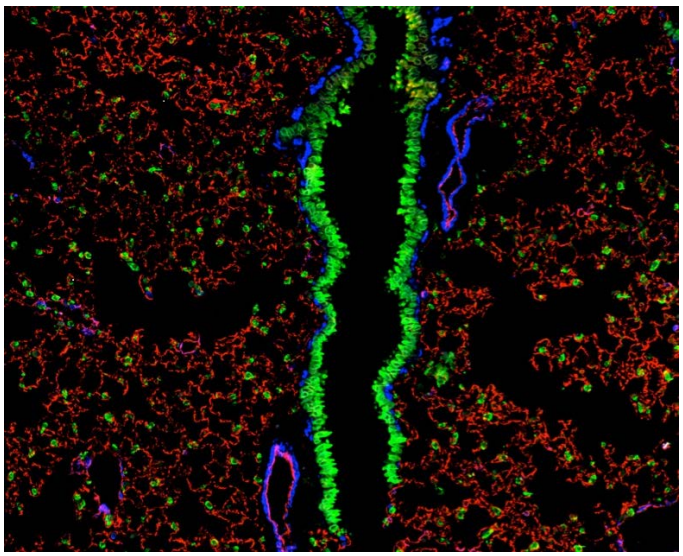
GUEST SPEAKER SEMINAR

Molecular Genetics
UNIVERSITY OF TORONTO

Regulation of Progenitor Cells in the Adult Lung and Lung Cancer



Our laboratory has pioneered the use of stem cell biology approaches for the study of adult lung progenitor cells and lung cancer. Through a combination of mouse genetics and cell biology, we have developed tools to identify and characterize cells with progenitor cell activity in adult lung tissue. We have also applied our expertise to the study of lung cancer, which resulted in our definition of the cancer stem cell populations in the two most common types of lung cancer. We have examined the mechanisms that regulate lung progenitor cell self-renewal and differentiation in the normal lung and in the context of lung cancer.
One major focus in our lab has been the creation of three-dimensional co-culture and co-transplantation organoid systems that have begun to define the cell-cell crosstalk between epithelial progenitors, endothelial cells and mesenchymal cells in the lung. I will discuss how we have recently used our organoid system to define lung mesenchymal cell types that specifically regulate airway or alveolar epithelial cells. I will also present new studies in which we have examined how epigenetic factors, particularly H3K9 methyltransferases and demethylases, affect lung injury repair, lung tumorigenesis and response to therapy in lung cancer.

Dr. Carla Kim

Harvard University

Host: Dr. Xi Huang

Date: Monday November 5, 2018
Time: 4PM
Place: MSB 2172