All the Things We Cannot Count: Selection Bias in Perinatal Epidemiology

MONDAY, 21 JANUARY 2019 / 4:00 pm – 5:00 pm
McIntyre Medical Building; Martin Room 504
3655 Promenade Sir William Osler
ALL ARE WELCOME

ABSTRACT:
Selection bias is ubiquitous in perinatal research. A common challenge is how to deal with babies born preterm, who are at high risk of morbidity and mortality and do not represent the underlying cohort of fetuses. As gestational age at birth is often an intermediate between exposure and outcome, conditioning on timing of birth leads to biased estimates and apparent paradoxes. Some authors argue that gestational-age-specific rates calculated using fetuses as the denominator (extended fetuses-at-risk approach – FAR) instead of live births yield causally interpretable estimates even when the outcome can only be measured after birth. I will show how week-specific estimates based on fetuses can result in misleading conclusions. In the second part of the talk, I will discuss the implications of conditioning on events that follow the exposure, a common situation in this area of research.

OBJECTIVES
1. Recognize the ubiquity of selection bias in perinatal epidemiology;
2. Understand how the choice of denominator can affect results;
3. Understand the implications of conditioning (or not) on events that follow the exposure.

BIO:
Educated in Italy, Olga Basso has worked at the Danish Epidemiology Science Centre at the University of Aarhus (Denmark) and at the National Institutes of Environmental Health Sciences, NIH (USA). She is currently Associate Professor at McGill University (Canada). Her primary research is in reproductive and perinatal epidemiology.