guided Operating (AMIGO) Suite was completed at Brigham and Women's Hospital. The 5,700 square foot suite consists of three separate yet integrated procedure rooms: MRI Room, Operating Room and PET/CT Room. The Suite is designed so that multidisciplinary medical teams can move effortlessly throughout to access any of the advanced imaging and surgical technologies available, whether before, during, or after the procedure. AMIGO is one of the first operating suites in the world to integrate the use of this wide variety of advanced imaging technologies, including cross-sectional digital imaging systems such as CT and MRI; real-time anatomical imaging; and molecular imaging, such as beta probes, PET/CT, and targeted optical imaging. Physicians use the suite to incorporate research

protocols designed to enhance standard clinical procedures and to develop new therapeutic approaches, including image-guided therapy in open brain surgery, radiation treatment of prostate cancer and gynecological tumors, breast conserving therapy, MRI-guided cryoablation, treatment of cardiac fibrillation and brain tumor laser ablation.

At Dartmouth-Hitchcock Medical Center, the new seminal 14,000 square feet Advanced Surgery Center and Clinical MRI Addition will open in the spring of 2013. This facility will utilize image-guided precision surgery for multimodal research initiatives. Imaging and surgical space will be used for both clinical procedures and translational research on humans as well as on animal research subjects in a single multi-functional inter-operative suite. Clinicians and researchers will have access to both a ceiling mounted movable MRI and a first-of-its-kind ceiling mounted CT scanner from a single operating room. Furthermore, provisions have been made to integrate future angiography. Intensive logistical planning and utility support have been built in to accommodate future research modalities. The immediate goal of this facility is to offer the potential to improve and develop new surgical procedures, especially in the field of orthopedics, cardiology and oncology.

BRIGHAM AND WOMEN'S HOSPITAL
ADVANCED MULTIMODALITY IMAGE GUIDED OPERATING SUITE (WITH IMRIS)
Boston, Massachusetts





UNIVERSITY OF MASSACHUSETTS, AMHERST
CNS RESEARCH & EDUCATION GREENHOUSE
Amherst, Massachusetts





PRINCETON UNIVERSITY
FRICK CHEMISTRY LABORATORY
Princeton, New Jersey



Payette, Architect, in collaboration with Hopkins Architects, Design Architect





BRIDGEWATER STATE UNIVERSITY
SCIENCE AND MATHEMATICS CENTER
Bridgewater, Massachusetts





WHEATON COLLEGE
SCIENCE CENTER
Wheaton, Illinois





HARVARD UNIVERSITY
SHERMAN FAIRCHILD RENOVATION
Cambridge, Massachusetts





(1)



(2)



(3)



(4)



(5)

RECENT FIRM NEWS

The Sherman Fairchild Renovation for Stem Cell and Regenerative Biology at Harvard University has achieved **LEED Platinum Certification**. Achieving 95 points out of the 110 possible, the Sherman Fairchild Renovation currently holds the highest LEED points achieved for any research lab.

The University of Massachusetts Medical School Ambulatory Care Center has achieved **LEED Silver Certification**.

Jeff Zynda has been a contributing author on a *Tradeline* panel of ten laboratory architects and planners regarding industry trends and the future of research, “**Research and Research Facility Futures.**”

Payette ranked **8th** overall in **The Architect 50**, determined and published in *Architect Magazine*.

CONFERENCES & LECTURES

Christopher Baylow presented “**Putting Pedagogy, Planning, and Architecture to the Test Through Post-Occupancy Evaluation**” at **SCUP-47** in July.

Five Payette staff presented at **Architecture Boston Expo (ABX)** in 2012; Michael Hinchcliffe and Ranjit Korah presented “**The Good, the Bad and the Shady: a Sun-Shading Performance Retrospective,**” Andrea Love and Charles Klee presented “**Thermal Performance of Facades,**” Andrea Love and Brian Spangler presented “**Reduction by Ventilation.**”

Ian Adamson and Jeff DeGregorio presented “**Research: Maximizing “Space Value” with Rationalized Renovations and Reprogramming**” at *Tradeline: Space Strategies* in October.

Kevin Sullivan and Michael Hinchcliffe presented “**Space Mock-up and Prototyping Processes that Yield Big Efficiency and Productivity Results**” at *Tradeline: Academic Medical & Health Science Centers* in November.

RECENT AWARDS

Penn State Hershey (1)
CANCER INSTITUTE
AIA / Pennsylvania, Honor Award
AIA / New England, Merit Award
AIA / Modern Healthcare, Award Citation

Princeton University (2)
FRICK CHEMISTRY LABORATORY
SCUP / AIA-CAE, Merit Award
R & D Magazine
Lab of the Year, High Honors Award
AIA / Tri-State, Honor Award
Boston Society of Architects
Honor Award for Design Excellence
AIA / New Jersey, Merit Award

University of Massachusetts, Amherst (3)
CNS RESEARCH & EDUCATION GREENHOUSE
Boston Society of Architects, Award
AIA / New England, Honor Award

University of Massachusetts, Amherst
INTEGRATED SCIENCES BUILDING
Boston Society of Architects
Higher Education Award

Brandeis University (4)
CARL J. SHAPIRO SCIENCE CENTER
Boston Society of Architects
Higher Education Award Citation
SCUP, Honor Award for District Planning

Brigham and Women’s Hospital
ADVANCED MULTIMODALITY IMAGE
GUIDED OPERATING SUITE
Boston Society of Architects,
Healthcare Facilities

Veterans Affairs Medical Center (5)
SURGICAL PAVILION
Boston Society of Architects,
Healthcare Facilities

University of Massachusetts Medical School
AMBULATORY CARE CENTER
Boston Society of Architects,
Healthcare Facilities

Complete list at payette.com/awards

NEW COMMISSIONS

Boston College
Brown University
Columbia University
Cornell University
Dana-Farber Cancer Institute
Northeastern University
Skidmore College
Tufts University
The University of Alabama at Birmingham