

Structure of the Brain and Architecture of the Mind

Prof. MUDr. Jiří Horáček, PhD., FCMA

Keynote speech – plenary lecture

Friday, 27 September 2019, 9:00 a.m. – 10:00 a.m.

Linking physical reality, brain activity and consciousness still stands as one of the most interesting and elusive problems of neuroscience, psychology, psychiatry and philosophy. Finding their mutual relationships represents the first step toward explanation how the brain process external information and how the picture of reality in our mind relates the world. It would also enable to elucidate the mechanisms responsible for psychopathological symptoms.

In this lecture, I will start with basic morphological and functional constituents of brain activity such as the neuronal doctrine, neuroplasticity and the origin of mental representation of external world. The next part will aim to propose and support a concept of a triple brain network model of the functional switching between default mode and central executive neuronal network related to the orchestrating activity of the salience network. The last part will be dedicated to the theory of predictive coding which explains how the activity of neuronal networks is coordinated in physiological conditions and dyscoordinated in mental disorders. The proposed models could represent a unitary mechanism of a wide array of symptom domains present in mental disorders and address the essential therapeutic targets for psychotherapy.

Prof. MUDr. Jiří Horáček, PhD., FCMA (CZ)

Jiří Horáček is a Professor of Psychiatry at the Third Faculty of Medicine, Charles University, Prague, Czech Republic. He holds a degree in psychiatry and psychotherapy. He is currently the Deputy Director of the National Institute of Mental Health, Czech Republic.

Professor Horáček has been actively involved in 50 scientific research projects. His research activities involve the use of brain imaging (PET, fMRI and qEEG) in the fields of schizophrenia, depression and OCD, psychiatric genetics and the animal modeling of mental disorders. He is both the editor of several books and the author of more than 100 scientific articles.

Jiří Horáček has received several national and international psychiatric awards from the International Pharmacology Society (Werner Hermann Memorial Award), the Czech Neuropsychopharmacological Society and ECNS-ISNIP. In his productive career he has been awarded the Senior Research Fellow of the Bedfordshire CMHR in association with the University of Cambridge. He was also the President of the Czech Neuropsychopharmacological Society.

