

BCH 252 Seminar Series



Dr. Karine Le Roch, Professor of Molecular, Cell and Systems Biology, Director Center for Infectious Disease and Vector Research, Institute for Integrative Genome Biology, Dept. of Molecular, Cell and Systems Biology

Seminar Title: " A Systems Biology approach to understand gene regulation and pathogenicity in human malaria parasites"

Abstract: The human malaria parasite, *Plasmodium falciparum*, is a devastating unicellular protozoan responsible for over half a million deaths annually. With a complex life cycle switching between human and invertebrate hosts, this apicomplexan is notoriously adept at evading host immune responses and conferring resistance to all clinically administered treatments. Despite our efforts, the malaria parasites have been successful not only in their spread and persistence across much of the continents, but they have also squashed our efforts to control infection primarily due to their complex replication cycles and also mutation rates in their genome sequences. Recent advancements in next generation sequencing technologies including single cell sequencing, increased sensitivity to proteomics/metabolomics approaches along with access to CRISPR based gene editing tools, have allowed for a greater understanding of this enigmatic micro-organism, something that was not possible to even imagine in the past decades. I will highlight the challenges and limitations that we are still facing in the study of the parasite and the progress in the multi-omic approaches that we have used over the past few years to better understand gene regulation. All together, results our work enable us to design better tools to eradicate this life-threatening disease.

ZOOM Link: <https://ucr.zoom.us/j/97233953239?pwd=U2w1VWdtcDI4WW8rRXdTUWp2WWp4dz09>

Meeting ID: 972 3395 3239

Passcode: 609143

Tuesday, January 11th, 2022

12:00 p.m. - 12:50 p.m.

Host: Dr. Xuan Liu