UCL Centre for Developmental Cognitive Neuroscience

SPRING WORKSHOP: *FROM GENES TO BEHAVIOUR & COGNITION*

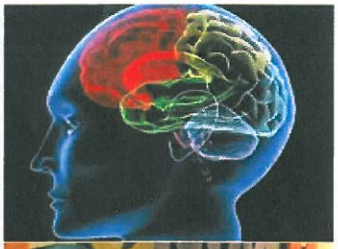
WEDNESDAY 23RD MARCH 2011, 12.30 – 17.30

33 QUEEN SQUARE LECTURE THEATRE

PROGRAMME:

Welcome: Professor Faraneh Vargha Khadem, Director CDCN

Chair **Professor David Gadian**



12.30 **Professor Mort Mishkin** – National Institute of Mental Health
On the evolutionary interdependence of speech and auditory memory

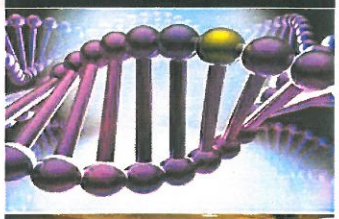
13.15 **Professor Anthony Monaco** – Wellcome Trust Centre for Human Genetics, University of Oxford
The Genetics of Dyslexia

14.00 **Dr Kate Watkins** – The Medical Sciences Division, University of Oxford
Developmental disorders of speech and language: from genes to brain structure and function

14.45 Tea/Coffee Break

Chair **Professor Sarah-Jayne Blakemore**

15.15 **Dr Essi Viding** – UCL Institute of Cognitive Neuroscience
Conduct problems and psychopathic tendencies: Integrating genetic and brain imaging findings



16.00 **Professor David Skuse** – UCL Institute of Child Health
Parsing the autism spectrum for genetic analysis by fine-grain phenotyping

16.45 Panel Session and Discussion

17.30 Close. To be followed by drinks reception in the foyer

WORKSHOP BACKGROUND

With the completion of the Human Genome Project at the beginning of the 21st century, the neuroscience community has witnessed the birth and the flourishing of a new field of enquiry, "neurogenetics of cognition". This is an interdisciplinary field with overwhelming implications for understanding the genetic basis of brain/behaviour relationships in health and disease across the life span. The Spring Workshop will feature presentations by leaders in the field who will showcase different discoveries highlighting the role that genes play in shaping aspects of behaviour and cognitive function.

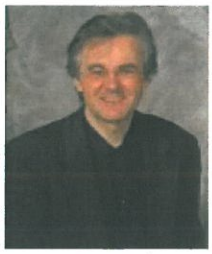
WORKSHOP SPEAKERS' BIOGRAPHIES

Dr. Mort Mishkin is Chief of the Section on Cognitive Neuroscience in the Laboratory of Neuropsychology, NIMH, and a Visiting Professor at UCL. Dr Mishkin's research addresses brain/behaviour relationships in humans and nonhuman primates. After completing his post graduate and postdoctoral training under the mentorship of D.O. Hebb at McGill University, K. Pribram at the Institute of Living, and H.-L. Teuber at Bellevue Medical Centre, he moved to NIMH as an Investigator. Dr. Mishkin served as Chief of the Laboratory of Neuropsychology from 1980 to 1997 and was Associate Director for Basic Research in the NIMH/IRP from 1994 to 1997. He is currently Acting Chief of the Laboratory of Neuropsychology and his section within it explores the neurobiological mechanisms of perception and memory. His research elucidated the principles guiding the organization of cortical sensory processing systems, distinguished between two streams of visual processing, characterized the neural substrates for episodic versus semantic memory, and discovered a medial temporal lobe-based cognitive memory, and a basal ganglia-based habit memory system. In November 2010, Dr. Mishkin was the recipient of the prestigious National Medal of Science from President Obama, becoming the first NIMH intramural scientist to receive this honour.

Professor Anthony P Monaco received his undergraduate degree from Princeton University and his MD-PhD from Harvard Medical School in the Medical Scientist Training Program. In 1995, he joined the Wellcome Trust Centre for Human Genetics (WTCHG) in Oxford, which has a focus on the genetics of common disease and includes multidisciplinary research in genetics, functional genomics, bioinformatics and structural biology. The Monaco Research Group focuses on the genetic basis of neurological and psychiatric disorders including autism, specific language impairment and reading disorders (dyslexia). In 1998 Anthony Monaco was appointed as Director of the WTCHG. He held this post until October 2007, when he was appointed Pro-Vice-Chancellor, Planning and Resources at the University of Oxford. In 2011 he will assume the Presidency of Tufts University in Boston

Dr Kate E Watkins worked at the Institute of Child Health and Great Ormond Street Hospital for Children as a neuropsychologist while she completed her PhD with Profs. Vargha-Khadem and Gadian. She used neuropsychology and brain imaging to study the KE family the affected members of which have a disorder of speech and language caused by a mutation in the FOXP2 gene. Kate trained as a post-doctoral fellow at the Montreal Neurological Institute, McGill University, using new techniques of brain stimulation and brain imaging to pursue her interest in the brain mechanisms involved in speech production and perception. Kate returned to the UK in 2003 to work at the Oxford Centre for Functional MRI of Brain at the John Radcliffe Hospital, where she carries out research into speech disorders such as developmental stuttering. She has been a lecturer in the Department of Experimental Psychology and a Fellow of St Annes since October 2006.

Dr Essi Viding is a Reader in Developmental Psychopathology at the UCL Division of Psychology and Language Sciences. She also works as a Research Associate at the MRC SGDP Centre, Institute of Psychiatry and collaborates with a number of people there. Essi's research to date has combined cognitive experimental measures, twin model-fitting, and brain imaging to study different developmental pathways to persistent antisocial behaviour. She is currently adding genotype and environmental risk measures to her 'research tools' and hopes to learn more about protective, as well as risk factors for developmental psychopathology. Essi was the winner of the 2010 Wiley Prize, awarded by the British Academy and Wiley-Blackwell, for outstanding early career contributions in Psychology.



Professor David Skuse is an academic and clinical child psychiatrist. He has fostered a range of current national and international research collaborations, ranging from *basic science* (e.g. genetic influences, neuropeptides, and metabolic disorders) through *epidemiology* (especially with the Avon Longitudinal Study of Parents and Children; ALSPAC), to *clinical applications* (e.g. assessment procedures for autistic disorders). His early research, on chronically stressful rearing environments led to the discovery of a new syndrome in which affected children cease growth hormone release, leading to growth impairment and hyperphagia. He discovered the first evidence for X-chromosome imprinting in humans. He also discovered early-onset pre-psychotic features in adolescents with 22q11 microdeletion syndrome, in which later risk of schizophrenia is >25%. David recently established a European collaborative network to research inter-species genetic influences on cooperative behaviour.

ABOUT THE CENTRE FOR DEVELOPMENTAL COGNITIVE NEUROSCIENCE (CDCN)

The field of developmental cognitive neuroscience has undergone an unprecedented expansion and technological development in the past decade, creating new opportunities to carry out ground-breaking research on the emergence and establishment of brain-behaviour relationships in the young, with implications for infants, children and adolescents as they mature into adulthood.

CDCN is an interdisciplinary, cross faculty and cross theme initiative that aims to promote research and training within the field of developmental cognitive neuroscience across UCL and its partner institutions.

For more information visit ucl.ac.uk/cdcn

Question to the Panel

Addressed to:_____

By:_____

Question: