# Mechatronics Vehicles System Lab

<http://resonance.uwaterloo.ca/>

## Location

DC 1704

## Management

Director:

* Amir Khajepour ([a.khajepour@uwaterloo.ca](mailto:a.khajepour@uwaterloo.ca); x36159)

## Users

* Research team
  + Post-Docs
  + Graduates (mechanical engineering)
* Industrial Partners:
  + MapleSoft
  + General Motors
  + Cooper Standard Automotive
  + Industrial Tooling Solutions
  + Auomation Tooling Systems
  + Liten Automotive Groups
  + Magna International
  + L-3 Communications
  + Canadian Space Agency

## Research

* Development of hybrid powertrains (electric and air hybrid engines)
* Component sizing and power management design through concurrent optimization
* Vehicle modeling through real time simulation and hardware-in-the-loop
* Active and adaptive suspension systems
* Vehicle stability

## Selected Projects

* Green Powertrains
* Advanced Suspension
* Vehicle Stability Control
* Modeling and HIL
* Planatery Rovers

## Equipment

* Flexible and Reconfigurable Hybrid Electric Test Platform
* Full Electric Vehicle with In-Wheel Motor
* Vibration Test Equipment

## Supporting Partners

* NSERC
* Auto21
* Ontario Centers of Excellence
* Canada Research Chair
* Automotive Partnership Canada
* Industrial Contracts

## Access Rights

Please contact Prof. Amir Khajepour for more details