



# ReWIRE Newsletter

## Welcome to the sixth edition of the ReWIRE Newsletter!

The ReWIRE Summer School and Network Meeting took place from the 2nd to the 4th of July, 2025, hosted in the beautiful city of Pisa and organized by the teams of Prof. Silvestro Micera and Prof. Antonio Frisoli. The event brought together all ReWIRE Doctoral Candidates (DCs), supervisors, and collaborators for three days of engaging scientific exchange, professional development, and networking.

The Summer School opened with a visit of leading research institutes, where DCs learnt more about the research going on at ICT and Mechanics Institutes and at Scuola Sant'Anna. Then, it was followed by a soft skills training workshop designed to strengthen essential non-technical competences that are crucial for a successful research career. The first session focused on scientific writing and safety regulations, providing participants with practical strategies to communicate their research clearly and effectively while ensuring responsible laboratory practices. Guests such as Andrea Piccaluga and Francesco Petrini spoke about creating value from neurotechnologies, while Erica Palmerini, Emanuele Fazio, and Lucia Virardi offered insightful talks on regulatory experimentalism and safety in scientific research.

The second part of the workshop, led by Michela Lupi, shifted focus to collaboration dynamics and emotional intelligence in research environments. Through guided exercises and group activities, participants explored how to build trust and empathy within teams, manage conflicts constructively, and navigate the complex interpersonal aspects of academic life. Michela Lupi emphasized the importance of awareness, adaptability, and self-regulation when working in multicultural, interdisciplinary settings. The sessions encouraged openness and dialogue, strengthening the bonds within the ReWIRE community and laying the foundation for fruitful collaborations across research groups.

The Summer School concluded with the ReWIRE Network Meeting, where DCs presented updates on their individual projects and shared their latest scientific progress. A highlight of the event was the opportunity to engage in discussions with Prof. Wolfram Tetzlaff, the Edie Ehlers Chair in Spinal Cord Research and former Director of ICORD (2012–2023), who provided valuable perspectives on translational neurorepair research and career development in the field. Altogether, the three-day event in Pisa provided an inspiring and collaborative atmosphere, a blend of professional training, scientific exchange, and personal connection.



## What's new?

**Below you can find updates not only on recent research progress, but also on secondments, conferences, and other activities. Let's wish all DCs the very best for the year ahead!**

**Elif Onsoz** has been conducting microsurgical training and research on acute complete transection spinal cord injury since October last year, achieving successful mechanical microconnector (mMS+) implantation with high precision. In parallel, she investigated injectable microgel alternatives for spinal cord repair, testing different peptide-functionalized formulations (IKVAV, RGD, laminin) on DRG cultures to assess cell compatibility and adhesion. She is currently on secondment at ICORD, under the supervision of Dr. Wolfram Tetzlaff, gaining experience in tissue processing and histological analysis within a collaborative spinal cord injury project.

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**Rui Chen** attended the 2025 IEEE International Conference on Rehabilitation Robotics in Chicago, USA, where he presented a conference paper on soft robotic gloves for hand flexion rehabilitation. Additionally, he has published research on soft actuators for exoskeletons in IEEE/ASME Transactions on Mechatronics.

**Catarina Tavares** recently attended the Central Nervous System Injury and Repair Gordon Research Seminar, where she presented a poster titled "Injectable Thermoresponsive UCST Microgels for Encapsulation and Localized Delivery of Neurotherapeutics." She is currently undertaking a secondment at the University of British Columbia under the supervision of Dr. Karen Cheung and Dr.-Ing. Laura De Laporte. Catarina has also supervised a Master's student internship investigating the release of Green Fluorescent Protein from PEG star norbornene/thiol microgels fabricated using microfluidic techniques, further contributing to the development of controlled drug delivery platforms within her project.

