

# NeuroMechanics of Top Sports

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When looking at performances in top sports, most of us realise that it takes a lot of talent and investment to make them possible. However, there is also a lot to be learnt from these performances in terms of the neural control and biomechanics (together called NeuroMechanics). With the acquired insight, one can even start thinking about improvement of performance or predictions on future performances.

The present lecture will show a number of examples from top sports, with analytical results, interpretations and practical use. The examples include speedskating, soccer, blade running, 100 meter sprint and gymnastics.

Particularly the latest concepts on embodied cognition and brain function will be employed to obtain insight in how these performances are within the reach of humans.

Ultimately, these examples have direct meaning for practical applications like feedback in training and rehabilitation of patients, which is very much in line with the improvements athletes seek.