

CIM

RHEX, A NEW SIX-LEGGED ROBOT

A new robot creature was recently seen scurrying around the hallways at CIM. While insects inspired the creature's novel design, pest control is not likely to be necessary to keep it in check: RHex only goes where it is wanted. It was built in a remarkably short time – six weeks – by Liana Mitrea (U3 Mechanical), and Uluc Saranli, a visiting PhD student from the University of Michigan.

Propelled by a stunningly simple mechanical design, it has proven to be far more nimble on rough terrain than previous legged robots. Spurred on by the robot's initial success, members of the cross-discipline collaborative research project that links McGill with the University of Michigan and the University of California, Berkeley, have already begun to craft the next generation robot.

With running speeds of one meter per second and the capability to jump over ditches and scale obstacles, RHex I might be the first legged robot with a leg up on tracked vehicles that have dominated rough terrain locomotion to date. Photos and videos of RHex 0 and other robots at the Ambulatory Robotics Lab can be found at www.cim.mcgill.ca/~arlweb.

The lab is headed by Professor Martin Buehler (Mechanical) with the McGill project students Dave McMordie (Electrical '99) and Ned Moore (U3 Mechanical). This project is funded by DARPA (Defense Advanced Research Projects Agency) the central research and development organization for the U.S. Department of Defense (<http://www.darpa.mil/>). Professor Buehler reports that "McGill is one of the world leaders in legged locomotion."

