UNIVERSITAT DE BARCELONA

Institut de Neurociències
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5th Barcelona Lecture Series in

Brain, Cognition & Behaviour

Roslyn N. Boyd

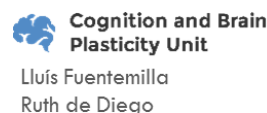*Centre for Children's Health Research*

The University of Queensland

Early detection of infant's at risk for Cerebral Palsy: Early neuroimaging and clinical biomarkers

Professor Roslyn Boyd will highlight the recent work from her team on the early detection of infants at high risk of a later diagnosis of Cerebral Palsy including early brain imaging in infants born preterm (at 30-32 weeks post menstrual age) and at term and the clinical biomarkers. The PREMO toolbox, includes biomarkers of early brain macro and micro structure and function in infants born preterm (<32 weeks) that predicts motor and cognitive outcome at 12 months C.A. The relationships between clinical assessments including the General Movements assessment (GMs), Hammersmith Neonatal Neurological Examination (HNNE), the Test of Infant Motor Performance (TIMP) and visual assessment (Ricci scale) at TEA and 3 months and prediction of outcome are presented. Serial advanced brain imaging macro/micro structural, volumetric, High Angular Diffusion Imaging (HARDI), quantitative T2 mapping, and perfusion imaging) and the relationship to concurrent neuromotor, neurological and neurobehavioral assessments will be presented from a large prospective longitudinal cohort study of very early brain development at 30 and 40 weeks PMA (>120 infants) which is linked to outcomes at 3, 12 and 24 months C.A.

In Australia the average age of cerebral palsy diagnosis has traditionally been by a median of 19 months of age with only 26% of the population get a diagnosis before 6-months of age (ACPR 2013). A new Clinical Practice Guideline (CPG) by Novak et al. 2017 indicates that cerebral palsy can and should be diagnosed early before 6-months of age. Advances in neuroscience have identified strategies for accelerating early detection of "high-risk infants" to enable timely access to neuroprotectants, neuroregenerative agents and diagnostic-specific early intervention when the greatest neuroplasticity gains are possible. In the second part of this presentation Prof Boyd will describe the implementation of the CPG in Australasia as part of a national Centre of Research Excellence the Australasian CP clinical trials network which has a vision to reduce the age of diagnosis to < 6 months and fast track at risk of CP infants to a network of early intervention clinical trials.

Date: **Thursday, 7 June 2018**

Hour: **15:00**

Place: Sala de Graus, Facultat de Psicologia, Campus Mundet

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