

Dr. Fred Bowman, Ph.D.

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By Daon Ha

If you are looking into studying medicine or medical engineering after college, you don't have to look too far to find an excellent academic program. The graduate program available here at MIT is called Harvard-MIT Health Sciences and Technology (HST), in which MIT participates with Harvard in an interdisciplinary effort that combines medical science and technology with medical practice. HST provides programs for students seeking master's degrees, MD, and Ph.D. and also for those who wish to obtain both MD and Ph.D. Various programs for undergraduates are available as well, through HST, for students to participate and learn more about HST and the medical science.

HST is a unique program in the way that it conjoins the two fields of medical practice and medical research, the two disciplines that had existed in separation until HST began. Dr. Frederick Bowman, a UROP Coordinator and Senior Academic Administrator at HST, explained that this lack of connection between the two seemingly related fields generated difficulties in the development of both fields. One of the many problems was the gap in scientific development. The researchers, who had abundant knowledge, had no chances to find where to apply their knowledge, while those who work directly with patients and face the problems hands-on did not know the scientific concepts enough to come up with the appropriate solutions to the problems. In response to many complications like this, HST was founded in 1970 to combine the best of the two worlds, with a motto “bench to bedside,” aiming to bring the knowledge gained at a laboratory bench to the bedside of a patient. Thirty-five years later, HST now celebrates its prosperous turnout, with more than 400 graduate students enrolled and producing many successful alumni actively working at major research labs or practicing at renowned hospitals. Their titles range from a medical doctor to chairman of biomedical engineering department at a major university.

HST has doctoral programs in Medical Sciences, Medical Engineering and Medical Physics, Radiological Sciences, and Speech and Hearing Bioscience and Technology. Master's programs at HST include Biomedical Enterprise, Biomedical Informatics, Clinical Investigator Training, and Master of Engineering in Biomedical Engineering. But more importantly for undergraduate students, HST runs many programs specifically targeted for undergraduates. BioMatrix — Biomedical Sciences and Biomedical engineering: MIT Mentoring And Tutoring In Real-life Issues eXtended over time — gives opportunities for undergraduates to meet the students and faculties of HST. Any undergraduate at MIT can become a member of BioMatrix, and as a member one gets to learn about HST and the career in medical field while participating in the events such as casual monthly dinner, visiting laboratories, and shadowing a physician. Undergraduate students also can do UROP sponsored by HST, or participate in one of the 9-to-10-week summer programs.

<http://hst.mit.edu> (HST Website)