

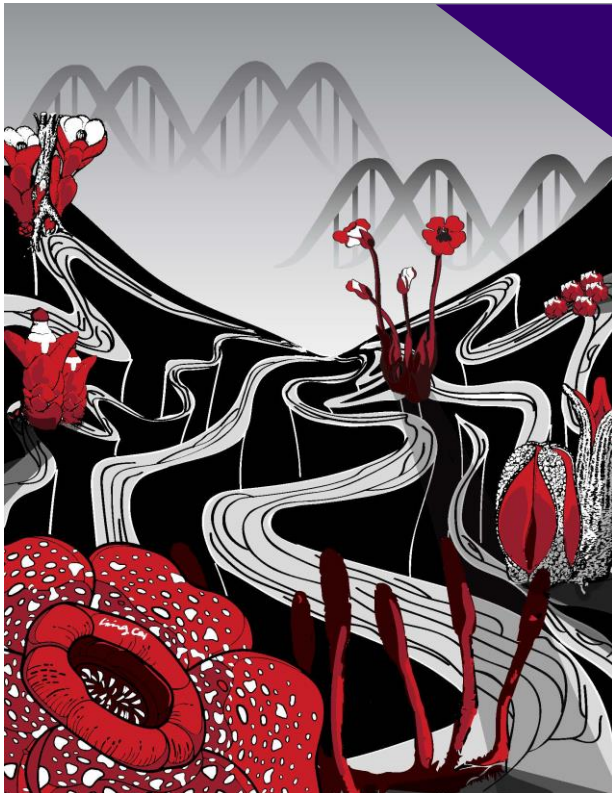
# Biology Seminar

Speaker: **Liming Cai Ph.D.**

University of Texas at Austin | Stengl-Wyer Postdoctoral Fellow, Department of Integrative Biology  
<https://lmcai.weebly.com/>

## Phylogenetic methods for evolutionary mechanisms

**Monday, January 23, 2023**  
**12:00PM PST | HCK 132**



Plants are amazing survival artists capable of enduring harsh environments and thriving in newly opened niches. My research seeks to broadly understand how environmental changes and biological interactions remodel the genealogical histories across the plant's genome, with the aim of identifying key innovations responsible for adaptive changes. At the macroevolutionary scale, I will demonstrate how whole genome duplications buffered plants through a

historical global warming, and how ancient gene flows created hyperdiverse clades in the neotropics and Chinese Hengduan Mountains. At the more recent evolutionary scale, I will focus on a radical form of biological interaction — parasitism. Integrating comparative genomics, physiology, computer vision, and collection-based sciences, I will illuminate a dynamic history of extinct host–parasite associations revealed by horizontal gene transfer and explore the functional implications of these alien genetic materials.