

Milan Center for Neuroscience - NeuroMI

10th anniversary 2014-2024

October 23-25, 2024

Sixth International Meeting

Brain Health and prevention of cognitive decline:

Today's challenges for a brighter Tomorrow

According to the 2022 **WHO position paper**, Brain Health can be defined as “*the state of brain functioning across cognitive, sensory, social-emotional, behavioral and motor domains, allowing a person to realize their full potential over their life course, irrespective of the presence or absence of disorders*”.

The **EAN Brain Health Strategy** – ‘*one brain, one life, one approach*’ – aims to develop a holistic approach to brain health that benefits society not just through a decreased healthcare burden due to neurological disorders, but through improved quality of life and productivity throughout an individual's life course. The EAN's vision is of a future in which individuals, populations, clinicians, and policymakers understand the benefits of good Brain Health and have the information and opportunities to preserve and recover Brain Health.

With **worldwide aging populations**, the burden of neurological diseases is increasing and represents a major cost for society. **Dementia has the highest impact**, with a prevalence expected to triplicate within 2050, up to 130 million worldwide, with the highest increase in developing countries.

Research showed us that **molecular mechanisms** leading to neurodegenerative disorders and dementia start decades before clinical onset and we have now available **biomarkers** revealing ongoing pathological processes before their clinical manifestations.

Moreover, **new disease-modifying drugs** and **multidomain intervention strategies** have been shown to have an impact on the progression of molecular mechanisms, on clinical course, and on the **prevention of cognitive decline**. However, implementation of such strategies requires a big effort from the scientific community, health systems, and policymakers.

Past COVID pandemic, the highest amount of money ever delivered from the European Community through the **Next Generation EU funding**, might shape our future if appropriately targeted to these ambitious goals. The Italian “*Programma Nazionale di Ripresa e Resilienza*” (**PNRR**) devoted a large amount of this European financing to **collaborative strategic plans** involving partnerships from Academia, Research Centers, and Public and Private Companies to address this **big challenge**.

On its tenth anniversary in 2024, the **Milan Center for Neuroscience (NEUROMI)**, aims to devote its sixth **international meeting** to these themes and to gather top scientists involved in basic, clinical, and applied research to address these themes and **promote synergies and collaborations** to work together toward this ambitious goal.

Wednesday 23 October, 14:00-20:00

14:00 - Welcome and opening

Carlo Ferrarese, Scientific Director, NeuroMI

Giovanna Iannantuoni, Rector, University of Milano-Bicocca

Cristina Messa, Former Rector and Ministry of University and Research

Elena Cattaneo, Senator for life in the Italian Parliament

14:30 - Lecture: The mission for brain health (Matilde Leonardi, Milan)

Chair: Elena Moro, Grenoble (President, European Academy of Neurology)

Aging, brain damage, and brain resilience

15:00-17:00 - Mechanisms of brain damage and brain aging

Chair: Michela Matteoli and Gianluigi Forloni

1. Molecular mechanisms of senescence (Fabrizio D'Adda di Fagagna, Milan, Pavia)
2. Protein misfolding and synaptic dysfunction in brain disorders (Fabrizio Gardoni, Milan)
3. Vascular risk factors (Leonardo Pantoni, Milan)
4. Neuroinflammation (Mario Clerici, Milan)
5. Aging and Frailty (Giuseppe Bellelli, Milan)

Coffee Break

17:30-19:00 - Brain Plasticity and Brain Resilience

Chair: Nadia Bolognini and Mario Rosanova

1. Mechanisms of Brain plasticity (Carlo Miniussi, Trento)
2. Cognitive Stimulation (Andrea Brioschi Guevara, Losanna)
3. Non invasive Brain Stimulation (Alberto Benussi, Trieste)
4. Physical activity and gut-muscle-brain interplay (Giuseppe D'Antona, Pavia)

19:00-19:30 - Selected oral communications

Chair: Bice Chini and Annamaria Colangelo

19:30 - Lecture: Tracing Alzheimer's origin in human evolution (Emiliano Bruner, Burgos, E)

Chair: Lucio Tremolizzo

20:00 - Cocktail

Thursday 24 October, 09:00-20:00

The diagnostic revolution: towards preclinical diagnosis

9:00-10:30 - Imaging Biomarkers

Chair: Eraldo Paulesu and Rosa Maria Moresco

1. Structural Imaging biomarkers (Federica Agosta, Milan)
2. Functional NMR biomarkers (Marco Bozzali, Turin)
3. PET molecular diagnostic for cognitive decline (Daniela Perani, Milan)
4. What does EEG tell us about Alzheimer's disease? (Claudio Babiloni, Rome)

10:30-11:00 - Selected oral communications (3 x 10 min each)

Chair: Gianpaolo Basso and Carlo Reverberi

Coffee Break

11:30-12:40 - Fluid biomarkers

Chair: Fabrizio Tagliavini and Marina Saresella

1. Cerebrospinal fluid biomarkers (Argonde van Harten, Amsterdam)
2. Blood biomarkers (Marc Suarez-Calvet, Barcellona)
3. Multivariate biomarkers for MCI (Genni Desiato, Milan)
4. Emerging biomarkers (Daniela Galimberti, Milan)

