

GHI Floor Seminars

Tuesday, November 14, 2017

12:30, SV 1717

Farewell lecture

Prof. Nicola HARRIS

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Type 2 immunity: a protagonist of protection, tissue repair and metabolism

Type 2 immunity is a highly complex system characterized by the expansion of lymphoid cells producing interleukin (IL)-4, IL-5 and IL-13, and the recruitment/activation of myeloid cells including eosinophils, basophils, mast cells and alternatively-activated macrophages (AAM). Much of our understanding of type 2 immune responses derives from the pathological role of this response in driving allergies; however, the physiological role of type 2 immunity is assumed to be the control of helminth parasites. Although these organisms have largely been eradicated in many parts of the world, people living within tropical areas without adequate access to sanitation continue to suffer from endemic infection, with current estimates indicating an approximate 2.5 billion people infected worldwide. Although the role of type 2 immunity in protection against parasites has long been appreciated, the effector mechanisms leading to parasite killing have remained unclear and recent evidence suggests type 2 immunity is equally critical for the timely repair of tissues damaged by parasite migration. Lastly, type 2 immunity has emerged as an important regulator of host physiology and metabolism and may play additional roles in perinatal adaptation of mucosal tissues to the external environment. Thus, the implications of type 2 immune responses upon health and disease are far-reaching with impacts protective immunity, tissue repair and metabolism. Our laboratory has been actively engaged all each of these aspects of type 2 immunity with a particular focus on the intestine and intestinal helminths.

Hosts: Prof. Melanie Blokesch & Prof. Bruno Lemaitre