

Gut-brain and beyond: Interorgan Communication in Health and Disease. *Translational Insights from Preclinical Models to Clinical Applications*

Organizers: Paola Tognini, Tommaso Pizzorusso & Michele Emdin

Venue of the Talks: Sala Azzurra, Scuola Normale Superiore, Palazzo della Carovana, Piazza dei Cavalieri 7, 56126 Pisa

Venue of the Poster Session, Coffee Break and Lunch: Cloister of Palazzo della Carovana, Scuola Normale Superiore

Date: May 27-28 2026

DAY 1 MAY 27

9:15: **Opening Remarks:** Tommaso Pizzorusso, Michele Emdin and Paola Tognini

Session 1. Cellular and molecular mechanisms underlying the crosstalk between the gut and the brain

Chairs: Laura Baroncelli (Institute of Neuroscience, CNR, Pisa, Italy) and Yuri Bozzi (University of Trento, Italy)

9:30-10:00 Cristina Limatola (La Sapienza University of Rome, Italy) “Gut to brain communication: effects on tumor microenvironment in glioma”

10:00-10:30 Maria Rodriguez Aburto (University of Cork, Ireland) “Microbiome as a key Regulator of Neurodevelopment”

10:30-11:00 Paola Tognini (Scuola Superiore Sant’Anna Pisa, Italy) “Rewriting Critical Periods: The Role of the Microbiota in Experience-Dependent Brain Plasticity”

11:00-11:30 Coffee Break and poster set-up

Session 2. Brain–Body Interactions in Cardiometabolic and Neurobehavioral Disease

Chairs: Giuseppe Vergaro (Scuola Superiore Sant’Anna Pisa, Italy) and Alessandro Cellerino (Scuola Normale Superiore, Pisa, Italy)

11:30 -12:00 Cameron S McAlpine (Icahn School of Medicine at Mount Sinai, New York) “Brain-heart communication connects lifestyle and cardiovascular disease”

12:00 -12:30 Mathew DeBerge (The University of Texas Health Science Center at Houston, USA) “Neuroimmune Remodeling in Cardiometabolic Heart Failure”

12:30 – 13:00 Malu Martinez-Chantar (Derio, Bizkaia, Basque Country, Spain) “Beyond the Liver: MASLD as a Driver of Neurobehavioral Dysfunction”

13:00 Lunch and networking

13:30-15:00 Poster session

Session 3. Gut microbiota role in cardiometabolic risks and metabolic disorders

Chairs: Patricia Iozzo and Margherita Maffei (Institute of Clinical Physiology, CNR, Pisa, Italy)

15:00-15:30 Gianluca Ianaro (Cattolica University, Rome, Italy) “Gut microbiome: toward exploitation in clinical practice”

15:30-16:00 Nicola Segata (University of Trento, Italy) “Metagenomics of the human microbiome: from fundamental research to clinical applications”

16:00 – 16:30 Coffee break and networking

16:30 -16:50 Greetings from the Emeritus Professor to Young Scientists

Chair: Michele Emdin (Scuola Superiore Sant’Anna Pisa, Italy)

Professor Lamberto Maffei Scuola Normale Superiore, Pisa, Italy

Session 4. Young Investigator talks

Chair: Chiara Saponaro (University of Pisa, Italy) and Tommaso Pizzorusso (Scuola Normale Superiore, Pisa, Italy)

16:50 -17:10 Afroditi Tisitsou (Max Plank Institute, Munich, Germany) “Immunoregulation driven by the visceral cortex”

17:10 – 17:30 Timothy Cox (University of Pennsylvania, USA) “The Aged Microbiome Drives Cognitive Decline”

Short talks selected from the abstracts

17:30 – 17:45 Alice Miniati (Scuola Superiore Sant’Anna Pisa, Italy) “A nutritional challenge reprograms microglia transcriptome and function via gut-microbiota-brain crosstalk”

17:45- 18:00 Lydia Ait Ali Said (University of Lille, France) “SGLT4/SLC5A9, an intestinal sugar transporter at the crossroads of gut systemic metabolic signalling”

18:00 Greetings of the day

20:15 Social dinner, Ristorante La Clessidra (Pisa)

DAY 2 MAY 28

Session 5 Interorgan Communication as a Clinical Frontier in Systems Medicine and Innovative Approaches to assess it

Chairs: Claudio Passino (Scuola Superiore Sant’Anna Pisa, Italy), Tommaso Pizzorusso (Scuola Normale Superiore, Pisa, Italy) and Fabio Recchia (Institute of Clinical Physiology, CNR, Pisa, Italy)

9:15-9:45 Alberto Giannoni (Scuola Superiore Sant’Anna Pisa, Italy) “Brain-heart axis: autonomic consequences of cardiorespiratory interactions in patients with heart failure”

9:45-10:15 John Floras (University of Toronto, Canada) “Afferent and efferent cardiovascular autonomic dysregulation in human heart failure”

10:15-10:45 Vaughan Macefield (Monash University, Melbourne, Australia) “Microelectrode recordings of digestion-related activity from the human vagus nerve”.

10:45 -11:15 Calogero Oddo (Scuola Superiore Sant’Anna Pisa, Italy) “Mechanosensing science and engineering: from somatosensation to interoception”.

11:15 -11:40 Coffee break and networking

Meet the Editor

Chair: Paola Tognini (Scuola Superiore Sant’Anna Pisa, Italy)

11:40 – 12:15 Ilaria Carnevale (Editor in Chief “Trends Open”, Cell publishing Group, Amsterdam, The Netherlands) “Essential tips for publishing in Trends Open and high impact journals”

12:15 – 13:00 Short talks selected from the abstracts

Chair: Maria Grazia Giuliano (Scuola Superiore Sant’Anna Pisa, Italy)

12:15- 12:30 Micol Mangano (Sapienza University of Rome, Italy) “The role of glycine as mediator of gut microbiota alteration in a glioblastoma context”.

12:30- 12:45 Carolina Conter (CIC bioGUNE, Spain), “When the clock breaks: h2s as a link between night shift work and metabolic health”

12:45 -13:00 Elena Guzzolino (University of Florence, Italy) “The role of miR-182/IL-6 axis in the heart-brain communication: new insight from preliminary data exploiting cardiomyocytes derived from human pluripotent stem cells and the zebrafish model”

13:00 – 13:10 Unconclusive Remarks and Greetings.

Paola Tognini, Michele Emdin & Tommaso Pizzorusso

13:10- 14:30 Lunch, Networking and Goodbye