12:40-13:00 - Selected oral communications (2 x 10 min each)

Chair: Benedetta Nacmias and Lucio Tremolizzo

13:00 – 14:30 Lunch and posters with Moderators

14:30-16:00 - The role of Neuropsychology and Behavioral assessment

Chair: Gabriella Bottini and Stefano Cappa

1. Definition of SCD and MCI (Gonzalo Sánchez-Benavides, Barcelona)
2. Predictive neuropsychological markers (Stéphanie Bombois, Paris)
3. Cognitive impairment and behavioral alterations (Andrea Arighi, Milan)
4. Telemedicine and new predictive tests (Camillo Marra, Rome)

16:00-16:30 - Selected oral communications

Chair: Valeria Isella and Daniele Romano

Coffee Break

17:00-18:30 Early diagnosis and patient journey

Chair: Massimo Filippi and Vincenzo Silani

1. Brain Health services and Memory Clinics (Giovanni Frisoni, Geneva)
2. Patient Journey and guidelines (Sandrine Andrieu, Toulouse)
3. Indications for new treatments in SCD and MCI (Sebastiaan Engelborghs, Brussels)
4. Ethical issues (Daniela Ovadia, Pavia)

18:30-19:00 - Selected oral communications

Chair: Ildebrando Appollonio and Valentina Bessi

19:00-20:00 Press Conference with Patient's Associations

20:00 Cocktail

Friday 25 October, 09:00-17:30

New Avenues for Prevention

9:00-10:30 - Strategies of prevention and new treatments

Chair: Carlo Ferrarese and Sandro Sorbi

1. Monoclonal antibodies: a new opportunity (Alessandro Padovani, Brescia)
2. Nutritional approaches to prevent cognitive decline: the mysterious case of dietary polyphenols (Daniele Del Rio, Parma)
3. Multidomain Interventions and WorldWide Fingers (Francesca Mangialasche, Stockholm)
4. Emerging new targets and drugs (Ferdinando Nicoletti, Rome)

10:30-11:00 - Selected oral Communications

Chair: Massimo Clerici and Carolina Lombardi

Coffee Break

11:30-13:00 - Prevention from a societal perspective: new issues to target

Chair: Monica Di Luca and Guido Bellomo

1. The contribution of European Brain Council in engaging global brain health (Frederic Destrebecq, European Brain Council)
2. The role of vaccinations for brain health (Stefania Maggi, Padova)
3. Brain Health in migrants (Marco Canevelli, Rome)
4. Global synergistic actions to improve brain health (Mayowa O Owolabi, Nigeria, Online)

13:00-14:30 Lunch and posters with Moderators

14:30-17:00 - Next Generation EU: shaping the future for Brain Health

Chair: Guido Cavaletti and Cristina Messa

1. Mnesys Project (Silvia Caminiti, Pavia)
2. AGE-IT Project (Luca Cuffaro, Milan)
3. FIT4MEDROB Project (Franco Molteni, Costamasnaga)
4. Anthem Project (Guido Cavaletti, Milan)

17:00-17:30 Meeting Closure and Awards for best Posters

NeuroMi Scientific Director: Carlo Ferrarese

NeuroMi Scientific Board: Nadia Bolognini, Gabriella Bottini, Bice Chini, Giuseppe Chirico, Massimo Clerici, Annamaria Colangelo, Francesca Gasparini, Rosa Maria Moresco, Andrea Ongaro, Eraldo Paulesu, Francesca Re, Carlo Reverberi, Daniele Romano, Marina Saresella, Arianna Scuteri, Luca Stanca, Antonella Zambon

Advisory Board: Federica Agosta, Giuseppe Bellelli, Stefano Cappa, Guido Cavaletti, Monica Di Luca, Massimo Filippi, Gianluigi Forloni, Matilde Leonardi, Carolina Lombardi, Michela Matteoli, Cristina Messa, Franco Molteni, Daniela Ovadia, Daniela Perani, Vincenzo Silani, Fabrizio Tagliavini

Executive Board: Luca Cuffaro, Federico Emanuele Pozzi, Gessica Sala

Neuroscience Research Centers of the Large Milan Area:

University of Milano-Bicocca

University of Milan

University Vita-Salute San Raffaele

Humanitas University

University of Pavia

Istituto Universitario di Studi Superiori, Pavia

Fondazione IRCCS San Gerardo dei Tintori

Fondazione IRCCS Istituto Neurologico Carlo Besta

Fondazione IRCCS Cà Granda Ospedale Maggiore Policlinico

Fondazione IRCCS Mario Negri

Fondazione IRCCS Don Carlo Gnocchi

Fondazione IRCCS Humanitas

Fondazione IRCCS San Raffaele

Fondazione IRCCS Istituto Auxologico

Fondazione IRCCS Casimiro Mondino

Grande Ospedale Metropolitano di Niguarda

Consiglio Nazionale delle Ricerche

Fondazione Valduce Villa Beretta

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