12TH WINTER SYMPOSIUM
of the Human Motion Project

A Philosophical Garden of Digital Biomarkers
Birth, Wearables and Motion

11 March 2025
08:30 - 16:00 CET | HYBRID

Venue:
TranslaTUM - Central Institute for Translational Cancer Research
Einsteinstraße 25 (Building 522)
81675 Munich
Germany

Extended registration for online participation until March 10th, 2025
https://humanmotioninstitute.de/register

Contact: Prof. Dr. Martin Daumer
SLCMSR e.V. - The Human Motion Institute
TUM School of Computation, Information and Technology
Technische Universität München (TUM)
Email: daumer@slcmsr.org
Website: https://humanmotioninstitute.de

FINAL PROGRAM
The organizers reserve the right for rearrangements

08:30   Registration & Coffee

08:45   Welcome to the philosophical garden of digital biomarkers
Martin Daumer, SLC-The Human Motion Institute, Trium Analysis Online, Technical University of Munich (TUM), GER

09:00   Current state of intrapartum CTG monitoring in the UK & beyond
Austin Ugwumadu, Consultant/Senior Lecturer in Obstetrics and Gynaecology at St George's Hospital, and St George's, University of London, UK

09:15   CTG telemonitoring in France
Simon Crequit, André Grégoire Hospital, Department Gynécologue obstétricien, FR

09:30   The "Ulm experience" with physiological CTG
Sophia Andres, University of Ulm, Department of Obstetrics and Gynecology, GER

9:45   Benefit vs. Risks of electronic fetal monitoring: thoughts from a clinician's perspective
Teresa Starrach, Uwe Hasbargen, Sven Kehl, LMU University Hospital, Perinatal Center Großhadern, Department of Obstetrics and Gynecology, GER

10:00   Experience with telemedicine from an insurer's perspective - stroke and obstetrics
Anna Schmid, Versicherungskammer Bayern, GER

10:15   Panel Discussion

10:30   Poster & Coffee break

11:00   (How) does an "exercise pill" work?
Ylva Hellsten, University of Copenhagen, Integrative Physiology, Department of Nutrition, Exercise and Sport, DK

11:15   Vertical and horizontal running on the Moon
Gaspare Pavel, Department of Pathophysiology and Transplantation University of Milan, IT

11:30   Wearable Robotics and Machine Learning for human assistance and augmentation
Lorenzo Masia, Munich Institute for Robotics and Machine Intelligence (MIRMI).School of Computation Information and Technology, Department of Computer Engineering, Technical University of Munich (TUM), GER

11:45   Synthetic biology-powered sensors for next-generation healthcare: Wearables, Microfluidic devices and CRISPR/Cas technology
Can Dincer, Sensors and Wearables for Healthcare, TUM School of Computation, Information and Technology, Technical University of Munich (TUM), GER

12:00   Update regulatory acceptance of real-world walking as outcome in Duchenne, MS and beyond
Margeux Poleur, MD, PhD student Service de Neurologie CHR Citadelle Liège, BE
Laurent Servais, University of Oxford, MDUK Oxford, Neuromuscular Center, Department of Paediatrics, UK

12:15   Overview poster session
Aldo Faisal, AI & Neuroscience, Imperial College; Chair in Digital Health, Universität Bayreuth, UK, GER

- ➤ **A wearable motion capture suit and machine learning predict disease progression in Friedreich's ataxia**
  Balasundaram Kadirvelu (Imperial College London, UK)
- ➤ **Wearable full-body motion tracking of activities of daily living predicts disease trajectory in Duchenne muscular dystrophy**
  Balasundaram Kadirvelu (Imperial College London, UK)
- ➤ **A living lab paradigm for real-world neuroscience**
  Lena Patricia Nieper (University Bayreuth, GER)
- ➤ **Data-Driven Objective Markers for In-Ward Monitoring**
  Chaiyawan Auepanwiriyakul (University Bayreuth, GER)
- ➤ **BehaviourGPT: Large Behaviour Models to measure health state in neurological diseases**
  Daolong Chen (Imperial College London, UK)
- ➤ **Elevating Stroke Care: Wearable Devices for Behavioural Insights**
  Gayathiri Mathusuthan (Imperial College London, UK)
- ➤ **Movement as a New Vital Sign and Early Warning Score of Deterioration**
  Sinead O'Connor (Trinity College Dublin, IRL)

12:30   Poster, Discussion, Lunch break, Exhibition & Networking

14:00   Panel Discussion - Do we need a novel format to collaborate? - "Towards an open collaborative platform for digital biomarkers"

STUDENT PRESENTATION

14:30   Student Presentations (of the TUM lecture "Clinical Applications of Computational Medicine" (CACOM) – Co-moderation with Christian Hieronimi (myoncare) et.al.

