Brain conference

TORINO 2025

OCTOBER 29 • 30 • 31, 2025

PRELIMINARY SCIENTIFIC PROGRAM

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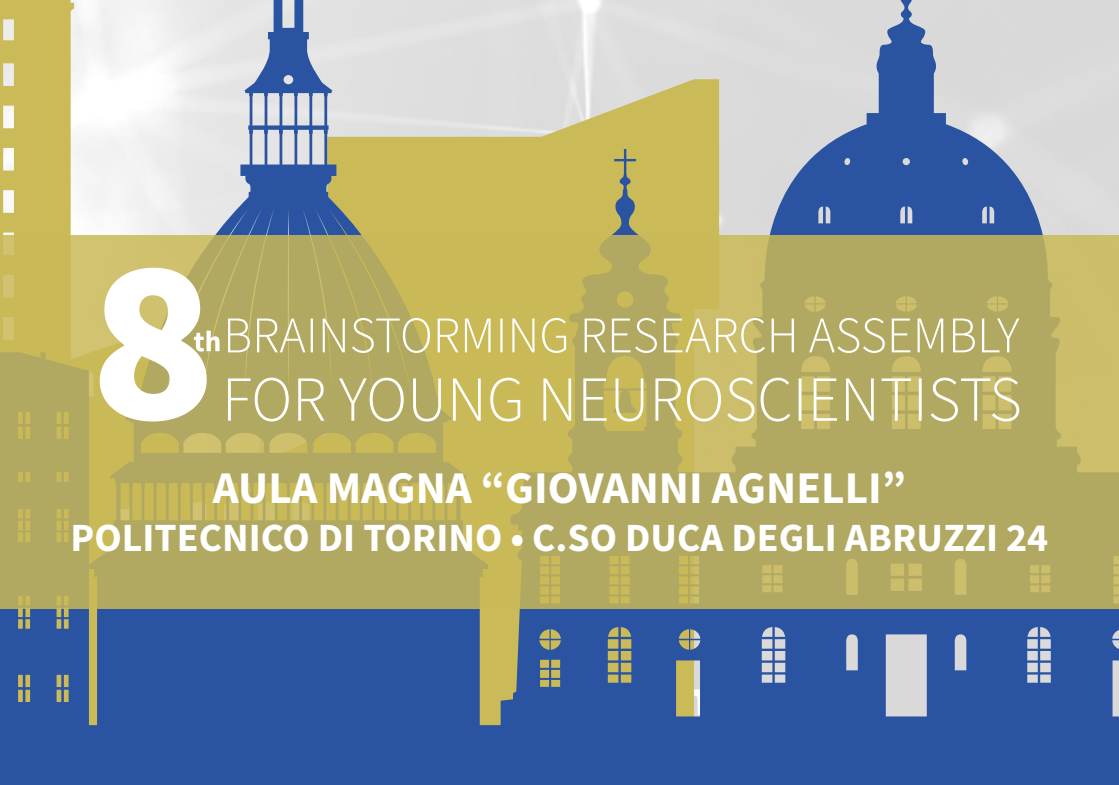

8th BRAINSTORMING RESEARCH ASSEMBLY FOR YOUNG NEUROSCIENTISTS

AULA MAGNA "GIOVANNI AGNELLI"

POLITECNICO DI TORINO • C.SO DUCA DEGLI ABRUZZI 24

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MENTORS

Martin Chalfie	Department of Biological Sciences, Columbia University, New York (USA)
Michela Fagiolini	CNR Istituto di Neuroscienze (Italy); Boston Children's Hospital Harvard Medical School (USA)
Michela Matteoli	Humanitas University, Rozzano (Italy)
Thomas C. Südhof	Nobel Laureate • Department of Molecular and Cellular Physiology, Howard Hughes Medical Institute, Stanford University School of Medicine (USA)
Antonio Uccelli	IRCCS San Martino Hospital, Genoa (Italy)

INVITED SPEAKERS

Burkhard Becher	Institute of Experimental Immunology, Universität Zürich (Switzerland)
Benjamin Deneen	Baylor College of Medicine, Houston, Texas (USA)
Michael Heneka	LCSB – Luxembourg Centre for Systems Biomedicine, The University of Luxembourg (Luxembourg)
Edvard Ingjald Moser	Kavli Institute for Systems Neuroscience, Norwegian University of Science and Technology (Norway)
Marzia Munafò	European Molecular Biology Laboratory (EMBL), Rome (Italy)
Gaia Olivo	Psykologiska Institutionen, Göteborgs Universitet (Sweden)
Tommaso Pizzorusso	Scuola Normale Superiore, Pisa (Italy)

