



Conferencia: “Measurement Systems in Human Kinematics: From Traditional to Novel Methods”

**Organizado como actividad del programa de doctorado
“Computación avanzada, energía y plasmas”**

Accurate measurement of human movement is essential in biomechanics and motor control analysis. This lecture explores different measurement systems used in human kinematics, focusing on their principles, sources of error, and uncertainties. The discussion begins with a general introduction to measurement, addressing systematic and random errors, as well as measurement uncertainty. The optoelectronic motion capture system is presented as the gold standard due to its high accuracy and reliability. Alternative methods, such as inertial measurement units (IMUs), provide practical and portable solutions for motion tracking. Additionally, recent advancements in computer vision and deep learning have enabled markerless approaches for kinematic estimation from video data, offering non-invasive alternatives to traditional systems. By comparing these technologies, this lecture provides a comprehensive perspective on the evolution of human kinematics measurement, highlighting the trade-offs between precision, usability, and accessibility.

Lugar y hora: Martes, 13 de mayo de 2025, de 12 a 14 h, Sala de Grados “Manuel Medina” del Edificio de Gobierno (Paraninfo), Campus de Rabanales.



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Ilaria Mileti is an Associate Professor in mechanical and thermal measurements at the Department of Engineering, University Niccolò Cusano, Rome, Italy. She received a Ph.D. in Industrial and Management Engineering in 2019. She is currently coordinator of the master's degree course in Electronics Engineering at the University Niccolò Cusano. Her research interests include experimental measurements, wearable systems, machine learning algorithms and robotic devices.

