GRADUATE STUDENT SEMINAR

Understanding the role of Interferon Regulatory Factors in dendritic cell biology

Dendritic cells (DCs) play central role in host immune responses initiating innate immune responses activating appropriate adaptive immune components. DCs are collection of heterogenous cell populations broadly classified as plasmacytoid dendritic cells (pDCs) and conventional dendritic cells (cDCs) which can further be sub-divided into cDC1 and cDC2 subtype. Members Interferon regulatory factor (IRFs) are transcription factors play critical role in dendritic cell development and functions. *Irf8* is essential for the development of pDC and cDC1 subtype whereas *Irf4* is required for the cDC2 subtypes. Our recent study unravels the probable roles of IRFs in guiding transcription programs that activates host innate immune responses.

Ajay Kumar

Laboratory of Innate Immunity

4:00 PM | THURSDAY | 16 MAY 2024

AUDITORIUM, NII

GRADUATE STUDENT SEMINAR

M. abscessus: The Next Big Bad after TB?

The global incidence and mortality rates of *M. abscessus*, a non-tuberculous mycobacterial disease, are on the rise. Although once considered opportunistic, these lesser-known "cousins" of *Mycobacterium tuberculosis* (TB) are now known to infect even immunocompetent individuals. Poor diagnosis and prognosis, lack of a vaccine, and its resistance to anti-TB drug regimens and other classical antibiotics pose significant challenges. Thus, elucidating its molecular mechanisms at the host-pathogen interface is imperative for vaccine and treatment development. Progress, however, is impeded by insufficient infection models. In this direction, I will present data on establishing a genetically amenable infection model in *Caenorhabditis elegans* that I am using to comprehensively understand *M. abscessus* pathophysiology.

Rashi Mittal

Immuno-Metabolism Laboratory

4:30 PM | THURSDAY | 16 MAY 2024

AUDITORIUM, NII