**Firman Isma Serdana** completed multiple SSSA courseworks: Theories of Minds, Graphical Programming for Real-Time Applications in Bioengineering, and 3D Printing, and attended key workshops including g.tec's BCI & Neurotechnology Spring School, the INCF-SeRC-EBRAINS FAIR Neuroscience workshop at Karolinska Institute, and OT Bioelettronica's OTB Day 2025 in Turin. Dissemination highlights include SfN 2024 in Chicago, FENS 2024 in Vienna, the Gordon Research Conference on CNS Injury and Repair in Barga (first-author poster and co-author symposium), and the Czech Neuroscience Society Forum 2025 in Pilsen (first-author poster).

In May 2025, **Scott Erickson** presented his work on microelectrode arrays at TERMIS-EU in Freiburg, Germany. He has also been working with several master students in the lab, training them on cell culture, soft lithography, and fluidics. Outside of research, he has recently taken courses on additive manufacturing techniques and graphic design for science.

In recent months, **Carlo Carraro** has expanded his knowledge in control theory and human gait analysis through courses and collaborations with RWTH University, supporting the development of his project. Moreover, during his secondment at EPFL and CHUV, he is gaining valuable hands-on experience by working closely with clinicians and patients.

During this year, **Maria Justino** presented her research at two BCI conferences – Journées Cortico in Lyon with an oral presentation and a poster at the BCI Society Meeting in Banff, Canada. He is currently finalizing a patenting process for the algorithm she developed and preparing an article for submission to BCI Winter 2026 in South Korea. She also completed part of her secondment this summer at CHUV in Lausanne, Switzerland.

**Paula Holban** had the chance to attend and present her work at several conferences: the Central Nervous System Injury and Repair Gordon Research Seminar, the Dutch Peptide Symposium, and several mini symposium organized at the TU/e throughout the year. She completed her secondment at DWI in Aachen, where she learnt more about cellular behaviour in response to the biomaterials she developed, and at Uniklinik in Aachen, where she followed the FELASA course, in order to be able to work with rodents. Moreover, she is supervising several master students that help her reach the project goals.

## Here you can learn about two of the Doctoral Candidates involved in the ReWIRE Program!



**Scott Erickson** is a PhD student working under Prof. Stéphanie Lacour in the Laboratory for Soft Bioelectronic Interfaces (LSBI) at EPFL. In the past he has worked on developing in vitro models of placental and cerebral vasculature. He is now working on designing and fabricating microelectrode arrays for recording electrophysiological activity of human spinal cord organoids with the goal of developing an in vitro model of spinal cord injury.



**Vi Anh Nguyen** joined the NeuroRestore laboratory at EPFL under the supervision of Professor Grégoire Courtine. Her PhD project focuses on restoring lower urinary tract function after SCI using EES and understanding the mechanisms by which EES modulates bladder and sphincter control. As part of the ReWIRE network, Vi Anh aims to contribute to developing neuromodulatory strategies that translate into improved quality of life for individuals living with spinal cord injury.

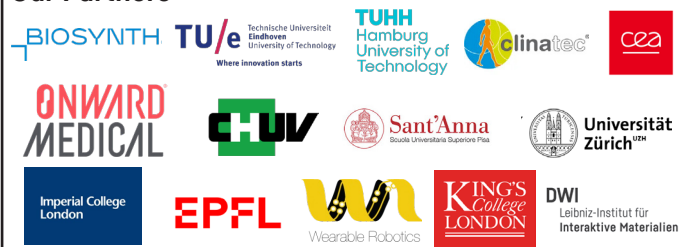
### Looking ahead: Next ReWIRE Network Meeting and workshops

The next Network Meeting and workshops will be held in Grenoble (organized by CEA and ETH/UTZ, respectively) and are planned to take place in **early February 2026**.

Moreover, the first International ReWIRE Neuromodulation Conference will be taking place in Bergisch Gladbach (Germany) in August, and soon more information will be shared concerning the program, participation and deadlines. **Stay tuned for more updates!**

*Written and coordinated by Paula Holban*

### Our Partners



ReWIRE is a project within the Marie Skłodowska-Curie Doctoral Networks.  
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