



UNIVERSITÀ  
di VERONA  
Dipartimento di NEUROSCIENZE,  
BIOMEDICINA e MOVIMENTO  
Dottorato di Ricerca in Neuroscienze,  
Scienze Psicologiche e Psichiatriche

Istituto Nazionale di Neuroscienze  
(INN) – Sezione di Verona



*You are kindly invited to the*  
**INN – Open Neuroscience Forum**

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**Marco Spangaro**

*IRCCS San Raffaele Scientific Institute*

**“Neurobiology of cognitive deficit in  
schizophrenia: the role of glutamate”**

**Carlo Alberto Marzi**

*Dept. Of Neurosciences, Biomedicine and Movement Sciences*

**“Unconscious vision: what kind of vision  
might be and where does it come from?”**

**SAVE THE DATE**

**Jun 15, 2018**



**Aula B, Lente Didattica  
2:00 p.m.**

Contact: [inn.neuroscienceforum@ateneo.univr.it](mailto:inn.neuroscienceforum@ateneo.univr.it)



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## Marco Spangaro

*MD, Psychiatrist at IRCCS San Raffaele Scientific Institute (Milan), Department of Clinical Neurosciences, Psychotic Disorders Disease Unit (Prof. Cavallaro). His research is focused on schizophrenia, particularly on cognitive deficit, investigating neurobiological correlates of the disease. Cognitive deficits represent core features of schizophrenia, affecting quality of life and functioning. A disturbance of glutamatergic transmission has been suggested to contribute to the development of schizophrenic pathophysiology, based primarily on the ability of glutamate receptor antagonists to induce schizophrenic-like symptoms. The excitatory amino acid transporter 2 (EAAT2) is responsible for the majority of glutamate reuptake and its activity is crucial for glutamatergic neurotransmission, prevention of excitotoxic damage and cerebral metabolism. EAAT2 protein activity is regulated by a functional SNP, rs4354668, influencing transporter's activity and expression.*



*The presentation will discuss the role of glutamate in schizophrenia, focusing on effects of EAAT2 rs4354668 on cognitive function and brain structure, and suggesting new treatment perspectives for cognitive deficit.*

## Carlo Alberto Marzi

*Emeritus Professor and currently P.I. of the ERC Advanced Research Grant "Perceptual Awareness" at the Department of Neuroscience, Biomedicine and Movement Science at the University of Verona. His scientific activity concerns various topics within the areas of cognitive neuroscience and experimental psychology, namely: Hemispheric differences and interactions, Visual Attention, Visual Imagery and the Cerebral Correlates of Visual awareness. In particular, in reference to the last topic, CM is investigating the neural and cognitive bases*



*of the shift from unconscious to conscious vision in patients with unilateral lesions to the central visual system (hemianopia). The project involves testing patients and matched controls with Event Related Potential (ERP), Functional Magnetic Resonance (fMRI) and Near Infrared Spectroscopy (NIRS) during performance of visual discriminations with visual stimuli presented to the blind or the intact hemifield. In addition to objective behavioural testing patients will be asked to rate the quality of their perceptual awareness (from total lack to partial stages to completely normal vision). The main aim is to monitor the different neural correlates at these various stages to determine the neural signature of unconscious versus partially or normally conscious vision. Preliminary results indicate that unseen stimuli presented to the blind hemifield do evoke either ERP or fMRI or NIRS responses in various cerebral areas.*