Title: Human Physiology and Sports Physiotherapy

Our research is focused on 'Exercise and the Brain in Health & Disease' on three levels: fundamental, applied/clinical and policy-making/benchmarking. The majority of our research projects contribute to all of these levels, with fundamental studies followed by applied clinical studies, which in turn lead to benchmarking studies or policy-making advice. Below you can find a short overview of our research projects:

Brain function during physical and cognitive effort in a healthy population:
- Physical fatigue, thermoregulation and brain neurotransmission
- Placebo effects in exercise and sport
- Mental fatigue and its interactions with physical and cognitive performance

Brain function during physical and cognitive effort within a clinical context
- Overtraining syndrome in athletes
- The influence of obesity, diabetes & cardiovascular diseases on the functioning of the brain
- Returning to sport and the brain
- Injury prevention: fatigue and neurocognitive aspects
- Nanobat: European collaboration to develop medication with nanotechnology to combat obesity
- Scabby: European collaboration to develop an extracellular matrix to promote brown adipose tissue differentiation

Health-promoting effects of active commuting to and from work (commuting by bicycle, cycling desk)
- Health-promoting effects of commuting by bike
- Exercise and air pollution on the functioning of the brain

Nutrition and brain function
- Cocoaflavanols and brain function during cognitive and physical exercise

Interaction between humans and robots:
- Strategic Research Programme: Exercise and the Brain in Health & Disease: The Added Value of

Human-Centered Robotics and encompasses the following projects:
- AMP foot: Physical and cognitive load during general and day-to-day activities of lower leg amputated people
- Cyberlegs++: Physical and cognitive load during general and daily activities of people with upper leg amputation
- Exo4Work: Interaction between humans and exoskeleton in laboratory and industrial settings
- SOPHIA: Improving workplace ergonomics through collaborative robots

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