

EPA NEUROIMAGING SECTION REPORT 2023

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LAST SECTION COMMITTEE ELECTIONS HELD:

Date: 3 July 2023 Venue: online



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ACTIVITIES OF THE SECTION IN 2023:

Meetings/events

31st European Congress of Psychiatry; 25-28 March 2023, Paris

Description:

Neuroimmunogenetics of major psychoses

Major psychoses (e.g., schizophrenia and bipolar disorder) are severe psychiatric conditions characterized by heterogeneous symptoms such as hallucinations and delusions or alternating phases of mania and depression. Biomolecular, genetic and neuroimaging investigations are increasingly contributing to unveiling the neurobiological basis of these disabling disorders, with increasing evidence supporting the action of multi-systemic pathogenic mechanisms. In this regard, a prominent role seems to be played by the disruption of the neuroendocrine and neuroimmune systems, which determines an abnormal inflammatory response that, in turn, causes a cascade of insults to the brain's structure and function. Specifically, recent evidence suggests that infectious diseases can trigger maladaptive immune responses in major psychoses, preying on genetic vulnerabilities, leading to a cascade of neuro immunogenetic events and amplifying the effects of environmental risk factors. Moreover, recent studies have also reported the association between psychotic disorders and a pro-inflammatory state involving both the innate and the adaptive immune system, with a particular involvement of Th1 known to mediate cellular immune reactions that, in turn, induce the production of cytokines and increase antibody-mediated reactions. Lastly, specific immunogenetic variants have been associated with major psychoses and cumulative early-life exposure to infectious agents has been associated with persistent disruption of immune system homeostasis, potentially increasing the risk for the development of the disease. The present symposium aims to discuss and summarize the current neuroimmunogenetic models of affective and non-affective psychoses with a specific focus on neuroimaging, clinical relevance, and the development of novel biologically based clinical interventions.

Partners:

Chair: Paolo Brambilla; Co-Chair: Marcella Bellani

Speakers:

- Francesco Benedetti (Italy), presentation title: Circulating immune cell composition and activation status associated with brain white matter microstructure in bipolar depression;

- Benedicto Crespo-Facorro (Spain), presentation title: Peripheral inflammatory biomarkers of schizophrenia and what they mean for treatment;

- Lusi Zhang (USA), presentation title: Peripheral inflammation relationships with cognitive deficits and



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genetic factors across the psychosis spectrum;

- Giuseppe Delvecchio (Italy), presentation title: A machine learning approach on whole blood immunomarkers to identify an inflammation-associated psychosis onset subgroups.

Location: Paris Start date: 26/03/2023 End date: 26/03/2023

31st European Congress of Psychiatry; 25-28 March 2023

Description:

Suicidology and Brain Imaging

Description: Suicidal ideation, also known as suicidal thoughts, is a broad term used to describe a range of thoughts about death and self-harming behaviours. Rates of suicide deaths and suicidal thoughts and behaviours have risen by more than 50% among young people in the past decade, making suicide the second leading cause of death among those aged under 20. Most importantly, suicidal ideation represents a trans-diagnostic feature characterizing several psychiatric conditions (e.g., depression, psychosis) that seems to increase the risk of completed suicide. For instance, it has been shown that treatment-resistant depression (TRD) may increase an individual's likelihood of engaging in suicidal behaviours and up to 30% of people with TRD will attempt suicide at some point in their life. Although individual, environmental, and clinical risk factors for suicidal thoughts and behaviours have been well established, these factors have demonstrated low predictive validity. In response, the number of studies examining neurobiological underpinnings of suicidal thoughts and behaviours, in and out of psychiatric populations, has grown exponentially. Nevertheless, understanding the neural mechanisms underlying suicidal thoughts and behaviours and their clinical utility remains elusive. Therefore, the present symposium aims at summarizing and discussing recent evidence on the morphofunctional brain correlates of suicidal ideation and behaviours, and suicide-related psychiatric disorder (e.g. TRD), with a particular focus on their clinical implications for the development of trans-diagnostic tailored treatments.

Partners:

Organized by the EPA Sections of Neuroimaging and Suicidology and Suicide Prevention

Chair: Philippe Courtet

Co-Chair: Maria Gloria Rossetti



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Speakers:

- Maurizio Pompili (Italy); Mental pain and suicide risk: implications for neuroimaging

- Emilie Oliè (France); The ventrolateral prefrontal cortex: a region of interest in suicidal behaviour

- Jair Soares (USA); Deep brain stimulation of the medial forebrain bundle in patients with major depression: putative effects on depression, anhedonia and suicidality

 Raffaella Calati (Italy); An Internet-Based Multi-Approach Intervention Targeting University Students Suffering from Psychological Problems: MindBlooming

Location: Paris Start date: 28/03/2023 End date: 28/03/2023

31st European Congress of Psychiatry; 25-28 March 2023

Description:

Organized by the sections of Neuroimaging and Old Age Psychiatry

Title: Brain ageing Trajectories in psychiatric disorders

Description: Brain ageing is a natural phenomenon characterized by morpho-functional changes, including cerebral atrophy, white matter lesions and hyperintensities, enlargement of vascular systems and loss of neural plasticity. Recent conceptualizations view major psychiatric conditions as neurodegenerative disorders characterized by neuroprogression, neural inflammation and accelerated brain ageing. Specifically, recent neuroimaging findings suggest that the brain age estimates of psychiatric disorders such as schizophrenia, bipolar disorder and depression, do not match their chronological age due to an illness-related process of accelerated brain aging. This process, in turn, correlates with changes in clinical symptoms, cognition and functioning. However, the question of whether accelerated brain ageing occurs in psychiatric conditions and what are its structural and functional brain signatures remains unknown. Therefore, the present symposium aims to present and discuss recent evidence on morpho-functional correlates of brain ageing in and out of psychiatric trajectories, taking into account their clinical relevance for prognostic purposes and the possible development of novel treatments.



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Partners:

Chair: Paolo Brambilla

Co-chair: Cécile Hanon

Speakers:

- Eleonora Maggioni (Italy), Exploring the role of lifetime brain maturation trajectories and their determinants in the onset of psychiatric disorders

- Nikolaos Koutsouleris (Germany), Progression of brain alterations in early-stage psychotic and affective disorders: results from the PRONIA study

- Gabriel Robert (France), Cerebral network of apathy and goal-oriented behaviours

- Thomas Desmidtm (France), Contribution of imaging in late-life depression

Location: Paris Start date: 26/07/2023 End date: 26/07/2023

FUTURE ACTIVITIES:

FUNDING IN 2023

Income: none Source(s) of funding: none Expenditure: none Balance: none EPA Treasurer audit: No Confirmation that income / expenditure is via EPA: No