Prof. Adamantios Arampatzis



Faculty of Humanities and Social Sciences
Department of Sports Sciences
Trainings and Movement Sciences

Expertise

Prof. Arampatzis and his Department of Training and Movement Sciences are dealing with the interaction of the neural and musculoskeletal system in research and teaching. Of special interest for Prof. Arampatzis is the adaptation of the neural and musculoskeletal system by mechanical stress and its influence on human performance as well as motor control and motion security. Through an integrative approach of biomechanics, physiology and neuroscience, consequences for athletes and for people with degenerative changes of the neural and musculosceletal systems will be deduced. The main research focus of the department is on quantifying and changing the neuro-biomechanical potential of humans and on the investigation of its influence on the mobility in everyday life and sports. Considering this, the department also investigates the role of sports activities in order to prevent accidents and to preserve the quality of life for the elderly and people with chronic diseases.

Scientific Services

The departments offers three large laboratories with modern sports science equipment:

- Motion Analysis Laboratory with a VICON system including twelve cameras and three AMTI force plates. Both the foundations of the force platforms as well as the camera mounts are decoupled from the sports ground of the laboratory to prevent the transmission of vibrations.
- Force Diagnostic Laboratory with DAVID and Technogym strength diagnostics equipment for all major muscle groups
- EMG laboratory with a Biodex System-3 and an Esaote ultrasound machine, which is used to study the muscle-tendon plasticity. To control the joint angle at the Biodex camera, mounts are available for installing eight VICON cameras. A large LCD-Screen provides the possibility for biofeedback. All labs are air-conditioned and are equipped with an uninterruptible power supply and complete darkening.

Testimonials

- zebris Medical GmbH: evaluation of pressure distribution measurements in treadmills
- myon AG: evaluation of a wireless electromyography system aiming to quantify muscle activation
- Simi Reality Motion Systems GmbH: evaluation of a 3D motion capture system designed to analyse complex human movements

Topics / Trends

Popular, Leisure & Competitive Sports
Health
Pharma(ceuticals)
Rehabilitation

Industries

Agriculture & Food
Healthcare & Life Sciences
Mobility & Logistics
Administration

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