Visiting Speaker

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"Neurobiology of attention and attention deficit: genes, pharmacology and physiology"

Attention deficit hyperactivity disorder (ADHD) is a prevalent disorder of childhood with negative adult outcomes. Although subjective ratings of attention deficit are diagnostic for the disorder, delineating an objective attentional phenotype has proven difficult. In this seminar I will present behavioural and electrophysiological data from our laboratory showing that childhood ADHD is associated with anomalous spatial attention akin to a developmental form of the "neglect syndrome"; that this phenotype is ameliorated by treatment with the psychostimulant methylphenidate; and that it can be predicted by common DNA variation in the dopamine transporter gene (DAT1), the gene encoding the molecular target for methylphenidate.   This talk will also outline our recent work developing EEG paradigms to study the functional interaction of attention and decision making. Specifically, it will highlight the identification of hemispheric-specific selection signals that impact subsequent decision making and performance in both children with ADHD and right hemisphere patients with the neglect syndrome.