

Dr Luca Passamonti

Biographical sketch



I am a behavioural neurologist that has trained at the interface between Neurology & Psychiatry, using methods from the field of Cognitive & Affective Neuroscience.

I am experienced in clinical research including:

- (1) analysis of structural and functional MRI and PET, using advanced univariate and multivariate analytical methods such as dynamic causal modelling, graph-analysis, and machine-learning;
- (2) neurocognitive assessment, psychiatric diagnostic interview, and psychometrics;
- (3) design and completion of cognitive neuroscience and psychopharmacology research in health and clinical populations;
- (4) pharmacological manipulations of neurochemical systems (i.e., serotonergic, dopaminergic, and noradrenergic drug challenges);
- (5) molecular genetics methods (i.e., analysis of gene polymorphisms, linkage analysis);
- (6) effective translation, with design and implementation, of phase II clinical trials in dementia and neurodegenerative disorders.

Talk title: Apathy & impulsivity in neurodegenerative disorders

Talk summary

Apathy and impulsivity are severe and injurious aspects of many neuropsychiatric and neurodegenerative disorders. These include the spectrum of frontotemporal lobar degeneration (FTLD), Alzheimer's disease (AD), and Parkinson's disease, a series of incurable neurodegenerative conditions that share some pathological and clinical features.

The harmful combination of apathy and impulsivity in neurodegenerative disorders significantly reduces patients' and carers' quality of life. There is thus a pressing need to better understand the etio-pathogenesis of these behavioural problems to facilitate the development of appropriate therapies that specifically target these symptoms in a broad range of neurodegenerative disorders.

My talk will focus on the paradoxical co-existence of apathy and impulsivity in neurodegenerative disorders. I will also discuss the underlying molecular and neural mechanisms of apathy and impulsivity. Finally, I will present a structural equation modelling ('watershed' model) that has the potential to provide a clear biological framework to test for the cascade of events leading to behavioural changes in neurodegenerative disorders, despite the absence of one-to-one mapping between the molecular causes and the clinical phenotypes.