



Schizophrenia: brains, genes and behavior

Scientific Workshop
Monday, October 8, 2012
10-12

Palle Juul Jensen Auditorium
Danish Neuroscience Centre
Aarhus University Hospital,
Nørrebrogade 44, Building 10G

Participation free and open to all

Organized by MINDLab and Interacting Minds Centre



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Neurological and Neuropsychological Endophenotypes in Schizophrenia Spectrum Disorders

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Increasing efforts to identify alternate expressions of mental disorders that are broader than the DSM or ICD diagnostic criteria needed to diagnose them reflects a growing consensus that multidimensional expressions of psychiatric disorders may advance the search for underlying etiological or modulatory factors. These alternate phenotypes or 'endophenotypes' (e.g., social, psychophysiological or neuropsychological abnormalities) of disorders may be more specific and amenable to objective measurement than clinical symptoms, which presumably reflects variation among smaller numbers of genes than more distal clinical symptoms. These features support the current usefulness of endophenotypes in genetic studies, and their potential usefulness in the development of strategies for early intervention. In this talk, I review potential neurological and neuropsychological endophenotypes for schizophrenia and for schizophrenia spectrum disorders, with an emphasis on key conceptual criteria for assessing endophenotypes, including their relationships to schizophrenia, to non-psychotic relatives, and to heritability. Future directions for establishing the validity of endophenotype research are also discussed.

Current psychiatric genetic research in Denmark

Ole Mors

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The Danish population based registers and biobanks makes Denmark a unique place to study genetic and environmental risk factors for complex disorders such as mental disorders.

The Lundbeck Foundation Initiative for Integrative Psychiatric Research, *i*PSYCH has in 2012 launched a nationwide research effort to study the interplay between genes and environment in mental disorders. My presentation aims to give an overview of the *i*PSYCH study.

Understanding functional disintegration of schizophrenia from the perspective of brainnetome

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Schizophrenia is considered as a disorder characterized as improper functional integration. Resting-state functional magnetic resonance (fMRI) based examinations of intrinsic brain function shows its potential to study the pathophysiological mechanism of schizophrenia. And the recently developed brainnetome provides a new opportunity to investigate this issue. In my talk, I will introduce our progresses on understanding functional disintegration of schizophrenia from the perspective of brainnetome. Specifically, I will show our findings obtained in different level of brain network, including networks based on the special region of interest, networks related to a specific cognitive function, whole brain network and its topologic properties. Meanwhile, some challenges and potential research directions are discussed.

MINDLab

MINDLab is a cross-cutting neuroscience and cognition research framework at Aarhus University, funded by the Danish Ministry of Science, Technology and Innovation as part of the Danish governments UNIK initiative, aiming to promote world-class research at Danish Universities.

MINDLab is based on fruitful collaborations among leading research groups across Faculties and Institutes at Aarhus University, centered at the Danish National Research Foundation's Center of Functionally Integrative Neuroscience (CFIN) and the research focus area Cognition, Communication and Culture (CCC). The project expands and strengthens this collaboration, addressing central scientific problems within culture, music, language and memory. Combining this knowledge with research on novel technologies to examine the living brain, and on the most devastating neurological and psychiatric disorders, we hope to create new means to preserve and recover function and quality-of-life in relation to diseases accounting for 35% of the disease burden in Denmark. *MINDLab* will also develop new forms of teaching and sharing of knowledge, exploiting crucial synergies across traditional disciplines.

<http://www.mindlab.au.dk>

Interacting Minds Centre

Aarhus University has established the Interacting Minds Centre as a new interdisciplinary initiative. The Centre brings together researchers from all four main academic areas in experimental studies of cognition, communication and choice.

The Centre is a transdisciplinary platform to study human interaction at the nexus of three related topics: cognition, communication, and choice. It involves researchers from humanities, social sciences, cognitive sciences, natural sciences and clinical research. Some work in the lab, others in the field or on texts. In the Centre, they come together to develop conceptual tools, research methods, theories and experiments.

<http://www.interactingminds.au.dk>