Group 1: "Automated Validation for MDR (Medical Device Regulation) Compliance"
Zhengkai Zhang, Aonan Zhang, Feiyu Chen, Zhengyi Hu

Group 2: "SkinLens: Lesion Diagnosis using CNNs"
Faidra Anastasia Patsatzi, Aicha Zayane, Mustapha Daly Hassen

Group 3: "AI based Medical Assistant"
Chen Cai, Yingmeng Xing, Tianqi Lu, Yuhui Yang, Qian Shen

Group 4: "Remote Photoplethysmography-Based Method for Abnormal Blood Pressure Estimation from Facial Videos"
Sicong Shen, Jiaheng Zhao, Tingxin Yang, Shuchen Xu, Rongping Zhao

Group 5: "Visual Field Loss Recognition"
Daohui Xie, Feng Yao, Chunyuan Tian, Wenrong Xue, Keyu Xuan

Group 6: "A Smart Pill Container for Accurate Pill Retrieval Detection and Disease Control"
Xiaolin Li, Nan Zhou, Hanqi Chen, Runcong Wang, Qinghua Zhang, Zhengqi Zhang

Group 7: "Breast Cancer Pathological Image Classification Based on CNN"
Siyang Liu, Peiyi Zhou, Yating Zhong, Yisong Qian, Tianxin Qi

Group 8: "Data generation (GAN) for walking speed estimation"
Michael Loncsek, Maaz Ali Khan, Aurora Pasquetto, Samer Marasch

Group 9: "AI Personalized Diet Planning for Enhanced Health and Well-being"
Shuaiyuan Zhou, Yixin Shen, Jian Peng, Zekun Yang, Siliang Cao

Group 10: "Human Robot Interaction in Clinical Environment"
Hechem Bedhiaf, Firas Koubaa, Hadhemi Fradi, Mahmoud Abbassi, Siwar Amri, Hamza Dahmoul

Group 11: "Bias Reports for Medical AI Models"
Matteo Wohlrapp, Max Roesel, Friedrich Demann

Group 12: "Design and Implementation of a Radar-based Sleeping and Health in-Bed Monitoring Application"
Fengyi Yu, Zhiyun Li, Yujun Wang, Siyi Luo, Zitong Wang, Yijie Ma

Group 13: "Medical Instruments for the Identification and Treatment of Addictions"
Danni Chen, Shuo Tang, Yuxin Wang, Libo Zhang, Yuxuan Li

Ca. 16:00   Panel Discussion, Closing Remark

REGISTRATION

REGISTRATION FEE

The symposium fee* (VAT included) is as follow:

Industry	400€
Academic / Research	250€
PhD student	100€
Student	50€
TUM CACOM student	free
Interested patient and press	free
Speaker	free

*Symposium fee includes drinks & lunch

Pay through Stripe or PayPal. Please go to our website: https://humanmotioninstitute.de/register

SLCMSR e.V. - The Human Motion Institute is a non-profit association under § 52 Abs. 2 of German Law and a tax-exempt non-profit association under § 5 Abs. 1 (corporate income tax regulation.

If you require assistance regarding your payment, please contact our support team at info@humanmotioninstitute.de

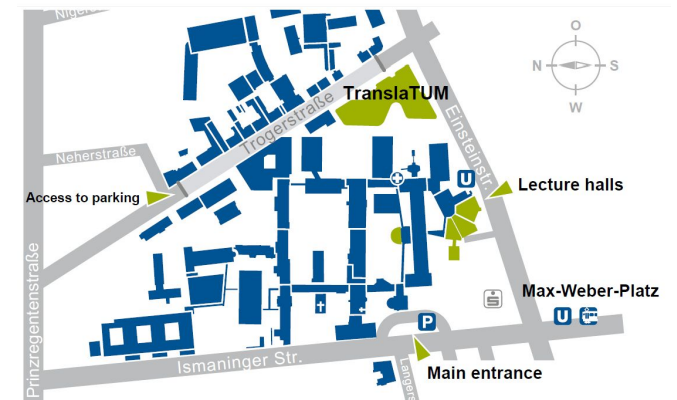**Please register on our website:**
https://humanmotioninstitute.de/register

ONLINE REGISTRATION CLOSING DATE
MONDAY MARCH 10 until 12:00, 2025

GENERAL INFORMATION

Map

SCIENTIFIC COMMITTEE:

Martin Daumer, SLC-Human Motion Institute, Trium Analysis GmbH, TUM School of Computation, Information and Technology, Technical University of Munich (TUM). GER

Ylva Hellsten, University of Copenhagen, Integrative Physiology, Dept. of Nutrition, Exercise and Sport, DK

Jörn Rittweger, German Aerospace Center (DLR), Head of the Division of Muscle and Bone Metabolism, GER

Sponsored by

PRESS

This Symposium will be certified by the Bavarian Medical Association (BLÄK) with seven medical education points (CME-credits)
+++ Please note, that the event will be recorded and we will make the recording available to registered participants afterwards in order to receive CMEs +++

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