

DEPARTMENT OF BIOLOGY
ARTS & SCIENCES

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

APPLICATION DEADLINE: 02/25/2022

PROJECT TITLE: Evolution of Facial Patterning in Paradise Jumping Spiders

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Project Description

For visually guided species (such as primates, sheep, paper wasps, jumping spiders), the face serves as a focal region for communicating critical information such as identity, which could increase fitness by mitigating conflicts and increasing successful mating interactions. The paradise jumping spiders are tiny predators with exceptional vision and show unique, species-specific facial patterns across the genus. The research fellow joining this project will help assess how these spiders view faces during courtship communication in one or more of the following projects: (1) track the gaze of spiders as they view videos of modified and modified stimuli (e.g. a courting male with eyes vs. with eyes digitally removed); (2) conduct live animal behavioral trials where male faces are physically modified using makeup; (3) collect ecological data and behavioral observations in the spiders' natural habitat; (4) capture images of spider faces using a hyperspectral camera (which captures visible and non-visible light, e.g. UV light).