

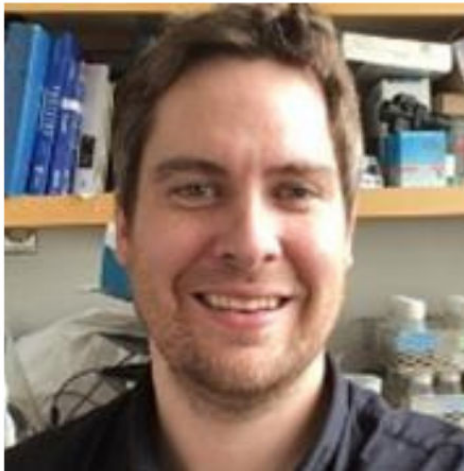
Johns Hopkins University

Department of Biology Seminar Series

Thursdays, 4:00pm

For more information go to: <https://bio.jhu.edu/events>

Mudd Room 100 - November 2nd, 2023



Thomas Hurd

Department of Molecular
Genetics

University of Toronto

Host: Tatjana Trecek

"Divide and conquer: how deleterious mitochondrial DNA is eliminated in the germline"

In nearly all species, including humans, mtDNA is subject to high mutation rates and undergoes little recombination, making it susceptible to the accumulation of deleterious mutations. Left unchecked, this increased genetic load would ultimately result in mitochondrial dysfunction and the decline of the species via Muller's ratchet. To prevent this, the female germline has evolved an essential, but thus far poorly understood, purifying selection mechanism to purge itself of mutant mtDNA. I will discuss our recent work exploring the mechanism of mtDNA quality control in the *Drosophila* female germline. In particular, I will touch upon the role of mitochondrial fission and fusion, mitochondrial autophagy and mtDNA degradation in this process.