

**Seminar Announcement**  
**- All Are Welcome -**

**Speaker :** **Dr Claudio Cuello**  
*Professor and Charles E Frosst/Merck Chair in Pharmacology  
Department of Pharmacology, McGill University*



**Title :** ***"Early Inflammation and NGF Deregulation in Alzheimer and Down Syndrome"***

**Date :** **1 September 2014 (Monday)**

**Time :** **11:00am – 12:00pm**

**Venue :** **Breakthrough Theatre, Matrix Level 4, Biopolis**

**Host :** **Dr Brian Burke**  
(Tel: 64070421; e-mail: [brian.burke@imb.a-star.edu.sg](mailto:brian.burke@imb.a-star.edu.sg))

**Abstract:**

This presentation will discuss the possibility that there are different stages of inflammation provoked by the Alzheimer's disease (AD) amyloid pathology, as evidenced by studies in mice and rat transgenic models of the AD-like amyloid pathology. An overt inflammatory process has been well documented in the human brain and in transgenic animal models. Our laboratory has shown that that besides this "late" inflammation an "early" pro-inflammatory process occurs before the presence of amyloid plaques. We hypothesize that this is a disease-aggravating process which should occur at "silent" stages ( i.e. before clinical diagnoses) of AD.

Our laboratory has also demonstrated that contrary the prevalent dogma the activity-dependent release of NGF liberates pro-NGF and not the mature NGF (m-NGF) molecule. Further to it we described a metabolic pathway responsible for the extracellular conversion of pro-NGF to m-NGF. Further to it we have found a marked deregulation of this novel metabolic pathway in the brain of AD and Down Syndrome sufferers with AD pathology. These investigations might offer possible new avenues for the investigation of biomarkers of the early AD pathology and of new therapeutic targets.

**About the Speaker:**

Dr. Cuello is the inaugural Charles E. Frosst/Merck endowed Chair in Pharmacology at McGill University. He leads a research team on multidisciplinary aspects (cognitive behavior, neurochemistry, immunocytochemistry, neuropharmacology and molecular biology) of brain aging and Alzheimer's disease neuropathology. He is a Visiting Professor at Oxford University and an Adjunct Professor in Neuropharmacology at the Scripps Institute (La Jolla). He has made pioneering publications on dendritic release of neurotransmitters, the localization and role of central and peripheral neuropeptides, trophic factor-induced repair and synaptogenesis, novel applications of monoclonal antibodies in the neurosciences and novel transgenic models of the Alzheimer's-like amyloid pathology. He has co-discovered bi-specific monoclonal antibodies with Cesar Milstein (Nobel Laureate) and his contributions to the hybridoma technology have been highlighted in a 2013, MRC (UK), on line exhibition: [www.whatisbiotechnology.org/exhibitions/milstein/patents](http://www.whatisbiotechnology.org/exhibitions/milstein/patents)