Milan
University of Milano-Bicocca
15th - 17th October 2025

NeuroMI
MILAN CENTER FOR NEUROSCIENCE

UNIVERSITÀ DEGLI STUDI DI MILANO
BICOCCA

NeuroMI
Milan Center for Neuroscience
2025

Artificial Intelligence for Neuroscience:
from basic research to clinical practice
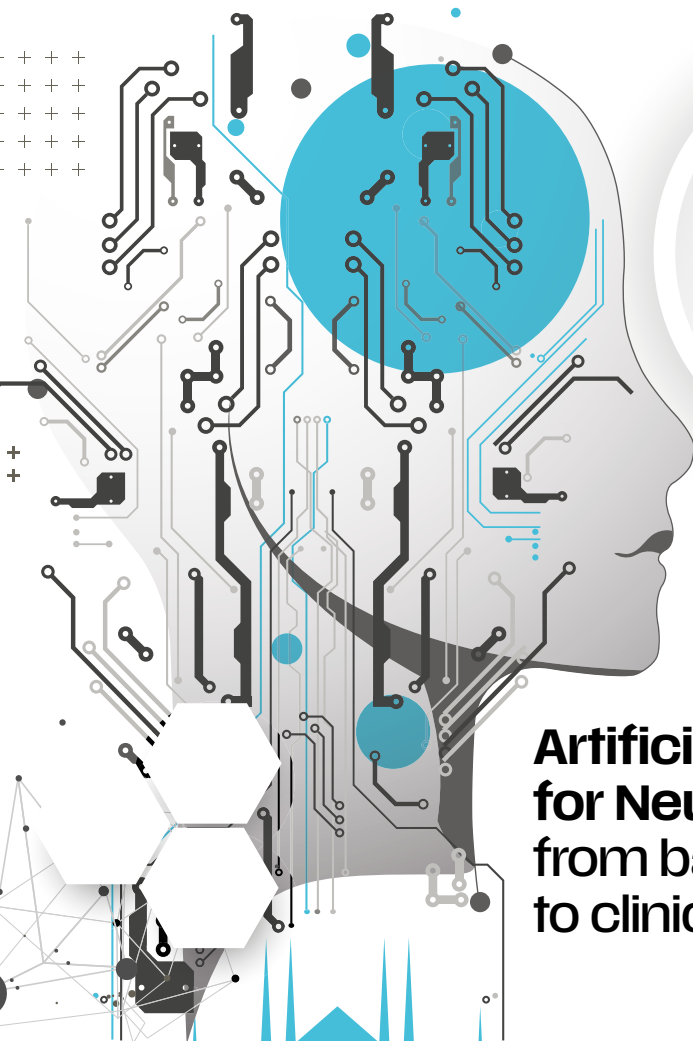
Europe

1. **Humboldt University of Berlin** - Berlin, Germany
2. **CNRS (Centre National de la Recherche Scientifique)** - Toulouse, France
3. **Consiglio Nazionale delle Ricerche (CNR)** - Rome, Italy
4. **École Polytechnique Fédérale de Lausanne (EPFL)** - Lausanne, Switzerland
5. **Istituto Italiano di Tecnologia (IIT)** - Genoa, Italy
6. **Imperial College London** - London, UK
7. **IRCCS Don Carlo Gnocchi Foundation** - Milan, Italy
8. **University of L'Aquila** - L'Aquila, Italy
9. **IULM University** - Milan, Italy
10. **University College London (UCL)** - London, UK
11. **University of Pavia** - Pavia, Italy
12. **Vita-Salute San Raffaele University** - Milan, Italy

North America

13. **Massachusetts Institute of Technology (MIT)** - Cambridge, Massachusetts, USA
14. **Stanford University** - Stanford, California, USA
15. **State University of New York (SUNY)** - Various locations across New York State, USA

Scientific Committee

NeuroMI Scientific Director
Carlo Ferrarese

NeuroMI Scientific Board
Gabriella Bottini, Bice Chini, Annamaria Colangelo, Francesca Gasparini, Rosa Maria Moresco, Andrea Ongaro, Eraldo Paulesu, Luca Polonio, Luca Presotto, Francesca Re, Carlo Reverberi, Daniele Romano, Gessica Sala, Marina Saresella, Arianna Scuteri, Antonella Zambon

Under the Patronage of:

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alla SIN per le Demenze

Rationale

The rapid evolution of **artificial intelligence (AI)** presents transformative potential for neuroscience, particularly in addressing complex challenges in basic research, in neurorehabilitation and the management of neurological and psychiatric disorders.