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Federica Anastasi	BarcelonaBeta, Brain Research Center (BBRC) (Spain)
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Noemi Marino	Istituto Romagnolo per lo Studio dei Tumori (IRST) and University of Bologna (Italy)
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Samuele Negro	University of Padova (Italy)
Gabriele Sansevero	Neuroscience Institute - National Research Council of Italy, Pisa (Italy)
Erica Tagliatti	IRCCS Humanitas Research Hospital, Rozzano (Italy); University College London, London (UK)

INTERNATIONAL BRAYNIACS

Pablo Blanco	CNIO, Madrid (Spain)
Fionä Caratis	Medical University of Gdańsk (Poland)
Rina Demjaha	Medical University of Graz (Austria)
Marta Ibáñez Navarro	CNIO, Madrid (Spain)
Antonio Masone	Taub Institute - Columbia University (USA)
Paola Pacifico	Feinberg School of Medicine, Northwestern University, Chicago (USA)
Leire Pedrosa Eguílaz	Hospital Clínic de Barcelona (Spain)
Aleksandra Rutkowska	Medical University of Gdańsk (Poland)
Maria Velasco	CNIO, Madrid (Spain)

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BRAYN NEWS AND SOCIAL TEAM

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BRAYN SCIENTIFIC SESSIONS

NEUROIMAGING & CLINICAL NEUROLOGY is a comprehensive scientific session exploring the intersection of advanced neuroimaging techniques and clinical neurology applications. This session delves into the utilization of various neuroimaging methodologies to probe the structure, function, and physiology of the nervous system, alongside the translational aspects of clinical neurology. The session covers two primary neuroimaging approaches: structural imaging, which aids in the diagnosis of large-scale intracranial diseases and injuries, and functional imaging, crucial for diagnosing metabolic diseases like Alzheimer's and facilitating neurological and cognitive psychology research. Techniques such as Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Electroencephalography (EEG), and Positron Emission Tomography (PET) will be discussed in the context of their applications alone or in combination to investigate neurological diseases. Moreover, the session emphasizes the integration of neuroscience data and basic research with clinical neurology to enhance understanding and treatment of nervous system disorders. The session invites submissions showcasing translational significance and real-world clinical applications, focusing on patient-related observations derived from experimental research, clinical trials, and clinical cases. Special attention will be given to discussions on the potential role and use of biomarkers in clinical settings, as well as novel therapies for neurological diseases. Join us to explore the latest advancements in neuroimaging techniques and their pivotal role in shaping clinical neurology, bridging the gap between bench and bedside for improved patient outcomes.

NEUROINFLAMMATION & NEUROVASCULAR is the inflammatory response initiated in the central nervous system (CNS) by resident cells or triggered by infiltrating immune cells, which causes the neuronal dysfunctions observed in inflammatory and neurodegenerative disease of the CNS. The NI session mainly focuses on basic and clinical research in multiple sclerosis (MS), Neuromyelitis Optica Spectrum Disorder (NMOSD) and other inflammatory diseases of the CNS that have a significant impact on the lives of young adults. Although the scientific discoveries of recent decades have improved the therapeutic approaches used for the treatment of such pathologies, many questions still remain unanswered. The NI session aims to discuss the basic pathogenic mechanisms governing CNS inflammation, the role of immune system in CNS autoimmunity, and the importance of genetic and environmental factors in the development of neuroinflammatory diseases, with a patient-centered focus.

NEURODEGENERATION is a key aspect of a large number of diseases characterized by progressive damage of the nervous system that leads to irreversible neuronal death, such as Parkinson's disease (PD) and Alzheimer's disease (AD). PD is a slowly progressive syndrome that begins insidiously, gradually worsens in severity, and usually affects one side of the body before spreading to involve the other side. Rest tremor is often the first symptom recognized by the patient, but the illness sometimes begins with bradykinesia, and in some patients, tremor may never develop. AD is the most common type of dementia and it is an irreversible, neurodegenerative and progressive central nervous system disorder that slowly destroys memory and thinking skills, and, eventually, other mental abilities. Other examples of neurodegenerative diseases are tauopathies, narcolepsy, depression and psychiatric disorders. During the BraYn conference, we will be updated on the more recent advances in the field.

NEURO-ONCOLOGY is an emerging field of investigation that studies nervous system tumors. As many of them can cause severe nervous system damage, neuro-oncology represents a trending research area in neuroscience, which may identify the molecular mechanisms involved in tumor pathogenesis. This would ultimately lead to the development of novel therapeutic approaches for the treatment of life-threatening diseases such as glioma, and medulloblastoma. These topics will be discussed in depth during the NO session.

NEUROPHYSIOLOGY & NEURAL PLASTICITY. We will focus on studies addressing the function of the nervous system and of its components, and the capacity of the nervous system to modify itself, functionally and structurally, in response to experience and injury. All levels of function and plastic changes are included, from the membrane and cell to systems and behaviour. Experimental approaches include molecular, cellular and developmental neurobiology, functional neuroanatomy, neurochemistry, neuropharmacology, electrophysiology, and behavioural analysis, in *in vivo*, *ex-vivo* and *in vitro* models in invertebrate or vertebrate species, including humans.

