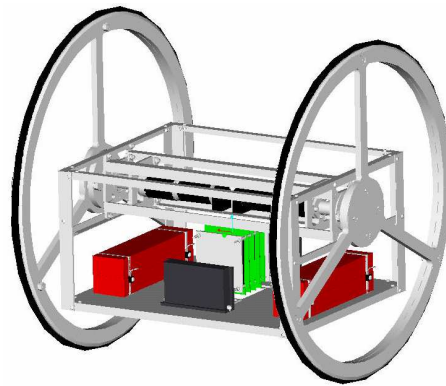
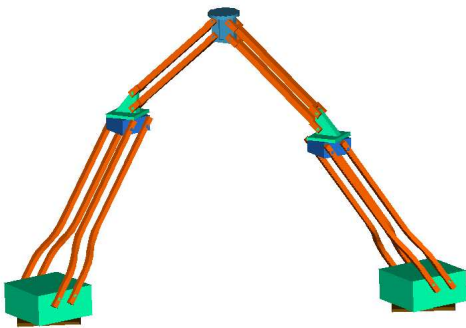


Winter Term 2004

## MECH 573 Mechanics of Robotic Systems

### Beyond Industrial Robots



Since the development of the first manipulators under computer control in the late sixties, e.g. the Stanford Arm in the USA, robotics has matured and given rise to a spectrum of systems unforeseen in the early days. Currently, the quest for faster, more accurate and more economical motion generators has prompted the development of novel robot architectures, a paradigm of the which is those commonly referred to as *parallel-kinematics machines*. However, the needs for robotic devices are not satisfied with manipulators alone. Mobile robots are in high demand, to assist humans in many tasks, like planetary exploration, devices catering to the mobility-challenged, and so on. This is why intensive R&D is currently under way worldwide in the development of legged and wheeled robots.

This course covers the mechanics of robotic systems at large: decoupled and coupled serial manipulators; parallel manipulators; mechanical hands; legged robots; and wheeled robots. Issues pertain to the design and path-planning of these systems.

Prerequisites: *MECH 572 Introduction to Robotics* or permission of the instructor.

For further details, please contact the Instructor, Jorge Angeles, and consult the course Web site at the addresses below:

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[www.cim.mcgill.ca/~rms1/courses/573](http://www.cim.mcgill.ca/~rms1/courses/573)