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The Harvard-MIT HST-MEMP Bioastronautics PhD Program

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A Part of NSBRI'S MENTORED RESEARCH PROGRAM:

To Educate the Next Generation of Leaders in Bioastronautics, Skilled in Engineering, Space and Biomedicine for Exploration

Recruit : At scientific meetings, via NSBRI investigators, or universities.

Applications (10-18) received December 15 Year 0

MEMP Admissions: 2-3 candidates invited to interview at MIT

Candidates are brought to Cambridge. Meet professors, visit laboratories

Interviews Only 1- 2 candidates are offered admission each year.

Fall Year I: Begin, explore. Meet potential mentors

Starting in 2017 the Bioastronautics Program will no longer fund the NASA/ISC Summer Experience. Selected students will participate in all of the regular MEMP activities.

Engineering courses, biomedical subjects, and .....

...thesis work in laboratory of mentor.

Winter II: Qualifying Exam

Rotation at Hospital, 12 Weeks, later, optional clerkship.

Defend thesis

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Courses (MEMP and Bioastronautics requirements plus electives-- Anatomy, Pathology, Pathophysiology, ..): Aerospace Biomedical and Life Support Engineering, Human Factors Engineering, Sensory-Neural Systems, Radiation Biophysics, Journal Article Seminar, Engineering Apollo: The Moon Project as a Complex System.

Nine PhD graduates, seven now in progress: Theses have investigated bone and muscle loss, radiation, balance and other topics in space biomedicine.

PhD Alumni are now at: Michigan, Blue Horizon, Baylor College of Medicine/Rice, MEI Technologies, GWU Hospital, SpaceX, Exponent, and UCSF. The 16 fellows and alumni/ae received their undergraduate degrees from Kentucky, Vanderbilt, Princeton (2), Oklahoma, Georgia Tech, MIT (2), Colorado, SUNY Stony Brook, Johns Hopkins, Clarkson, Connecticut, Columbia, Washington (St. Louis), and Supaero.

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