MIT's Man Vehicle Laboratory turns 50

Massachusetts Institute of Technology
Founded in 1962, MIT’s Man Vehicle Laboratory (MVL) is celebrating its 50th anniversary this year.

The laboratory — housed within the MIT Kavli Institute for Astrophysics and Space Research (MKI) — has had since its inception the goal of better defining the physiological and cognitive limitations of pilots and passengers of aircraft and spacecraft, and optimizing overall human-vehicle system effectiveness and safety.

Previous research projects have included work on adaptation to artificial gravity, research into new space suits and gloves [1], work on robotic arms [2] and much more.

The research is interdisciplinary, utilizing techniques from manual and supervisory control, estimation, signal processing, biomechanics, cognitive psychology, artificial intelligence, sensory-motor physiology, human factors and biostatistics. Students are from the Department of Aeronautics and Astronautics, and also the Departments of Electrical Engineering and Computer Science and Mechanical Engineering, and the Harvard-MIT Division of Health Science and Technology.

To honor it 50th anniversary, the MVL is hosting a daylong symposium and celebration on Sept. 14 [3], on the subject of human-vehicle interactions. The symposium, to be held in the Bartos Theater of the Media Lab at MIT, will trace the people and research streams over a half century — from Doc Draper’s earliest desires to have us describe pilots as components of a control loop, through study and modeling of the balance mechanism of the inner ear and its role in aircraft and spacecraft control, to extensive human space flight experiments. More than 200 graduate theses and 900-plus publications have documented the research — and the MVL has emerged as a leading international force in space life sciences and aerospace biomedical engineering.

Two of the laboratory’s three directors over that 50-year span — Larry Young and Chuck Oman — along with current faculty members, Dava Newman, Jeff Hoffman and Julie Shah, and staff will welcome a returning group of about 50 graduate alumni and distinguished friends from NASA and the aerospace industry. In the course of panels, devoted to each decade, they will attempt to place their experiences at MIT into the context of their professional development and their views of future challenges that would demand the attention of the engineering, medical and physiology expertise of the MVL.

Current graduate student projects will be on display in Building 37 and at a reception following the symposium in the Marlar Lounge (37-252) from 4-6 p.m. on Sept. 14.

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Links:
[1] http://web.mit.edu/newsoffice/2010/astronaut-gloves-1013.html
[2] http://web.mit.edu/newsoffice/2008/robot-arm-0528.html
[3] http://events.mit.edu/event.html?id=14983928