



**Daniel H. Kaplan, MD, PhD** is a Professor within the Department of Dermatology and Immunology, University of Pittsburgh. His research is dedicated to understanding the mechanisms that underlie skin immunity and the interplay of different immune cells types that reside in the skin. As a graduate student at Washington University, St Louis he participated in the re-invigoration of the concept of tumor immunosurveillance by observing an increased frequency of skin tumors in immunodeficient mice.

During his post-doc at Yale University, he developed a number of mouse lines with a selective deficiency of Langerhans cells (LC) and showed that these cells have the unexpected capacity to suppress tissue immune. As an Assistant and later Associate professor at the University of Minnesota, he found that LC and dermal dendritic cells have unique functions in the development of anti-pathogen responses. In 2015 he moved to the University of Pittsburgh. His laboratory is currently focused on understanding how intracellular communication mechanisms between immune cells and non-hematopoietic cells in the skin modulate cutaneous immunity and skin disease. He found that pain-sensing nerves are necessary and sufficient to trigger innate immune responses and this can augment regional immunity by communicating the presence of danger to adjacent areas of skin through a process termed "anticipatory immunity." Other neurons that innervate the epidermis actively suppress mast cells resulting in attenuated skin inflammation. Finally, his lab has shown that keratinocytes determine LC migration and epidermal residency of resident memory T cells by controlling the amount of available active TGF $\beta$  in the epidermis.