



MSc Project

Do you have this Olympic dream or do you like sports and engineering, in particular skating? You can take initiatives, are good in mechanics and go for the gold medal?



klapschaats



langebaan



'hoge' schaats



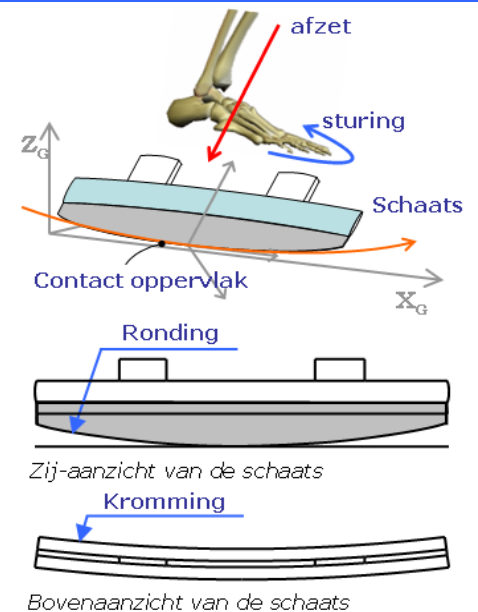
shorttrack

For the best skating results you need the best materials and a good skating technique. But how do you gain speed? What is a good skating technique? Is this the same for all individuals? How can improve my results even more? These questions keep modern topskaters constantly busy. Currently TUDelft in close collaboration with NOC*NSF has some projects in this field with the final goal of more medals and world record!

Skate Mechanics

Being the best skater depends on many things. The skate is the only contact between the skater and the ice. The push-off, steering and friction losses of the skate are strongly influenced by the size and shape of the blade.

Vertical and lateral curvatures ("Ronding" and "Kromming") are important items. These curvatures are influenced by the applied forces. This behaviour can be investigated by means of FEM analysis on the blade and comparisons can be made to measurements. These results can give insights and routes to better performances.



Questions:

- Perform a FEM analysis on a skate blade and compare the results with measurements.
- Can you predict the footprint of the skate on the ice given the loads?

Note:

- A system for measuring the forces on the skate during skating is already available.