International Neuromodulation Conference

August 24 - 26, 2026, Kardinal Schulte Haus, Bergisch Gladbach, Germany

Technology-driven combinatorial therapy to rewire the spinal cord after injury

The conference brings together leading scientists from the fields of neuroscience and biomedical and neuroengineering. Despite substantial progress in understanding the cascade of cellular and molecular events caused by spinal cord trauma, to date, there are no effective interventions that mitigate the extent of damage, and current treatment strategies have proven insufficiently effective in patients.

Traumatic spinal cord injuries (SCI) are primarily caused by mechanical damage to the central nervous system. They result in impairment of motor, sensory, and autonomic functions, thus requiring tailored and personalised treatment strategies. Plasticity can result in new connections and neural circuits, contributing to a compensatory recovery of function. Conventional therapies focus on resolving individual aspects of SCI, thereby neglecting synergies to tackle multiple targets simultaneously. Technological advances in drug delivery systems, biomaterials, electronics, and robotics have resulted in novel developments to regain lost function after SCI. ReWIRE develops and links high-tech routes into new personalized, combinatorial approaches to rewire the spinal cord.

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14:00	Arrival, Registration, Welcome + Coffee Break
DAY 1	
I.	From Damage to Repair: The Biology Behind Spinal Cord Recovery
16:00	**Simone di Giovanni** (Imperial College London)
16:30	**Andrea Tedeschi** (The Ohio State University College of Medicine) *Decoding axon regeneration failure through the lens of neuronal and non neuronal cell networks*
17:00	**Mayssa Mokalled** (Hope Center for Neurological Disorders, Washington University School of Medicine, St. Louis)
17:30	**Homara Nawabi** (Grenoble Institute of Neuroscience)
18:00	Rapid Fire Poster Talks
18:15	Poster Session
19:30	Dinner (Poster Session Continued)
20:30	Evening Lecture – **Mark Tuszynski** (University of California San Diego)
DAY 2	
II.	Spinal Cord Injury Bridges
09:00	**Wolfram Tetzlaff** (University of British Columbia)
09:30	**Zaida Álvarez** (Northwestern University and Institute for Bioengineering of Catalonia)
10:00	**Patricia Dankers** (Eindhoven University of Technology)
10:30	Coffee Break /Poster Session
11:45	**Hoc Khiem Trieu** (Hamburg University of Technology) & **Veronica Estrada** (DWI – Leibniz Institute for Interactive Materials) *A mechanical microconnector to bridge severe spinal cord injury defects: – Development, implementation and optimisation & In vivo application*
12:15	**Monica Perez** (Northwestern University)
13:00	Lunch Break

III.	**Neurotechnology I**
Focus on Devices	
14:30	**Francesca Santoro** (RWTH Aachen University and Forschungszentrum Jülich)
15:00	**Thomas Stieglitz** (Albert Ludwigs University of Freiburg) *Flexible micromachined neural electrodes: from design to post explantation evaluation*
15:30	**Maria Asplund** (Chalmers University of Technology)
16:00	Coffee Break & Poster Session
Focus on Building Blocks	
18:00	**Tetiana Aksenova** (Commissariat à l'énergie atomique et aux énergies alternatives) *Brain Computer Interface for SCI rehabilitation: decoding of ECoG neuronal activity for movement restoration*
18:30	**Giacomo Valle** (Chalmers University of Technology)
19:00	Dinner
DAY 3	
IV.	**Neurotechnology II – Clinical Translation & Application**
09:00	**Silvestro Micera** (École Polytechnique Fédérale de Lausanne and School of Advanced Studies Sant'Anna)
09:30	**Aileen Anderson** (University of California Irvine)
10:00	**Brian Kwon** (ICORD, University of British Columbia and Vancouver Hospital)
10:30	Coffee Break
11:30	**Tommaso Proietti** (Scuola Superiore Sant'Anna) *Soft wearable robotics for non-invasive movement assistance*
12:00	**Stanisa Raspopovic** (Medical University of Vienna)
12:30	**Federico Ciotti** (University of Lausanne and .NeuroRestore)
13:00	Lunch & Departure