The **Milan Center for Neuroscience (NeuroMi)**, aims to devote its **seventh international meeting** to these themes and to gather top scientists involved in basic, clinical and applied research to foster interdisciplinary collaboration, accelerate innovation, and ensure ethical, equitable deployment of AI technologies.

AI-driven tools offer unprecedented capabilities in diagnostics, promise personalized treatment planning, real-time monitoring, and predictive modelling of disease progression. These tools may favour treatment and rehabilitation in Stroke and traumatic brain injury, optimize diagnosis and interventions in disorders such as Alzheimer disease and Multiple Sclerosis, and support early detection and treatment of conditions like depression and schizophrenia.

However, to harness this potential, it is vital to bring together experts in neuroscience, AI, clinical practice, ethics, and policy to exchange knowledge, address challenges such as data privacy and algorithmic bias, and **define global strategies**.

This meeting aims to catalyse impactful research, promote best practices, and align technological advances with clinical needs and societal values.

*The **Milan Center for Neuroscience (NEUROMI)** was founded in 2014 to gather Neuroscientists from 7 different Departments of University of Milano-Bicocca and now counts more than **500 neuroscientists** from research institutions of the large Milan area. Its mission is to promote **multidisciplinary research** in the field of neuroscience, to foster collaborations among various disciplines, to share **technological platforms** and to offer **top-level education** in neuroscience.*

Foundations of AI in Neuroscience

2:00 p.m. – 2:15 p.m. Welcome and Introduction - **Carlo Ferrarese, Eraldo Paulesu**

Chairs: Francesca Gasparini and Mirko Cesarini

2:15 p.m. – 2:45 p.m. Fundamentals of AI applied to neuroscience
Aldo Faisal (London, UK)

2:45 p.m. – 3:15 p.m. AI – an opportunity to address diagnosis by mechanisms in clinical neuroscience. A Paradigm Shift
Richard Frackowiak (London, UK)

3:15 p.m. – 3:45 p.m. AI in Neuroscience: Challenges, Opportunities, and Threats*
Salvador Dura-Bernal (New York, USA)

3:45 p.m. – 4:00 p.m. General Discussion

4:00 p.m. - 4:30 p.m. *Coffee break*

Chairs: Federico Cabitza and Marta Sosa Navarro

4:30 p.m. - 5:00 p.m. AI platforms for neuroscience
Carlo Tacchetti (Milan, IT)

5:00 p.m. - 5:30 p.m. The Virtual Brain and Digital Twin: Results from the Human Brain Project
Egidio D'Angelo (Pavia, IT)

5:30 p.m. - 6:00 p.m. Selected oral communications

AI, Neurophysiology, Neuropsychology and Cognitive Neuroscience

Chairs: Eraldo Paulesu and Marco Tettamanti

9:00 a.m. – 9:40 a.m.	**Like neurons do: towards a neuronally inspired AI** **Simon Thorpe** (France, FR)
9:40 a.m. – 10:20 a.m.	**Large language models and the brain** **Evelina Fedorenko** (USA)
10:20 a.m. – 11:00 a.m.	**AI in neuropsychology: the case of language and aphasia** **Stefano Cappa** (Milan, IT)
11:00 a.m. – 11:20 a.m.	*Coffee Break*

Chairs: Laura Zapparoli and Carlo Reverberi

11:20 a.m. - 12:00 a.m.	**Reproducibility in AI-enabled science** **Russel Poldrack** (USA)
11:30 a.m. - 12:15 a.m.	**The role of generative AI for fMRI data interpretation** **John-Dylan Haynes** (Berlin, DE)
12:15 a.m. - 12:45 a.m.	**Oral communications**
12:45 a.m. – 1:45 p.m.	**Poster Session and Lunch Break**

