

Visit to SP2MI by Kévin & Amaury

Six LP2I's students went to SP2MI during the afternoon of the 23rd January. We visited the laboratory of tribolub. It is a laboratory that studies the science of friction. We visited it because we would like to discuss with one researcher about how to improve the speed of our model car. This car must run in the contest « Course En Cours » (Race car).



We began by visiting the laboratory where researchers do experiences and tests.

This research group is a part of Research Institute in Poitiers called PPRIME. It's a big laboratory divided in three sections.

- The first is the group of the PEM: Photomechanics and Experimental Mechanics
- The second is Robioss :Robotics, Biomechanics, Sport, Health
- The third is TriboLub

The researcher which we met works in the Tribolub. He presented us what his job was about. He works on the lubrication and mechanical aspects of contacts. He explained us why his work was important and how his results are used in some industrial sectors.

Next, he answered our questions about the race car model. He said the best solution for the front axle would be ball bearings. They will allow to reduce friction between the front axle and the body of the car so less motor power will be lose.

He has sent us information about the center of gravity's position too..

We can deduce that:

1 The acceleration depends on the length b between the gravity center and the front axle (see the picture beneath). To increase the acceleration, the gravity center of the car must be close to the rear wheels.

2 The other factor that will improve the acceleration is the friction f between wheels and the track. We have to find a material for tires that will have a big coefficient of friction.

