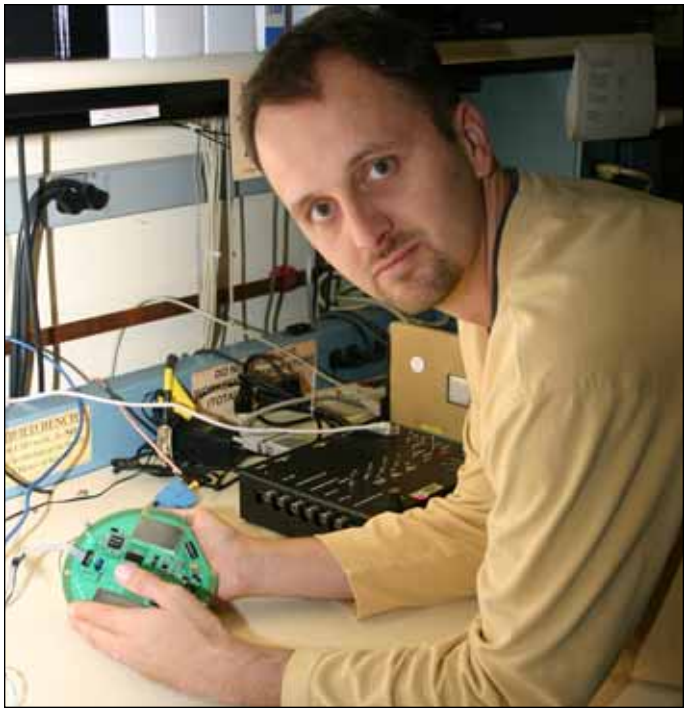
A Neural-Network-Based Approach for Control of Vibration in a Black Hawk Helicopter

Heidar A. Malki, Karolos Grigoriadis, José Canelon



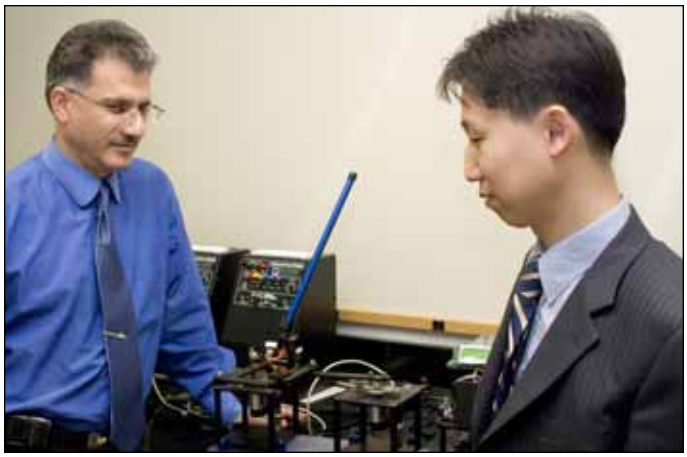
Faculty in the College of Technology and the Cullen College of Engineering have devoted efforts to the development of a time-domain approach for control of the vibration in a Black Hawk helicopter in an ISSO project funded in 2004. As a result of this grant, two papers have been published and one proposal submitted since the Y2004 report.

Publications

Bai, Y., and K. M. Grigoriadis. "H-Infinity Collocated Control of Structural Systems: An Analytical Bound Approach," *J. Dynamical Sys. Measurement and Control* 28.5 (2005): 850-54.

Canelon, J. I., H. A. Malki, S. A. Jacklin, and L. S. Shieh. "An Adaptive Neural Network Model for Vibration Control in a Black Hawk Helicopter," *J. Am. Helicopter Soc.* (Oct. 2005).

GPS RECEIVER—In the NASA Navigation Systems and Technology Lab, R. Steven Provence (upper *l.*), a doctoral student in the UH Department of Electronic and Computer Engineering, holds in his hands the newly developed GPS receiver he designed to work on-orbit. It provides accurate measurements for navigation and docking.



INTERNATIONAL COLLEAGUES—Dr. Heidar A. Malki (*l.*) discusses helicopter controls with Dr. Ho Jae Lee (*r.*) Visiting Associate Professor in the Department of Electrical and Electronic Engineering at Yonsei University in Seoul, Korea.

Military photograph

MILITARY MOBILITY—The UH 60 Black Hawk, a highly mobile aircraft manufactured by United Technologies (Stratford, CT) and General Electric (Lynn, MA) for the U.S. army.