AI for Neurorehabilitation

Chairs: Cristina Messa and Franco Molteni

1:45 p.m. – 2:15 p.m.	**Leveraging Machine Learning for improved Patients Assessment and Prognosis in Neuro-Rehabilitation** **Andrea Mannini** (Milan, IT)
2:15 p.m. – 2:45 p.m.	**AI for Clinical Decision in Neurorehabilitation** **Giovanni Morone** (L'Aquila, IT)
2:45 p.m. – 3:15 p.m.	**AI and Embodiment in Neurorehabilitation** **Luisa Damiano** (Milan, IT)
3:15 p.m. – 3:45 p.m.	**Generative AI for rehabilitation: risks and opportunities** **Antonio Cerasa** (Milan, IT)
3:45 p.m. – 4:15 p.m.	*Coffee Break*

Chairs: Maria Chiara Carrozza and Nicoletta Cusano

4:15 p.m. - 4:45 p.m.	**AI and humanoid robots for neurorehabilitation** **Daniele Pucci** (Genova, IT)
4:45 p.m. - 5:30 p.m.	**AI-Driven Insights into Neuroimmune Crosstalk in Virtual Reality–Induced Immune Responses** **Andrea Serino** (Lausanne, CH)
5:30 p.m. - 6:00 p.m.	**Oral communications**

AI for Neurological Disorders

Chairs: Carlo Ferrarese and Massimo Filippi

9:00 a.m. – 9:30 a.m.   **AI-driven EEG Analysis for Neuro-degenerative Diseases: trends and horizons**
Simone Zini (Milan, IT)

9:30 a.m. – 10:00 a.m.   **AI for preclinical diagnosis and staging of neurodegenerative disorders**
Federica Agosta (Milan, IT)

10:00 a.m. – 10:30 a.m.   **Digital tools for risk assessment in Brain Health Service**
Federico E. Pozzi (Milan, IT)

10:30 a.m. – 11:00 a.m.   **AI for Multiple Sclerosis**
Arman Eshaghi (London, UK)

11:00 a.m. – 11:30 a.m.   *Coffee Break*

Chairs: Guido Cavaletti and Simone Beretta

11:30 a.m. - 12:00 a.m.   **AI for patient journey in MS**
Stefania Rocca (Milan, IT)

12:00 a.m. - 12:30 a.m.   **AI in epilepsy**
Stefano Meletti (Modena, IT)

12:30 p.m. – 1:00 p.m.   **Selected oral communications**

1:00 p.m. – 1:45 p.m.   **Poster session and Lunch Break**

AI for Psychiatric Disorders

Chairs: Giuseppe Carrà and Roberto Cavallaro

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1:45 p.m. – 2:15 p.m.	**AI as the Digital Navigator, using LLMs to interpret smartphone digital phenotyping data** **John Torous** (Harvard, UK)
2:15 p.m. – 2:45 p.m.	**From Psychopathology to Promptology: a new language for mental illness** **Francesco Attanasio** (Milan, IT)
2:45 p.m. – 3:15 p.m.	**MIND-IT: a multimodal sentiment analysis system for detecting mental disorders in Italian speech** **Giulia Rizzi** (Milan, IT) / **Alessandra Grossi** (Milan, IT)
3:15 p.m. – 3:45 p.m.	**Natural Language and signal Processing for mental health: a data-driven perspective** **Cristina Crocamo** (Milan, IT)
3:45 p.m. – 4:00 p.m.	*Coffee Break*

Chairs: Cristina Colombo and Francesco Bartoli

4:00 p.m. - 4:30 p.m.	**Selected Oral Communications**

Closing Session

Chair: Laura Spinney (Paris, FR)

4:30 p.m. - 5:00 p.m.	**AI and NeuroEthics** **Philipp Kellmeyer** (Freiburg, DE)
5:00 p.m. – 5:15 p.m.	**Closing Remarks**
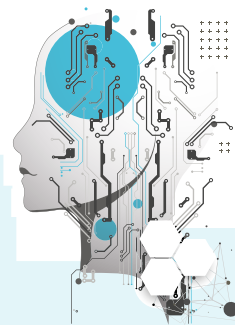
GENERAL INFORMATION

