



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

Department of Cellular and Physiological Sciences



Andrea Wills, Ph.D

Assistant Professor of Biochemistry

University of Washington

****CPS SEMINAR TIME****

12:30 PM Thursday, Feb. 7, 2018

Location: LSC3

Hosted by Drs. Rideout and Kopp

"Remodeling chromatin and transcription during vertebrate regeneration"

In contrast to humans, many vertebrate species are able to fully regenerate lost limbs or damaged spinal cords after injury. A particularly valuable model for this complex tissue regeneration is the frog *Xenopus tropicalis*, which can fully regenerate lost appendages as a tadpole but loses this ability as an adult. Many early embryonic signaling pathways are now known to contribute to the regenerative process, but the fundamental molecular mechanisms that enable or constrain regenerative competence are not well defined. To understand how regeneration is initiated, my group uses an integrative genomics approach, applying RNA-Seq and ATAC-Seq to identify the domains of chromatin that gain or lose accessibility after injury and how these changes are coupled to transcriptional dynamics. A particular goal is to understand how tissue-specific progenitor cells respond to injury, and how the competing tissue needs of self-renewal and differentiation are addressed in a regenerative context. In my talk I will share new data suggesting that distinct transcriptional regulatory programs drive phases of differentiation and proliferation in regenerating neural progenitors. I will also introduce a unique nuclear morphology in *Xenopus* tail cells that is dynamically remodeled in the early hours of regeneration.

Join us for coffee and cookies at Noon in LSC 1416!!!

For more information please contact Dr.Rideout<elizabeth.rideout@ubc.ca>, Dr.Kopp<janel.kopp@ubc.ca>