The Singapore Bioimaging Consortium (SBIC)
presents a seminar on

# "Programming Developmental Disease Risk: Effects of Lifestyle and Transgenerational Influences"

**Speaker:** **Professor Mary E Wlodek**
**Department of Physiology, School of Biomedical Sciences**
**The University of Melbourne, Australia**
**Host :** **Dr Velan S. Sendhil**
**Date :** **Tuesday, 15 May 2018**
**Time :** **3.30pm – 4.30pm**
**Venue :** **SBIC Seminar Room**
**11 Biopolis Way, Level 2, Helios Building, Singapore 138667**
**(Please enter via Level 1)**

## Abstract

Professor Wlodek Mary is a global leader in developmental origins physiological research and will present her research findings using her successful experimental model that mimics human growth profiles, organ deficits and phenotypes observed in babies born small who are susceptible to adult cardiorenal disease, diabetes and obesity. Generally, males, but not females, born small have a greater risk of developing such diseases despite females also presenting with organ deficits which might render them susceptible to additional lifestyle challenges including pregnancy, stress and obesity. Postnatal growth profiles and lactation can also influence the phenotypes associated with being born small. How exercise at critical life stages can impact disease phenotypes will be discussed. A growing area of research in the programming field is transgenerational disease transmission associated with being born small and our research highlights the roles of the both the mother and father for next generation health. How growth restricted offspring respond to lifestyle interventions such as nutrition and exercise can reprogram these diseases and deficits with transgenerational influences will be described. Our experimental research approaches provide insight into mechanisms programming and preventing disease risk and its transgenerational transmission consequences with implications to improve human health and that of future unborn generations.

## About the Speaker

Mary Wlodek is a Professor in the Department of Physiology, School of Biomedical Sciences, Faculty of Medicine, Dentistry and Health Sciences, The University of Melbourne. She graduated with a BSc (Hons) and MSc from the University of Western Ontario, London, Canada and was awarded her PhD in Physiology from Monash University, Australia. She is renowned for developmental origins physiological research and her successful experimental model that mimics human growth profiles, organ deficits and phenotypes observed in babies born small who are susceptible to adult diseases. Her laboratory is recognized as performing complex animal physiological studies exploring the adult, pregnancy and transgenerational consequences of being born small. Critical to translational outcomes, Prof Wlodek experimentally incorporates various innovative approaches, treatments and interventions including nutritional (cross-fostering, diet), exercise, pregnancy (diet, stress, alcohol) and transgenerational. Prof Wlodek has demonstrated her continued commitment to University of Melbourne life through her many senior leadership roles. Her strong commitment to mentoring has been recognized through prestigious awards, including the Faculty Award for Equity and Staff Development (2012), the University's James Angus Award for Outstanding Research Higher Degree Supervision and the Australian Government, Office for Learning & Teaching, Citation for Outstanding Contributions to Student Learning (2013).

***--- Admission is free and all are welcome ---***