Meeting venue

University of Milano - Bicocca
Great Hall - Building U6
Piazza dell'Ateneo Nuovo, 1
Milan

Organizing Secretariat

Hinovia Srl
Viale IV Novembre, 28 - 31100 Treviso
Tel. +39 0422 1860100
info@hinovia.com

Registration

Single individuals will only be able to register online through the website https://neuromi2025.com. Until 15th September it is possible to take advantage of the reduced fee. The fee includes: participation at the scientific studies, conference kit, certificate of attendance, buffet lunches and coffee breaks.

REGISTRATION FEES	EARLY REGISTRATION UNTIL September 15th 2025	REGISTRATION AFTER September 15th 2025	REGISTRATION ON SITE REGISTRATION
Regular	€ 250,00	€ 300,00	€ 350,00
Under 35 years old	€ 150,00	€ 200,00	€ 250,00
Daily registration	€ 100,00	€ 150,00	€ 200,00
PhD Students and Residents	€ 100,00	€ 150,00	€ 200,00
NeuroMI Members registered as of June 30th 2025	€ 100,00	€ 150,00	€ 200,00
Undergraduate Students	Free	Free	Free

Fees are inclusive of 22 % iva (tax).
It is possible to register online until 13th October h. 8.00 a.m.
Onsite registration is only allowed by credit card payment.

Directions

BY TRAIN

The closest station to the Università degli Studi di Milano-Bicocca
is Milano Greco Pirelli.

The Milano Greco Pirelli station is reachable from:
- Milano Porta Garibaldi in about 7 minutes with 4 trains departing per hour
- Milan Lambrate in about 7 minutes using line S9 and R trains to/from Brescia, plus a few trains departing from Piacenza, Voghera

By taking Viale dell'Innovazione, the street next to the Arcimboldi theatre, you will reach Piazza dell'Ateneo Nuovo and buildings U6/U7.
From Central Station you can take bus 87.
For more information please visit this website: www.trenitalia.it

BY PLANE

From Milan Linate airport, take metro towards S. Babila M1. At the last stop continue on line 1 of the Metro.
Those arriving at Milan Malpensa airport can take the Malpensa Express shuttle train. We advise you to use trains that stop at Milan Porta Garibaldi station.

BY CAR

From the Turin-Venice motorway, exit "Milano - viale Zara" and take the direction towards 'Milano Centro'.
After passing the sign indicating the city of Milan, at the StarTourist Hotel on the left, take Viale Sarca, the first street parallel to the one you find yourself on, on the left side.
Continuing along Viale Sarca in the same direction you will find the University on your left after about one km.

CME Accreditation

The ECM Accreditation for Congress "Brain health and prevention of cognitive decline: Today's challenges for a brighter tomorrow" has been requested for the following positions:

- Biologist
- Speech Therapist
- Psychologist (Psychotherapy, Psychology)
- Medical Doctor (geriatrics; physical medicine and rehabilitation; sport medicine; neurology; psychiatry; hygiene, epidemiology and public health; food science and dietetics; healthcare services organization; psycotherapy; community medicine)
- Health care professional
- Physiotherapist
- Nurse
- Dental hygienist

ASSIGNED CREDITS:
All professions and disciplines not set out in the previous list are excluded from the acquisition of CME credits, but can still take part in the event (provided the conference hall has not reached the maximum limit of attendance required under accreditation)
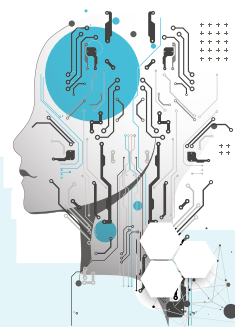
Poster instruction
Posters have to be affixed on the first day of the meeting. Posters will remain on display for the whole meeting. Posters' dimension: 70 cm. wide x 100 cm. high.

Language
The official language of the meeting is English.

Meeting website
https://neuromi2025.com

Meeting venue

University of Milano - Bicocca
Great Hall - Building U6
Piazza dell'Ateneo Nuovo, 1
Milan

Organizing Secretariat

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