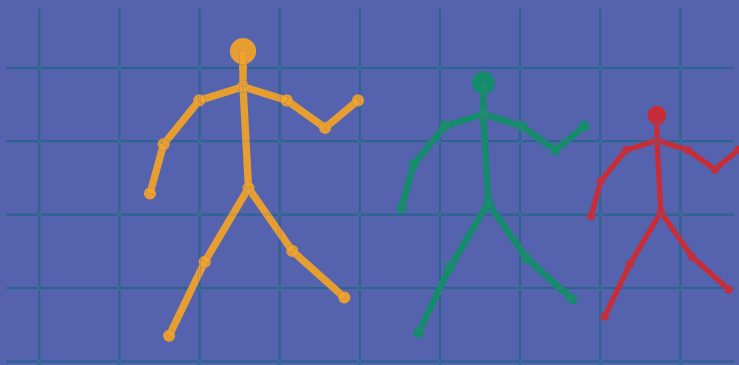




PRE-CONGRESS SCHOOL

SIAMOC 2026

2-4 NOVEMBER 2026

Casa Paganini - DIBRIS, University of Genoa

FROM VIDEO TO MOVEMENT UNDERSTANDING

Markerless Human Motion Analysis: Methods, Tools and Clinical Applications

MONDAY 2 NOVEMBER AFTERNOON

- 14.00-14.30** **Opening and presentation of the school objectives**
Maura Casadio and Camilla Pierella, DIBRIS - UNIGE
- 14.30-15.30** **From research questions to data-driven models: problem formulation, datasets, ground truth, training and testing, bias and reproducibility**
Nicoletta Noceti, MaLGa-DIBRIS, UNIGE
- 15.30-16.30** **From image to pose: 2D human pose estimation, 3D reconstruction, uncertainty and quality control**
Francesca Odone, MaLGa-DIBRIS, UNIGE
- 16.30-17.00** Break
- 17.00-18.00** **From pose to 3D human models: markerless pipeline, monocular 3D models and SMPL**
Matteo Moro, MaLGa-DIBRIS, UNIGE
- 18.00-19.00** **Case study presentation, definition of the analysis questions and preparation for the hands-on activities**

TUESDAY 3 NOVEMBER AFTERNOON

- 14.00-14.30** **Demonstration acquisition, task assignment and group organization**
Matteo Moro, Diletta Balta and Andrada Pica, Università degli Studi di Sassari and tutors
- 14.30-16.30** **Hands-on - From video to 3D movement: video preparation, pose estimation, reconstruction and post-processing**
- 16.30-18.00** **Hands-on - From trajectories to measures: calculation, visualization and guided interpretation of biomechanical and clinical variables using the data processed by the groups**
- 18.00-19.00** **Group presentations and critical discussion of the hands-on results**

TUESDAY 3 NOVEMBER MORNING

- 9.00-10.00** **Fundamentals of biomechanics for markerless motion analysis: reference frames, kinematics and main sources of error**
Andrea Cereatti, Diletta Balta and Andrada Pica, DET - POLITO
- 10.00-11.00** **From trajectories to clinically relevant quantities: spatiotemporal, kinematic and functional variables**
Zimi Sawacha and Giulio Rigoni, DEI - UNIPD
- 11.00-11.30** Break
- 11.30-13.00** **Guided tutorial on the markerless pipeline: video preparation, configuration, analysis and visualization of results**
Matteo Moro, MaLGa-DIBRIS, UNIGE, Diletta Balta and Andrada Pica, DET - POLITO

WEDNESDAY 4 NOVEMBER MORNING

- 9.00-10.00** **From motion to meaning: computational analysis of the expressive and relational qualities of movement**
Gualtiero Volpe, Casa Paganini-InfoMus, DIBRIS, UNIGE
- 10.00-11.00** **From motion to intention: understanding and anticipating human action in person-person and person-robot interaction**
Alessandra Sciutti, CONTACT - IIT
- 11.00-11.30** Break
- 11.30-12.00** **What's next for markerless human motion analysis? Open discussion on validation, generalizability, multimodality and clinical translation**
All speakers
- 12.00-12.30** **Closing discussion and conclusion of the school**

➔ **Participants must bring their own laptop for the practical activities.**

Registration is free and limited to a maximum of 30 participants.
To register, please visit the official SIAMOC 2026 website and select REGISTRATION.