

## C.M.E. Credits

### CME accreditation (valid for Italian participants only) for:

**PHYSICIAN** - neurology, psychiatry, palliative care, pharmacology and clinical toxicology, geriatrics, neurosurgery, physical medicine and rehabilitation, diabetes and metabolic diseases

**PHARMACIST**  
**BIOLOGIST**

**CME credits:** 19

Italian CME credits will be granted to those participants who fully attend all sessions and duly fill in the evaluation questionnaires answering correctly 75% of the questions. An attendance certificate will be handed on site at the end of the event, whereas the credit certificate will be mailed.

## ORGANIZING SECRETARIAT



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# MORE THAN NEURONS:

toward a less neuronocentric view of brain disorders

## SCIENTIFIC ORGANIZERS

**Pier Luigi Canonico**  
**Mariagrazia Grilli**  
University of Piemonte Orientale  
Novara, Italy

## SCIENTIFIC BOARD

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**Maria Angela Sortino** (Catania, Italy)

**December 1-3, 2016**

Torino Incontra  
Via Nino Costa, 8 - 10123 Torino

## CONFERENCE AIM

### MORE THAN NEURONS: toward a less neuronocentric view of brain disorders

Neurological and psychiatric disorders have long been perceived as the exclusive consequence of abnormalities in the most prominently affected cell types: neurons.

Increasing knowledge on newly identified functions of non-neuronal cells together with findings of their abnormalities in a variety of brain pathological states and in ageing now suggest a shift from a neuronocentric to a glial-inclusive viewpoint in neuroscience and in neuropsychopharmacology.

With this conference we would like to create the opportunity for discussion of recent preclinical and clinical findings implicating the involvement of non-neuronal cells in initiation, progression or protection of several neuropathologies. Our perspective is that therapeutic strategies aimed at improving/correcting not only neuronal but also non-neuronal cell state and functional performance may open new venues for relevant and undertreated brain diseases.

## THURSDAY, DECEMBER 1

**10.00** Onsite registration and badge distribution

**13.00** Welcome & Introduction

### **14.00** OPENING HONORARY LECTURE

Introduced by Salvatore Cuzzocrea (Messina)

### **SPECTRUM OF ASTROGLIOPATHOLOGY: FROM ATROPHY AND LOSS OF FUNCTION TO REACTIVITY**

Alexei J. Verkhratsky (University of Manchester, Manchester, UK)

*This lecture has been made possible through an unrestricted grant from* 

### **SESSION 1. MTN IN NEUROINFLAMMATION AND NEURODEGENERATION (part 1)**

Chairpersons: Maurizio Memo (Brescia) and Stefano Pluchino (Cambridge)

### **14.50** HARNESING THE IMMUNE SYSTEM FOR REPAIR IN ALZHEIMER'S DISEASE

Kuti Baruch (Weizmann Institute of Science, Rehovot, Israel)

### **15.20** DISRUPTION OF THE ASTROCYTIC TNFR1-GDNF AXIS ACCELERATES MOTOR NEURON DEGENERATION AND DISEASE PROGRESSION IN AMYOTROPHIC LATERAL SCLEROSIS

Daniela Rossi (Istituti Clinici Scientifici Maugeri Spa-SB, Pavia, Italy)

### **15.50** NEURAL STEM CELL TRANSPLANTATION INDUCES STROKE RECOVERY BY UPREGULATING GLUTAMATE TRANSPORTER GLT-1 IN ASTROCYTES

Marco Bacigaluppi (San Raffaele University, Milano, Italy)

**16.20** Discussion

**16.40** Coffee break

### **SESSION 1. MTN IN NEUROINFLAMMATION AND NEURODEGENERATION (part 2)**

Chairpersons: Bianca Marchetti (Catania) and Anna Pittaluga (Genova)

### **17.15** STEM CELL SIGNALLING AND REPAIR OF MULTIPLE SCLEROSIS BRAIN

Stefano Pluchino (University of Cambridge, UK)

### **17.45** ROUNDTABLE

Simona Perga (University of Torino, Torino, Italy)

Marco Milanese (University of Genova, Genova, Italy)

Valentina Iori (Mario Negri Institute, Milano, Italy)

Mariana Coelho da Mota (University of Brescia, Brescia, Italy)

Elzbieta Janda (Magna Grecia University, Catanzaro, Italy)

**19.00** Discussion

**19.30 - 21.00** Opening Reception

## FRIDAY, DECEMBER 2

### **SESSION 2. MTN IN PAIN AND NERVE INJURY**

Chairpersons: Sabatino Maione (Napoli) and Santina Chiechio (Catania)

### **08.30** DEFECTIVE GLUTAMATE AND K<sup>+</sup> CLEARANCE BY CORTICAL ASTROCYTES IN FAMILIAL HEMIPLEGIC MIGRAINE TYPE 2

Daniela Pietrobon (University of Padova, Padova, Italy)

**09.00** Discussion

Giulia Magni (University of Milano, Milano, Italy)

Beatrice Riva (University of Piemonte Orientale, Novara, Italy)

### **09.45** HONORARY LECTURE

Introduced by Alexei J. Verkhratski (Manchester)

### **NON-NEURONAL CELLS IN THE CNS CONTROL OF METABOLISM**

Matthias H. Tschoep (Institute for Diabetes and Obesity, Helmholtz Zentrum München, and Technische Universität München, Germany)

**10.35** Coffee break

### **SESSION 3. BRAIN DYSFUNCTION IN METABOLIC SYNDROME AND DIABETES**

Chairpersons: Cesare Patrone (Stockholm) and Massimo Collino (Torino)

