

## Seminar Talk

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**Friday, November 20, 2015**  
**3.00 p.m. KH 224**

**Title:** Autism and the Developing Brain

### **Abstract:**

Autism spectrum disorder is a complex neurodevelopmental disorder, affecting 1% of the global population, and is characterized by deficits in social interaction, communication, and the presence of restricted, repetitive behaviors. The Centers for Disease Control and Prevention reported that rates of autism spectrum disorder in the United States is increasing, affecting 1 in 150 children in 2000, to 1 in 68 children in 2010, and 1 in 45 children (i.e., 2% of population) in 2014. Recent estimates from the United States and United Kingdom suggest that the average lifetime costs associated with autism spectrum disorder are remarkably high (\$1.4 million–\$2.4 million in 2011), not accounting for the hidden costs to families. Although the etiology remains elusive, evidence from genetic, neuroimaging, and neuropsychological studies highlight the role of neurobiological dysfunction in the pathogenesis of autism spectrum disorder. This talk aims to present some of these findings from the past two decades highlighting the neuroscientific basis of autism spectrum disorder. First, the theoretical models that have been proposed to account for behavioral and cognitive deficits evident in autism spectrum disorder will be briefly described. Second, the scientific literature pertaining to the role of the developing brain in autism spectrum disorder will be systematically reviewed. Finally, an overall assessment of the current state of the field will be provided, focusing on theoretical and clinical implications and future directions.

### **Bio:**

Dr. Samudragupta Bora is a clinical pediatric research scientist with his primary research interest and expertise being the neurodevelopmental outcomes of high-risk children. Specific interests relate to biological and social pathways underlying neurodevelopmental impairments and child psychopathology along with the early identification of those at greatest risk. Dr. Bora received his doctoral degree from the University of Canterbury, New Zealand, for his thesis titled "*Behavioural Adjustment Sequelae in Children Born Very Preterm: Measurement Issues and Neonatal Neurological Correlates*". He then completed postdoctoral fellowships at the University of Canterbury, Washington University School of Medicine in St. Louis, and Brigham and Women's Hospital at Harvard Medical School. Currently he is a research scientist affiliated with the Department of Pediatric Newborn Medicine at Brigham and Women's Hospital, Boston.