

# Project proposal

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Title :	<b>Chassis design</b>
Supervisor :	Auke Jan Ijspeert
Timeframe :	Fall 2020

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EPFL Xplore is an interdisciplinary project whose aim is to design and develop a Rover to participate in two international competitions: the University Rover Challenge and the European Rover Challenge. The chassis is one of the most important part of the Rover: it supports all the different sub-systems and components of the Rover. Therefore, the chassis has to be stable and reliable.

## Project description

### Problematic

The students will choose and design a chassis as light as possible that allow the Rover to navigate challenging terrains.

It shall not be bigger than 1.2m x 1.2m and it will face some weight constraints. The Rover shall be easily maneuverable and shall not be stuck. The validation of the design will be based on various simulations and tests.

The students are quite free in the design but the chassis shall be as safe as those that already exist, i.e. *rocker bogie* or *shrimp model*.

### Contact

[thomas.manteaux@epfl.ch](mailto:thomas.manteaux@epfl.ch)

[auke.ijspeert@epfl.ch](mailto:auke.ijspeert@epfl.ch)



<http://robotics.estec.esa.int/ASTRA/Astra2000/Papers/3.2-2.pdf>