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Upcoming Events

5th February 2026 **12:00 – 14:00 CET**	TReND online lecture (watch out for updates on our website and LinkedIN) (Zoom-Link: https://unibe-ch.zoom.us/j/6447676603)
7th May 2026 **12:00 – 14:00 CET**	TReND online lecture with Prof. Leslie Decker (University of Caen Normandie) (Zoom-Link: https://unibe-ch.zoom.us/j/6447676603)
26th – 29th May 2026	TreND Summer School at Radboud University Nijmegen, Netherlands

About TReND

We are a Marie Skłodowska-Curie Actions Doctoral Network (MSCA-DN).

Translational Research Network in Motor Disorder Rehabilitation: Advancing understanding of variability in motor control and learning, to enhance clinical practice

The theoretical understanding of human motor control and learning has a strong impact on the diagnosis and treatment of motor disorders, and vice versa. Recent progress has been made in the understanding of motor control and learning, particularly with respect to understanding the functional role of neurobehavioural variability that is inherent to sensorimotor control. However, this progress has not yet been transferred appropriately into clinical therapy approaches. The goal of TReND is thus, to create a translational research network in the rehabilitation of motor disorders. The network is highly interdisciplinary with doctoral and senior researchers from fundamental research areas (movement science, neuroscience, computer science), clinical practitioners (physical therapy, occupational therapy, rehabilitation sciences, etc.) and partners from related industries. The overall aim is to systematically translate recent theoretical and methodological advances in motor control and learning research into clinical practice to enhance clinical diagnosis and motor rehabilitation. More specifically, we will investigate the functional role of variability in the sensorimotor coordination dynamics at the behavioural and neurophysiological levels in motor and mental disorders such as stroke, Parkinson's or Alzheimer's disease.

Our research objectives

- To investigate how different disorders affect the sensorimotor systems' capability to exploit functional variability for stable and adaptive motor control
- To investigate how novel therapy concepts can enhance the capacity to exploit functional variability and treat motor disorders across different patient populations
- To develop novel approaches to translate the knowledge gain from our fundamental research into clinical practice.

Our innovation objectives

- To develop and evaluate clinical tools for the assessment and diagnosis of functional movement variability
- To compose guidelines and recommendations for restoring functional variability

Connect With Us

🌐 https://www.uni-muenster.de/TReND-EU/

✖ https://bsky.app/profile/msca-trend.bsky.social

in https://www.linkedin.com/company/msca-dn-trend

✉ trend@uni-muenster.de

Network Coordinator: Universität Münster

Latest News

Introducing DC11: Ilaria Bufacchi

We are very happy that Ilaria has joined the TReND network as an MSCA fellow and wish her all the best.

🔧 **DC11: Ilaria Bufacchi**

<u>Project</u>: Overcoming atypical variability: Effects of manipulation of sensorimotor variability to enhance motor learning in children and adults with motor disorders
<u>Host Institution</u>: King's College London – Department of Population Health Science
<u>Supervisors</u>: Dr. Marco Davare & Dr. Crina Grosan

📰 Find out more about <u>Ilaria and her project</u>.

Introducing the TReND Supervisors

Our fellows are supported by an experienced team of supervisors. Each supervisor actively guides their doctoral candidate(s) as they pursue their individual research projects, thereby driving forward TReND's mission and helping them to achieve their PhD goals.

🔧 **Prof. Claudia Voelcker-Rehage**

<u>Research Field</u>: Processes and mechanisms of motor function and neurocognition in the context of performance, training and learning
<u>University</u>: Department of Neuromotor Behavior and Exercise, University of Münster, Germany
<u>Doctoral Candidates</u>: Dilşah Gençaslan, Sofía Avila Pérez

🔧 **Dr. Julian Rudisch**

<u>Research Field</u>: Neurorehabilitation, motor control and learning
<u>University</u>: Department of Neuromotor Behavior and Exercise, University of Münster, Germany
<u>Doctoral Candidate</u>: Sofía Avila Pérez

🔧 **Prof. Dr. Jean-Jacques Temprado**

<u>Research Field</u>: Relationships between cognitive and motor processes during aging, combined training to prevent decline of cognitive-motor resources, bimanual coordination
<u>University</u>: Chair Active Aging, Aix-Marseille University, France
<u>Doctoral Candidates</u>: Victoria Trifonova, Julia Jakubowska

