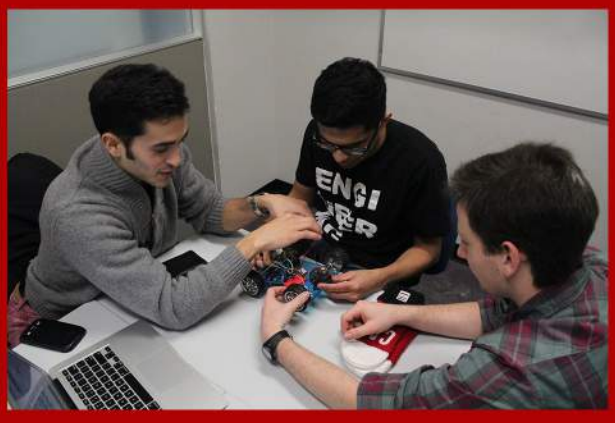
McGill Chem-E Car

Sponsorship Package
2014-2015

The Team

We are a group of McGill University undergraduate students from various engineering backgrounds as well as students from other faculties coming together as a design team whose goal is to win the annual Chem-E Car Competition hosted by the American Institute of Chemical Engineers (AIChE). Our very first appearance at the Chem-E Car Competition was in April 2014. We placed 6th out of 14 teams, an excellent first showing!



Our Objectives

Our vision is to build a team structure that will increase involvement of chemical engineering students, along with students from other engineering programs and other faculties, in large team based design projects.

Goals:

- To foster innovative thinking and teamwork.
- To develop strong management, organizational, and leadership skills.
- To encourage student research and experimental design with a focus on gaining lab experience.
- To practice the highest lab safety standards.
- To develop our own data acquisition devices and calibration techniques.
- To design and build an attractive shoebox size car.

The Competition

The AIChE Competition is an undergraduate North American design competition hosted by the American Institute of Chemical Engineers (AIChE). The challenges involved in designing the car require a level of lateral thinking beyond typical engineering challenges in university.

Teams are required to design and build a shoebox sized car powered and stopped by two different chemical reactions. The competition places a heavy emphasis on economical, sustainable, and safe designs.
The car should safely transport a specified load of water (0-500mL) over a given distance (15-30m). However, the actual load and distance are unknown until an hour before the start of the competition. The challenge is to have reliable calibration curves to stop as close as possible to the finish line.

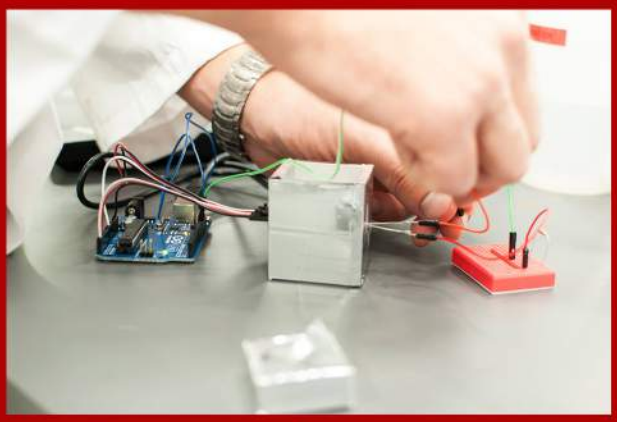
McGill's Chem-E Car Team will be competing in the Northeastern Regional Competition at MIT and Northeastern University this April 2015. The top three teams move on to Nationals.

Our Design

Our design included separate chemical reactions for powering and stopping the car to ensure that given a particular load, the car is capable of traveling the specified distance.

Our power source consists of a novel rechargeable soluble lead battery. A battery stack was designed by our team and manufactured with the help of a machine shop. The stopping mechanism was based on a chemical timing device that cuts the power to the motor. This constituted of a reaction that transitioned from yellow to blue. The time of transition depended on the concentration of one reactant. We monitored the color change with a luminosity sensor to build reliable calibration curves. The car design was modeled after a Nissan 350Z to have the best looking car at the competition.

