



Press release

New Research Centre Focuses on Development of Brain and Behavior

Collaboration Between the Max Planck Society and University College London

Why do some people become depressed under stress and others not? Why are some older adults mentally fit whereas others are afflicted by cognitive decline? To provide answers to these questions, the Max Planck Society and University College London have launched the Max Planck UCL Centre for Computational Psychiatry and Ageing Research.

Psychiatric disorders such as depression, schizophrenia, or autism often escape successful treatment. Some major molecular and structural changes in the brain have been identified, but viable accounts of how these changes link to behavior are missing. Likewise, the associations between changes in brain and behavior in the course of normal and pathological cognitive aging are not well understood. The central goal of the newly established *Max Planck UCL Centre for Computational Psychiatry and Ageing Research* is to better understand the causes of psychiatric disorders as well as the causes of differential cognitive development in adulthood and old age.

"At the Max Planck UCL Center for Computational Psychiatry and Ageing Research, we bring together top international researchers in the fields of lifespan psychology and neurology, which enables us to bridge the gap between experimental and clinical research," says Peter Gruss, President of the Max Planck Society. "Such an outstanding cooperation is only possible between institutions of great international standing and prestige, such as the Max Planck Society and University College London."

The processes related to psychiatric disorders and to normal cognitive function alter the brain at multiple level of analysis, from genes to protein synthesis and on to neurons and neural networks. Computational models are a powerful means of bridging the gaps between these levels. Scientists can alter models of normally behaving younger adults to simulate the alleged causes of cognitive aging or psychiatric disorders (e.g., depression), and then check whether such alterations result in predicted behavioral deficiencies that resemble those observed in older adults, or the disease state of interest (e.g., depressed patients)

Scientists at the Centre will relate data on the structure and functioning of the brain to detailed behavioral observations of individuals and deduce prognoses for their development. The Centre's findings will provide information on how cognitive functioning can be maintained into old age, and on how psychiatric disorders can be better recognized and treated more efficiently.

Two Co-Directors form the Leading Team of the Centre: Ray Dolan for University College London and Ulman Lindenberger for the Max Planck Society. In addition, a Coordination Committee represents

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the four research institutions most directly involved in the Centre: the Gatsby Computational Neuroscience Unit (Peter Dayan), the Max Planck Institute for Cognitive and Brain Sciences (Arno Villringer), the Max Planck Institute for Human Development (Ulman Lindenberger), and the Wellcome Trust Centre for Neuroimaging (Ray Dolan). The Centre has two sites, one in London and the other in Berlin. The London site is located at Russell Square, in close vicinity to the Wellcome Trust Centre for Neuroimaging. The Berlin site is housed at the Max Planck Institute for Human Development.

The ceremony celebrating the opening of the new Centre will be held on April 1, 2014, at the Royal Society in London. Welcoming words will be spoken by Michael Arthur, the President and Provost of University College London, Peter Gruss, the President of the Max Planck Society, David Willetts, Minister of State for Universities and Science, United Kingdom, Rudolf Adam, Chargé d'Affaires a.i. of the German Embassy London, Ray Dolan, Director at the Wellcome Trust Centre for Neuroimaging, and Ulman Lindenberger, Director at the Max Planck Institute for Human Development. Nobel Prize laureate Eric Kandel, Director at The Kavli Institute for Brain Science, Columbia University, New York, will hold the keynote lecture.

Background Information

Max Planck UCL Centre for Computational Psychiatry and Ageing Research

Scientists from the Max Planck Society and University College London have already been cooperating since early 2011 within the framework of a joint research initiative. This collaborative venture has led to the foundation of the new Max Planck UCL Centre for Computational Psychiatry and Ageing Research.

Max Planck Institute for Human Development

The Max Planck Institute for Human Development was founded in 1963 in Berlin and is an interdisciplinary research institute dedicated to the study of human lifespan development and education. The Institute is part of the Max Planck Society, a leading organization for basic sciences in Europe.

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