🔧 **Dr. Rita Sleimen-Malkoun**

<u>Research Field</u>: Interactions between cognition and motor control, characterizing behavioural adaptability through the analysis of the variability of neuro-physiological and behavioral signals
<u>University</u>: Institute of Movement Science Etienne-Jules Marey, Aix-Marseille University, France
<u>Doctoral Candidates</u>: Victoria Trifonova, Julia Jakubowska

🔧 **Prof. Dr. Nerrolyn Ramstrand**

<u>Research Field</u>: Prosthetics and orthotics, combining biomechanical assessments, patient-centered approaches, and computational modeling to optimize device design and rehabilitation
<u>University</u>: Department of Rehabilitation, Jönköping University, Sweden
<u>Doctoral Candidate</u>: Kai Wang

🔧 **Prof. Dr. Dido Green**

<u>Research Field</u>: Ecological approaches to understanding challenges to participation for children and young people, movement behaviour in childhood disability and occupational therapy interventions for motor impairments
<u>University</u>: Department of Rehabilitation, Jönköping University, Sweden
<u>Doctoral Candidate</u>: Kai Wang

🔧 **Prof. Dr. Hilde Feys**

<u>Research Field:</u> Neural correlates of sensorimotor behavior and mechanisms of neuroplasticity, innovation of rehabilitation interventions in children with cerebral palsy
<u>University</u>: Department of Rehabilitation Sciences, KU Leuven, Belgium
<u>Doctoral Candidate</u>: Louise Hocke

🔧 **Dr. Lisa Mailleux**

<u>Research Field</u>: Early (motor) development, in particular in infants with a high risk for neurodevelopmental disabilities, focusing on the upper limb
<u>University</u>: Department of Rehabilitation Sciences, KU Leuven, Belgium
<u>Doctoral Candidate</u>: Louise Hocke

🦴 Prof. Dr. Bert Steenbergen

<u>Research Field</u>: Motor control, motor learning, motor development, and motor disorders with a focus on translating research findings into practice
<u>University</u>: Behavioural Science Institute, Radboud University Nijmegen, Netherlands
<u>Doctoral Candidate</u>: Léa Obrecht

🦴 Prof. Dr. Richard van Wezel

<u>Research Field</u>: Perception, action, and decision making; translation into clinical applications with a focus on new technologies for visually impaired persons and Parkinson patients
<u>University</u>: Donders Institute for Brain, Cognition and Behaviour, Radboud University, Netherlands

🦴 Prof. Dr. Jason Friedman

<u>Research Field</u>: Motor control and motor learning, techniques for accelerating motor learning
<u>University</u>: Department of Physical Therapy and Sagol School of Neuroscience, Tel Aviv University, Israel
<u>Doctoral Candidate</u>: Aleksandra Kaner

🦴 Dr. Marco Davare

<u>Research Field</u>: Cortical biomarkers underlying skilled sensorimotor control in health and disease, non-invasive brain stimulation, smart technology-driven rehabilitation of patients suffering from movement disorders.
<u>University</u>: Centre for Human & Applied Physiological Sciences, King's College London, UK
<u>Doctoral Candidate</u>: Ilaria Bufacchi

🦴 Dr. Crina Grosan

<u>Research Field</u>: Artificial intelligence, optimization and data analytics in healthcare
<u>University</u>: Division of Digital Health and Applied Technology Assessment, King's College London, UK
<u>Doctoral Candidate</u>: Ilaria Bufacchi

🦴 Prof. Dr. Ernst-Joachim Hossner

<u>Research Field</u>: Functional mechanisms of human motor control and learning with a particular focus on the perception-action coupling and the handling of sensorimotor uncertainty
<u>University</u>: Department Movement and Sport Science, Institute of Sport Science, University of Bern, Switzerland
<u>Doctoral Candidate</u>: Constanze Dammeyer

In addition, the TReND fellows are supported by local supervisors at their host universities and associated partners. You can read more about all supervisors and their expertise on our [website](#)!

