

Dr. Valerie Wallace

Senior Scientist at University Health Network

Toronto, ON, CA

A molecular biologist by training, Dr. Wallace is recognized for work on the role of Hedgehog signaling in neural progenitor proliferation.

Biography

Research in Dr. Wallace's lab at Krembil Research Institute (Krembil) is focused on the general problem of how cell number and fate are regulated in the developing brain. Unraveling how signaling pathways and genes that control these processes is key to understanding brain function but also important for understanding tumorigenesis and degenerative processes. Dr. Wallace uses the mammalian retina as a model to address these questions because its development is well characterized and it is a tractable system for experimental manipulation. General approaches in the lab include conditional mouse mutagenesis and primary retinal cell culture. Projects in the lab include the functional analysis of Hedgehog regulated genes in retinal histogenesis and Hh-dependent tumorigenesis, elucidation of the mechanisms of Hedgehog protein trafficking in neurons, and cell transplantation approaches to restore retinal function.

From 1998-2013 Dr. Wallace was at the Ottawa Hospital Research Institute (University of Ottawa) where she was Senior Scientist and Director of the Vision Research Program. A molecular and developmental biologist by training, she is recognized for her work on the role of Hedgehog signaling in neural progenitor proliferation in the central nervous system. Dr. Wallace joined the Toronto Western Research Institute (now the Krembil Research Institute) in September 2013, where she is Director of Vision Sciences and Chair of the Vision Science Research Program. She holds appointments in the Department of Ophthalmology and Vision Sciences and in LMP, UT. Dr. Wallace holds peer-reviewed grants from the Canadian Institutes of Health Research, the Canadian Cancer Society, the Foundation Fighting Blindness Canada and Brain Canada.

Industry Expertise

Research, Health Care - Services, Education/Learning

Areas of Expertise

Neuroscience, Ophthalmology, Vision Research, Developmental Biology, Molecular Biology, Cell Biology, Genetics, Stem Cell Research, Immunology, Cancer Research

Affiliations

Canadian Institutes of Health Research, Canadian Cancer Society, Foundation Fighting Blindness Canada, Canadian Cancer Society Research Institute, Brain Canada

Education

University of Toronto

Ph.D. Immunology

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