# Mechatronics Vehicles System Lab

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

## Location

DC 1704

## Management

Director:

* Amir Khajepour (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