Dr. Julian Rudisch delivers keynote at Early Career Researcher Retreat

26th November 2025

Dr. Julian Rudisch contributed to the CRC1451 Early Career Researcher Retreat in the Eifel with a keynote lecture "From Motor Control Theory to Clinical Practice: Translating Functional Variability into Neurorehabilitation. The retreat offered a valuable opportunity to bring together the core themes of CRC1451 with the perspectives of the MSCA Doctoral Network TReND.

👉 Get to know the Collaborative Research Centre "[Key mechanisms of motor control in health and disease](#)".

TReND Lecture by Prof. Dr. Andrew Gordon

20th November 2025

In his lecture, Prof. Dr. Andrew Gordon from Columbia University explored the topic of 'Translating Neuromotor Research into Paediatric Rehabilitation'. Focusing on cerebral palsy as a common paediatric physical and neurological disorder, he discussed how to effectively translate research findings on the efficacy of intensive therapies into clinical practice, ultimately improving outcomes for affected children

📰 For more details please refer to the [abstract](#).

New progress update about our research project!

29th October 2025

Sofía (DC02) has new updates on her research project and the question: "Can superimposed sensorimotor variability in practice enhance motor learning in older adults and people with Parkinson's disease?". She is currently collecting data from a group of young adults. Participants are instructed to walk on a treadmill while holding a virtual cup of water, where rotation of the cup beyond a stability limit leads to virtual spilling of the liquid. This setup helps her examine how task demands and attentional focus affect motor control.

👉 Take a look at the full update [here](#).

Julia (DC08) at the Aspects of Neuroscience conference

19th October 2025

On 17th to 19th October 2025, our Doctocal Candidate Julia Jakubowska participated in the XIII edition of "Aspects of Neuroscience" conference at the Faculty of Physics, University of Warsaw in Warsaw, Poland. During the event, she had the opportunity to co-deliver a keynote lecture together with her supervisor, Prof. Jean-Jacques Temprado, titled "When Physics Meets Neuroscience: A Dynamical Systems Approach to (Loss of) Motor Adaptability During Aging."

📰 Find out more about her conference visit here.

Fourth secondment successfully completed

16th October 2025

Our fellow, Léa Obrecht, has recently completed her secondment in Dr. Marco Davare's laboratory at King's College London, where she had the opportunity to develop her understanding of motor control and neurophysiological measurement methods both in theory, through discussions with experts, and in hands-on practice.

📰 Read her full report here.

Harnessing synergies: EU projects come together at University of Münster

23rd September 2025

The TReND coordinators, Claudia Voelcker-Rehage and Julian Rudisch, recently participated in a workshop that brought together representatives from five different EU-funded projects to explore synergies and share best practices and lessons learned. In addition to TReND, four other EU funded projects were represented: an EU COST Action (PhysAgeNet), an ERA Talent Action (TBrainBoost), a Horizon 2020 project (PROCare4life), and an Erasmus+ project (Age-Well).

📰 Read more here.

Interdisciplinarity - a key strength of TReND

03rd September 2025

By bringing together representatives from diverse fields, including among others neuroscience, movement science, and clinical sciences, we create a unique research network and doctoral programme where diverse perspectives can meet and enrich one another. We believe that our interdisciplinary approach is crucial in achieving our mission: translating cutting-edge research on motor control and motor disorders into practical applications, ensuring that new discoveries are shared and applied in meaningful ways to improve health and quality of life of patients with motor disorders.

👉 Read more about the Doctoral Candidates, Supervisors and Associated Partners of our network.

Where science meets practice

21st August 2025

Meet Parkinson Vibrating Socks, an innovative project that shares TReND's vision of translating research into practice. The Parkinson Vibrating Socks project is developing a patient-centric, clinically validated vibrotactile solution: a compact, wearable device equipped with a sensor that detects and responds to freezing episodes in individuals with Parkinson's Disease.

💡 Read on to learn more about knowledge transfer in healthcare!

If you would like to share information or announcements via the newsletter or have any further questions, please get in touch with us: trend@uni-muenster.de

With the newsletter, we would like to keep you posted about news and events concerning the TReND Project. If you do not wish to receive it any longer, please send us an e-mail or unsubscribe from the mailing list using this link.