

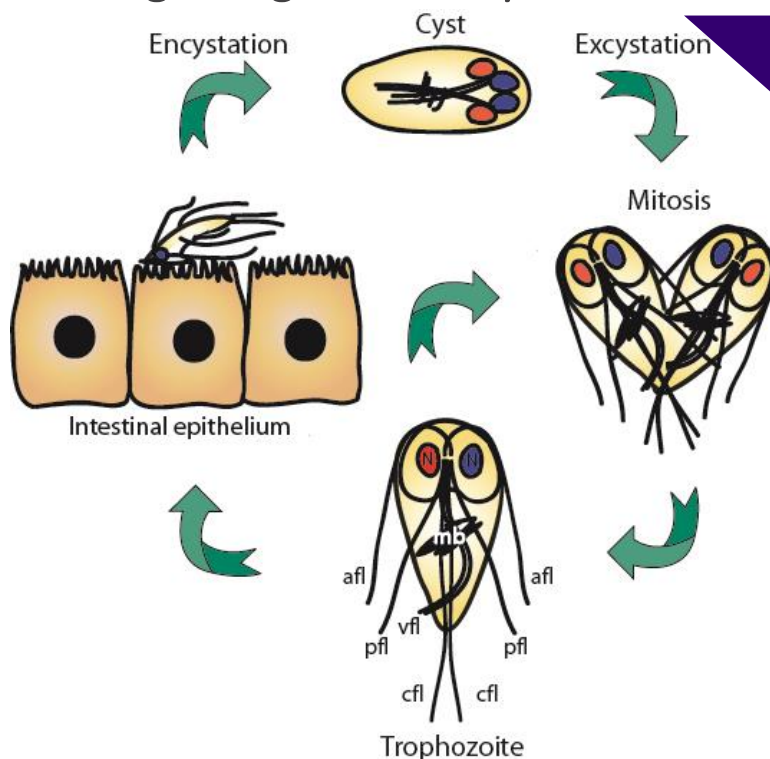
Promotion Biology Seminar

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Cell signaling and the cytoskeleton in *Giardia lamblia*



Monday, October 2, 2017 | 12:00pm
HCK 132 Refreshments at 11:45am

The cytoskeleton is the structural framework that supports cellular form and function. More than a static structure, the cytoskeleton is a true nanomachine used for mechanical tasks across the biological scale, from organelles to organisms. The protozoan *Giardia lamblia*, is an intriguing single-celled parasite that depends on its cytoskeleton to latch onto the host intestine and maintain parasitism. Either due to its ancient origins or the selective pressure of its life as a parasite, *Giardia* lacks many cytoskeletal proteins once thought to be conserved in all eukaryotes. My laboratory focuses on exploring *Giardia's* unique biology and uncovering the divergent molecular mechanisms *Giardia* employs to regulate

its cytoskeleton. Importantly, unique cytoskeletal regulators could be leveraged for therapeutic development to treat the 20% of infections which are resistant to the current front line treatment (metronidazole). I will present our recent work on *Giardia's* unique mechanism of cell division, work on a set of divergent kinases we have validated as drug targets, and the role of *Giardia's* sole Rho family GTPase as a regulator of the cytoskeleton and membrane trafficking.