

Thursday 16-01-2025 | 14.00 - 15.30h
Webinar Sports Biomechanics
Measure. Analyse. Perform.



The Olympia SmarTrack at Padova Palaindoor: a unique installation for paralympic running and long jumping motion capture studies

Nicola Petrone, Università di Padova

Nicola Petrone, Associate Professor of Machine Design at the University of Padova, specializes in Sports & Rehabilitation Engineering. With an M.Sc. in Mechanical Engineering and a Ph.D. in Multiaxial Fatigue, he leads labs using motion capture and wearables to analyze sports and rehabilitation devices, as well as studying the mechanics of equipment like footwear, helmets, bicycles, and prosthetics. His research focuses on assistive technologies, Paralympic sports, and cycling engineering. He also contributes to ISO standards and is active in ISEA and ISSS.



Sport injuries - Testing and analysis

Eline Nijmeijer, UMCG Groningen / Hanze University of Applied Sciences

As a PhD student in Human Movement Sciences, she focuses on motor learning and biomechanics to enhance athletic performance and reduce injury risk. Her research combines biomechanics, motor learning, and coaching, using intervention studies to improve athletes' motor learning and inform better training or injury prevention programs. She employs motion capture systems for kinematics and force plates for kinetics to analyze movement patterns and mitigate ACL injury risks.



Sprint analysis with Markerless Tracking

Micah Gross, BASPO Magglingen

Micah Gross is a Sports Science Researcher at the Federal Office of Sport (BASPO) and the Swiss Federal Institute of Sport Magglingen (EHSM). He specializes in biomechanics research and teaching, covering topics such as muscle physiology, explosive strength, and data analysis. Holding a Master's in Sports Science from Ithaca College, New York (2005–2006), and a PhD in Cellular and Biomedical Sciences from the University of Bern (2010–2013), he also provides performance diagnostics and consultancy for athletes. In his free time, he enjoys cycling as a favorite pastime.



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