

# 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

Register until February 28<sup>th</sup>, 2025

Please visit our website:

<https://humanmotioninstitute.de>

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](mailto:daumer@slcmsr.org)  
Website: <https://humanmotioninstitute.de>



## PRELIMINARY PROGRAMME

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 Coffee break and Time buffer**

**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**

**Gaspard Pavel**, Department of Pathophysiology and Transplantation University of Milan, IT

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**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 The path to regulatory acceptance from a company's perspective**

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**12:30 Discussion, Lunch break, Time buffer**

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

- Access to algorithm and raw data
- Disease agnostic - Device agnostic
- "BIG CTG DATA" - imaging & AI
- Funding - European Health Data Space & AI act
- Initial focus on human motion monitoring:
- Real world walking speed?
- Duchenne and Multiple sclerosis?
- Hip / ankle?
- 6-minute walk test (6MWT) as intermediate step?

## STUDENT PRESENTATION

14:30 Student Presentations (of the [TUM lecture “Clinical Applications of Computational Medicine” \(CACOM\)](#))

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 Patsatz, 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: “Alternative 1. Medical Image Processing of Lesion Segmentations for different Organs

Alternative 2. Monitoring heart rate and respiratory rate with mmWave Radar”

Fengyi Yu, Zhiyun Li, Yujun Wang, Siyi Luo, Zitong Wang, Yijie Ma

Group 13: “Bias Reports for Medical AI Models”

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](mailto:info@humanmotioninstitute.de)

Please register on our website:

<https://humanmotioninstitute.de/register>



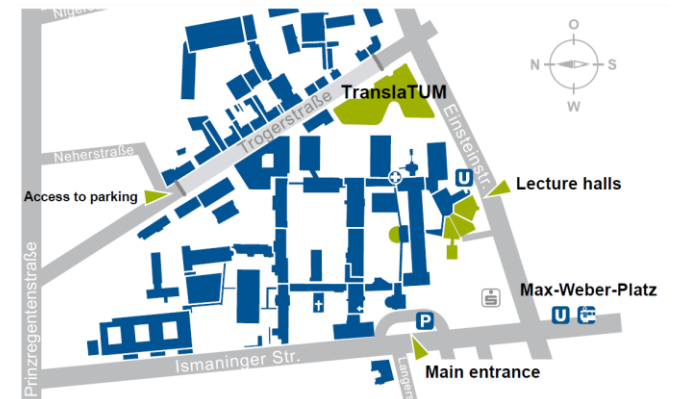
### General Data Protection Regulation

The applicant agrees that SLCMSR electronically saves and processes personal data necessary for the registration process and upcoming symposia (§28 GDPR)

**REGISTRATION CLOSING DATE**  
**FRIDAY FEBRUARY 28, 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



### 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 +++