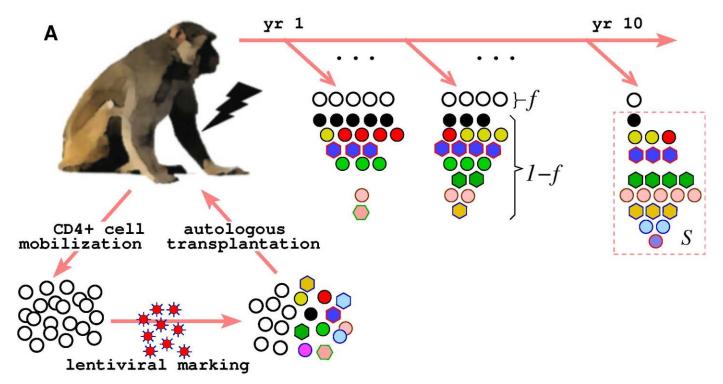


COLLOQUIUM TUESDAY, 25 NOVEMBER 2014 12:00 NOON – 1:00 PM IB280

Professor Sidhartha Goyal

University of Toronto

Understanding Hematopoietic Systems through Clonal Analysis of Repopulating Blood



Much of *complex* biology results from interactions among a large number of individually *simpler* elements. Blood regeneration is no different. About 100 billion new blood cells are made every day from a much smaller yet a large population of diverse stem cell population. I will present a coarse-grained model of blood regeneration, which provides a framework to understand large variations (~3 orders of magnitude) among contributions from individual stem cells. We show that a combination of slow stem cell differentiation followed by a bursty amplification is at the heart of this observed variability. With our model we develop a counter hypothesis to the role of cell-level differences as an explanation for the large variability.