

Please join the Faculty Development Committee for another presentation in a series  
**Highlighting Faculty Research for tenure-track  
faculty serving as PI on large awards**

**Fri. March 24, 2023 2:30-4:00pm Deju House**

## **Joel Sharbrough**

**Assistant Professor**

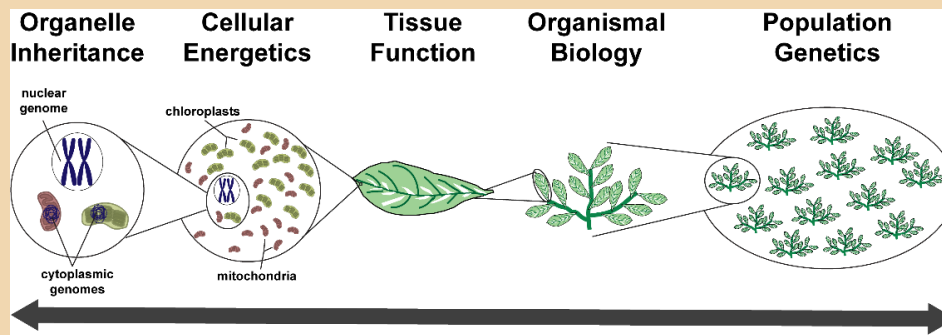
**Biology Department**

**Cytonuclear Lab**



### **Unraveling the Genetic Complexities of Cellular Energy**

Two ancient evolutionary acquisitions – mitochondria and chloroplasts – are responsible for nearly the entire supply cellular energy in eukaryotes. Hundreds of millions of years later, these two organelles still retain their own DNA, which together encode the molecular machinery responsible for respiration and photosynthesis. The critical importance of respiration and photosynthesis to eukaryotic health makes understanding mitochondria and chloroplasts central to improving human health outcomes and crop productivity, but their complex inheritance patterns make this task exceptionally challenging. To overcome this, the Sharbrough lab uses evolutionary, genetic, cellular, and population approaches to gain a global understanding of the intimate and ancient symbioses that enable eukaryotic energy production.



**Come listen to Joel's brief talk and then stay for casual conversation  
with Joel and other colleagues.**

**Light refreshments provided and cash bar available**