NEURODEVELOPMENT. Human neurodevelopment is a dynamic and extensive process, beginning at the pre-natal stages, driven by genetic information, and influenced by many environmental factors. The alteration of this process at different levels can lead to neurodevelopmental and psychiatric disorders such as autism spectrum disorder, intellectual disability, and epilepsy. Epilepsy is one of the most common neurological diseases globally. Its etiologies cover a wide range, from genetics to trauma, auto-immunity, and tumors. Unfortunately, available therapeutics only treat the symptoms but not the root cause of the disease. This complexity has pushed epilepsy research to embrace many different fields of neuroscience, to discover the pathophysiological processes that cause and sustain seizures, and potential therapeutic targets. In this session we discuss how new insights from the fields of epilepsy research, developmental disorder and neurogenetics can improve our understanding of the human brain and contribute to novel therapeutic perspectives.

29 OCTOBER • Day 1

10:00 Registration

11:00 Opening Ceremony • **Giovanni Ferrara**

BRAYN STARTING GRANT SESSION

Chairpersons

11:15 **Veronica Ceci** (Starting Grant 2024 Winner)
Specialized pro-resolving lipid mediators modulate choroid plexus inflammatory activity.

11:30 **Alessandra Martello** (Starting Grant 2024 Winner)
Neural and Cardiac Dysfunctions in a Parkinson's Mouse Model.

11:45 Lectio Magistralis | **Edvard Ingjald Moser**

12:45 Lunch Box with Poster Session 1

SESSION 1 • NEURODEVELOPMENT ORAL COMMUNICATIONS

Chairpersons

14:45 *(oral communication)*

14:30 *(oral communication)*

14:45 *(oral communication)*

15:00 BraYn Educational Symposium

15:15 SpeedTalk

15:20 SpeedTalk

15:25 SpeedTalk

SESSION 2 • NEUROINFLAMMATION
ORAL COMMUNICATIONS

Chairpersons

15:30	Lecture | **Burkhard Becher**
16:00	*(oral communication)*
16:15	*(oral communication)*
16:30	BraYn Educational Symposium
16:45	BraYn Educational Symposium
17:00	*(oral communication)*
17:15	*(oral communication)*
17:30	SpeedTalk
17:35	SpeedTalk
17:40	SpeedTalk
17:45	SpeedTalk
17:50	SpeedTalk
17:55	Closing remarks

30 OCTOBER • Day 2

SESSION 3 • NEURODEGENERATION
ORAL COMMUNICATIONS

Chairpersons

9:30	Lecture | **Michael Heneka**
10:00	*(oral communication)*
10:15	*(oral communication)*
10:30	*(oral communication)*
10:45	*(oral communication)*
11:00	BraYn Educational Symposium
11:30	*(oral communication)*
11:45	*(oral communication)*
12:00	*(oral communication)*
12:15	SpeedTalk
12:20	SpeedTalk
12:25	SpeedTalk
12:30	SpeedTalk
12:35	SpeedTalk
12:40	Lunch Box with Poster Session 2

	SESSION 4 • NEURO-ONCOLOGY ORAL COMMUNICATIONS Chairpersons
14:45	Lecture | **Benjamin Deneen**
15:15	*(oral communication)*
15:30	*(oral communication)*
15:45	BraYn Educational Symposium
16:15	*(oral communication)*
16:30	*(oral communication)*
16:45	BraYn Educational Symposium
17:15	SpeedTalk
17:20	SpeedTalk
17:25	SpeedTalk
17:30	SpeedTalk
17:35	SpeedTalk
17:40	Closing remarks

31 OCTOBER • Day 3

SESSION 5 • CLINICAL NEUROSCIENCE
ORAL COMMUNICATIONS

Chairpersons

9:30	*(oral communication)*
9:45	BraYn Educational Symposium
10:15	*(oral communication)*
10:30	*(oral communication)*
10:45	Lecture | **Gaia Olivo**
11:00	Lecture | **Invited Speaker**
11:15	SpeedTalk
11:20	SpeedTalk
11:25	SpeedTalk
11:30	BraYn Educational Symposium
11:35	Lecture | **Invited Speaker**
11:40	Technical Talk (30 min) | **Marzia Munafò**

SESSION 6 • NEUROPHISIOLOGY
ORAL COMMUNICATIONS

Chairpersons

12:15	Lecture | **Tommaso Pizzorusso**
12:30	*(oral communication)*
12:45	*(oral communication)*
13:00	*(oral communication)*
13:15	*(oral communication)*
14:00	BraYn Educational Symposium
14:30	SpeedTalk
14:35	SpeedTalk
14:40	SpeedTalk
14:45	SpeedTalk
15:00	SpeedTalk
15:40	Closing remarks & BraYn Awards

UNDER THE PATRONAGE

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