### **11.00** THE DIPEPTYDYL PEPTIDASE 4 INHIBITOR LINAGLIPTIN PARTIALLY REVERSES DIABETIC-INDUCED EFFECTS ON NEURONS AND AGE-INDUCED EFFECTS ON GLIAL CELLS IN THE MOUSE STRIATUM

Grazyna Lietzau (Karolinska Institute, Stockholm, Sweden)

### **11.15** ROUNDTABLE

Simone Romano (University of Milano, Milano, Italy)

Raffaella Mastracola (University of Torino, Torino, Italy)

**11.45** Discussion

**12.00** Lunch & poster visit

### **SESSION 4. MTN IN NEUROPSYCHIATRIC AND NEURODEVELOPMENTAL DISORDERS (PART 1)**

Chairpersons: Giovanbattista Bonanno (Genova) and Pier Luigi Canonico (Novara)

### **13.50** PHARMACOLOGICAL TREATMENT OF DOWN SYNDROME

Renata Bartesaghi (University of Bologna, Bologna, Italy)

### **14.20** NEUROBIOLOGICAL LINKS BETWEEN DEPRESSION AND ALZHEIMER'S DISEASE: THE ROLE OF TGF- $\beta$ 1 SIGNALING PATHWAY

Filippo Caraci (University of Catania, Catania, Italy)

### **14.50** ASTROCYTE-DERIVED PROTEASES AS POTENTIAL CONTRIBUTORS TO ANTIDEPRESSANT EFFICACY

Katherine Conant (Georgetown University, Washington DC, USA)

**15.20** Coffee break

### **15.40** HONORARY LECTURE

Introduced by Maria Angela Sortino (Catania)

### **NON NEURONAL TARGETS FOR PHARMACOLOGICAL THERAPY OF BRAIN DISORDERS**

Ferdinando Nicoletti (Sapienza University, Roma, Italy)

*This lecture has been made possible through an unrestricted grant from* 

### **SESSION 4. MTN IN NEUROPSYCHIATRIC AND NEURODEVELOPMENTAL DISORDERS (PART 2)**

Chairpersons: Giovanbattista Bonanno (Genova) and Pier Luigi Canonico (Novara)

### **16.30** ROUNDTABLE

Silvia Alboni (University of Modena-Reggio Emilia, Modena, Italy)

Alessandro Ieraci (University of Milano, Milano, Italy)

Erika Zamberletti (University of Insubria, Busto Arsizio, Italy)

Majja Castren (University of Helsinki, Helsinki, Finland)

**17.30** Discussion

**18.00 - 20.45** Poster Session + wine & cheese reception

## SATURDAY, DECEMBER 3

### **SESSION 5. NG2 CELLS & OLIGODENDROCYTES: RELEVANCE IN HEALTH, DISEASE AND THERAPY**

Chairpersons: Agata Copani (Catania) and Maria Pia Abbracchio (Milano)

### **08.30** PROMOTING REMYELINATION VIA GPR17 RECEPTOR: A NEW APPROACH TO NEURODEGENERATIVE AND NEUROPSYCHIATRIC DISEASES

Maria Pia Abbracchio (University of Milano, Milano, Italy)

### **09.05** ROUNDTABLE

Enrica Boda (University of Torino, Torino, Italy)

Sandra Braz (Imagine Institute, Paris, France)

Chiara De Nuccio (Istituto Superiore di Sanità, Roma, Italy)

Roberta Parolisi (University of Torino, Torino, Italy)

**10.05** Discussion

**10.20** Coffee break

**10.45** Closing Honorary Lecture

Introduced by Nicoletta Brunello (Modena)

### **THE NEUROVASCULAR UNIT, BLOOD-BRAIN BARRIER, AND BLOOD-BRAIN INTERFACE IN DRUG DELIVERY TO THE BRAIN: AN ENDOCENTRIC VIEW**

William A. Banks (University of Washington, Seattle, WA, USA)

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### **SESSION 6. NEURONAL AND NON NEURONAL CELL CROSS-TALK IN HEALTH AND DISEASES**

Chaired by Michela Matteoli (Milano) and Marina Pizzi (Brescia)

### **11.35** ROUNDTABLE

Giuseppina D'Alessandro (Sapienza University, Roma, Italy)

Irene Appolloni (University of Genova, Genova, Italy)

Annunziato Morabito (EBRI, Roma, Italy)

Valeria Bortolotto (University of Piemonte Orientale, Novara, Italy)

Ben Korin (Israel Institute of Technology, Haifa, Israel)

**12.50** Discussion

**13.00** Lunch

### **SESSION 7. NEURAL STEM CELLS, NEURO-GLIA-VASCULAR INTERACTIONS, BLOOD BRAIN BARRIER AND GUT-BRAIN AXIS**

Chairpersons: William A. Banks (Seattle), Mariagrazia Grilli (Novara)

### **14.30** MENINGES: FROM PROTECTIVE MEMBRANES TO STEM CELL NICHE

Ilaria Decimo (University of Verona, Verona, Italy)

### **15.00** VASCULAR INFLAMMATION AND NEUTROPHIL TRAFFICKING IN ALZHEIMER'S DISEASE

Elena Zenaro (University of Verona, Verona, Italy)

### **15.30** ROUNDTABLE

Simona Spampinato (University of Catania, Catania, Italy)

Francesca Guida (University of Napoli, Napoli, Italy)

**16.00** General discussion

**16.20 - 17.00** Concluding remarks

