



TWINBRAIN

# TwinBrain WORKSHOP 3.0

Trieste, 30 March – 1 April 2023



Advances in movement disorders diagnosis and rehabilitation:  
from new technologies to clinical practice



This event is part of a project that has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 952401



**UNIVERSITÀ  
DEGLI STUDI  
DI TRIESTE**

# Thursday, 30 March

14:30

Registration

## I SESSION:

### Neurophysiology and Biomedical Engineering in Movement Disorders

Chairs:

Paolo Manganotti - Milos Ajcevic - Alex Buoite Stella

15:00 - 15:15

Michele Tinazzi

President Italian Parkinson and Movement Disorder Society

15:15 - 15:45

#### ***Neurophysiology Studies in Movement Disorders***

Paolo Manganotti

Clinical Unit of Neurology, University of Trieste, Italy

15:45 - 16:15

COFFEE BREAK

16:15 - 16:45

#### ***Neuroimaging and EEG in Parkinson's Disease***

Milos Ajcevic

Department of Engineering and Architecture, University of Trieste, Italy

16:45 - 17:15

#### ***Exploring muscle-brain crosstalk in Parkinson's disease using Mobile Brain/Body Imaging***

Uroš Marušič and Milos Kalc

Science and Research Center (ZRS), Koper, Slovenia

17:15 - 17:45

#### ***Neural mechanisms of cognitive-motor dual tasking in early Parkinson's disease: Preliminary results of the ongoing Twin Brain project clinical trial***

Manca Peskar

ZRS, Koper, Slovenia / Technical University of Berlin, Germany

17:45 - 18:15

#### ***Using inertial motion sensors to assess the effect of noninvasive vagal nerve stimulation on gait in advanced Parkinson's disease patients***

Vesna M. van Midden

Department of Neurology, University Medical Centre Ljubljana, Slovenia

18:15

WELCOME COCKTAIL

# Friday, 31 March

## II SESSION:

### Exercise and rehabilitation in movement disorders

#### Chairs:

Manuela Deodato - Alex Buoite Stella

9:30 - 10:00	<b><i>Movement analysis in movement disorders</i></b> Eleonora Guanzioli Bioengineering Department of Villa Beretta Rehabilitation Centre, Como, Italy
10:00 - 10:45	<b><i>Movement for movement disorders: the physiological role of active and assisted exercise</i></b> Alex Buoite Stella Department of Medicine, Surgery and Health Sciences, University of Trieste, Italy
10:45 - 11:15	COFFEE BREAK
11:15 - 12:00	<b><i>Which rehabilitation in Parkinson Diseases</i></b> Daniele Volpe Scientific Coordinator of Fresco Parkinson Institute, Villa Margherita Foundation, Vicenza, Italy
12:00 - 12:45	<b><i>The Gait in Freezing phenomenon and Rehabilitation</i></b> Susanna Mezzarobba University of Genoa, Italy
12:45 - 15:00	LUNCH BREAK

### III SESSION:

## Clinical, neuroimaging and neuromodulation aspects of movement disorders

Chairs:

Paolo Manganotti - Milos Ajcevic

15:00 - 15:45	<b><i>Clinical picture and therapy, the experience of Trieste University Hospital</i></b> Mauro Catalan Clinical Neurology Unit University Hospital, Italy
15:45 - 16:30	<b><i>Neuroimaging in Movement Disorders</i></b> Maja Trost Clinical Neurology Unit, University of Ljubljana, Slovenia
16:30 - 17:00	COFFEE BREAK
17:00 - 17:45	<b><i>Deep Brain Stimulation: current indications and future perspectives</i></b> Maria Chiara Malaguti Clinical Neurology Unit, University Hospital Santa Chiara, Trento, Italy
17:45 - 18:30	<b><i>Deep Brain Stimulation: clinical picture and possible rehabilitation</i></b> Vladimira Vuletić Clinical Neurology Unit, University of Rijeka, Croatia
18:30 - 19:15	<b><i>The Energy Cost of Human Locomotion - From Theory to Good Practice</i></b> Carlo Capelli Department of Neurosciences, Biomedicine and Movement Sciences, University of Verona, Italy

# Saturday, 1 April

## IV SESSION:

### Practical session - how to assess and study movement disorders

#### Chairs:

Manuela Deodato - Giulia Sgubin - Miriam Martini - Manca Peskar

9:30 - 12:30

**Practical session at Rehabilitation Gym of Physiotherapy degree study program.  
Activities performed by physiotherapists and residents in neurology.**

Practical session 1 – How to assess and study movement disorders

Practical session 2 – Application of technology-based rehabilitation strategies

Practical session 3 – Twin Brain – MoBI Technology in action

#### **Scientific Committee**

**Prof. Paolo Manganotti,**  
Clinical Unit of Neurology, University of Trieste, Italy

**Assist. Prof. Milos Ajcevic,**  
Department of Engineering and Architecture, University of Trieste, Italy

**Dr. Alex Buoite Stella,**  
Department of Medicine, Surgery and Health Sciences, University of Trieste, Italy