

Institute for integrative Genome Biology Seminar Series

You are cordially invited to attend:

Christopher Faulk

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"Sequencing on the cheap: ants, cats, primates, de novo genomes, methylation, and commensals by 1 person with \$1000"

Date: Friday, October 21, 2022

Time: 12:00 pm - 1:00 pm

Location: [Virtual](#)

Host: Dr. Brandon Le

Abstract: Using a nanopore sequencer, I generated a novel genome from scratch for the carpenter ant, along with mitogenome and commensal wolbachia genomes with the 2nd best assembly on NCBI. I will present how one person can use a \$1000 sequencer, \$1000 in consumables, and a \$3000 computer to generate a 60X coverage insect genome with a >97% BUSCO score. I will also show how the same pipeline generated a near perfect de novo genome for the Pallas's cat, with chromosome-sized contigs. As a bonus, I called whole genome methylation and reliably detected imprinted genes solely from sequence data. I will discuss ongoing work on primate genomes and epigenomes in my lab. The purpose of this talk is to share these methods and low resource labs create and analyze their own sequencing data.