This year we are looking to completely redesign the battery stack and further our research on the soluble lead battery. A new stopping reaction will be researched; the current one we have in mind is a reaction that emits fluorescent light. The car design will be remodeled to look like the Bloodhound SuperSonic Car.



Sponsorship

The McGill Chem-E Car Team is supported by the Students' Society of McGill University (SSMU), the Engineering Undergraduate Society of McGill University (EUS), and the McGill Faculty of Engineering.

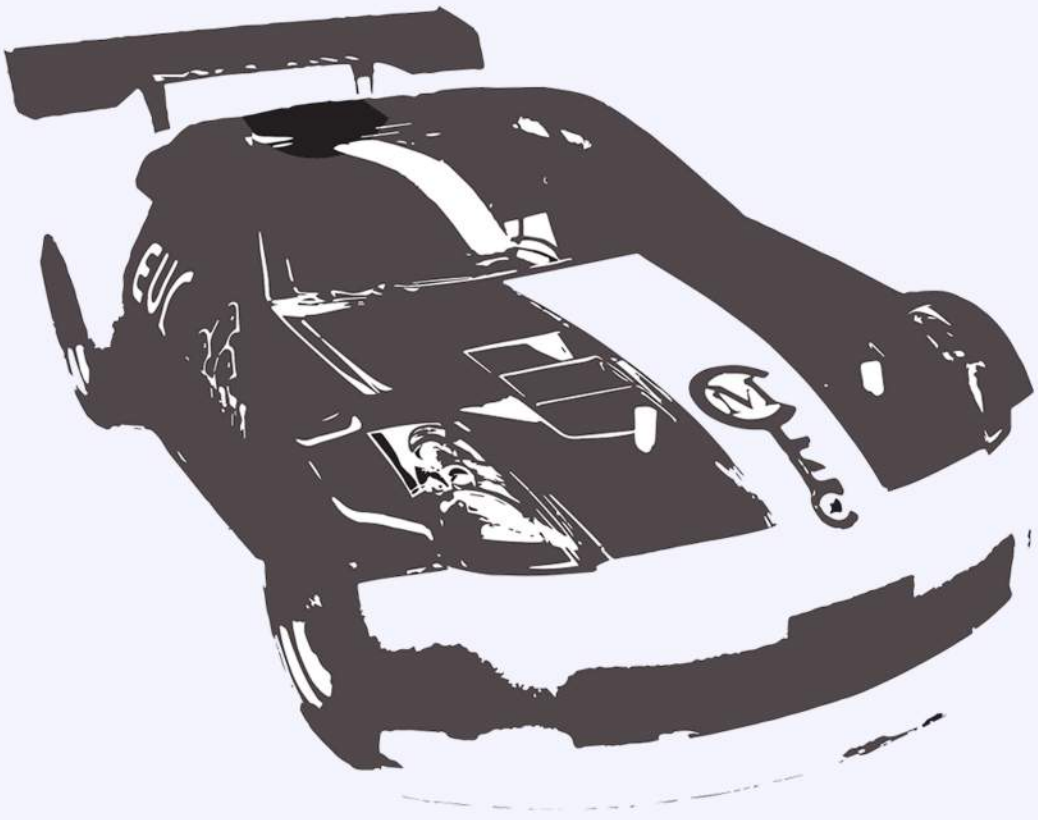
The McGill Chem-E Car Team's budget objective is: $8,000 CAD

Sponsorship Opportunities

$1,500+: ***Gold***
- Car named after the company.
- Largest logo on the car, banner, competition poster, website and team apparel.
- Recognition on the team's social networking websites: Facebook and Twitter.

$750+: ***Silver***
- Logo on the car, banner, competition poster, website and team apparel.
- Recognition on the team's social networking websites: Facebook and Twitter.

As the McGill Chem-E Car Team competes against some of the top technical schools in the U.S. and Canada, your sponsorship will show visible support of higher education and will allow for international exposure of your brand to students and industry leaders involved in the AIChE network.



Contact us

We hope that our excitement towards this project has been contagious and that you are as excited as we are for this year's competition. We would be truly honored to have you as one of our sponsors. If you would like to find out more about the team, please visit our website or contact us directly.

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