

Biodiversity Conservation Internship

Fall 2017 Fellowship Application Form

APPLICATION

Tropical Conservation Programs at FIU is seeking 10 outstanding undergraduate students to participate in multiple research and hands-on training internship opportunities offered at FIU and partnering organizations during the Fall 2017 semester. Qualified students should possess an interest in conservation of plants and/or animals, and have basic knowledge of ecological research principles and procedures. Students must be self-motivated and willing to assist in research and work related duties. Participants should enroll in a 0-3 credit internship course in your department and prepare a professional presentation upon project completion.

Interested applicants should submit a letter of intent, resume/CV, and one letter of recommendation along with this application form. A \$2000 Fellowship Award will be provided to recipients in increments throughout the internship period.

GENERAL INFORMATION

Name _____

Address _____

City _____ State _____ Zip Code _____

Phone _____ Email _____

Do you have health insurance? _____ *please note that a waiver of liability may be requested. Insurance options are available for those interested.

Program of Study (i.e. B.S. Environmental Studies) _____

Year in Study _____ GPA _____ / _____ Career Goal _____

Mentor _____ Contact _____

Panther ID: _____

INTERNSHIP INFORMATION

Please order from 1-4 your top internship site and project area (see pages 2-5 for descriptions).

- _____ U.S. Fish and Wildlife Service Project title: _____ or _____
- _____ ICTB at The Kampong Project title: _____ or _____
- _____ Deering Estate Project title: _____ or _____
- _____ Zoo Miami Project title: _____ or _____
- _____ Rare Species Project title: _____ or _____
- _____ Montgomery Botanical Center Project title: _____ or _____

*Please note for sponsored fellowship you will need to dedicate at least 12 hours per week on project (some time may be spent off-site). For additional information, please visit: <http://seas.fiu.edu/get-involved/students/tropical-conservation-internships/> or contact tropics@fiu.edu with any questions or concerns. Due date: August 14th, 2017 at 11:59 pm. All materials sent to tropics@fiu.edu with subject line: *Fall 2017 Tropical Conservation Internship*. Interns will be notified by August 18th if they are selected.

This opportunity is made possible by the generous support from the
Fernandez Pave The Way Foundation

U.S. FISH AND WILDLIFE SERVICE

Behavioral study of imperiled birds in captivity

Mentors: Sandar Sneckenberger and Mary Peterson

This internship would involve an observational research project focused on the behavior of captive grasshopper sparrows in different types of enclosures. Student would work closely with USFWS biologists and two captive breeding facilities to develop a standard protocol to evaluate and score behaviors, and later analyze and interpret results. If time allows, additional opportunities include field visits, literature review of disease issues, and identifying potential "re-wilding" training that could occur prior to the release of captive birds back to the wild. Interest with working with endangered species, avian ecology, captive breeding, wildlife diseases, behavioral studies, and wildlife reintroductions is required; experience is preferred.

Rim Rock Crowned Snake Conservation

Mentor: John Tupy

The rim rock crowned snake (*Tantilla oolictica*) is a rarely observed, endemic species of the south Florida pine rockland ecosystem occurring along the Miami rock-ridge area and the Florida Keys. Over 98% of this habitat outside of Everglades National Park has been destroyed, fragmented or degraded due to urban development. A fossorial species, the rim rock crowned snake rarely comes above ground and shelters in holes and crevices of limestone substrate as well as any available cover (natural or unnatural) to remain undisclosed while it searches for prey and optimal microclimate conditions. Little is known about its life history and records of encounters are sparse. The selected intern will conduct thorough literature research as well as outreach to experts in herpetology, serpentology, and the natural history of south Florida and the Florida pine rockland ecosystem in order to assist in a species status assessment of the rim rock crown snake. Information will be compiled and summarized, and additional information needs will be identified. The intern will also conduct research on survey and trapping methods used for fossorial snake species, similar to the rim rock crowned snake, and design method(s) to be tested in the field.

USFWS Boy Scout GIS Mapping Project

The U.S. Fish and Wildlife Service is creating an online mapping system as an added tool to assist Boy Scouts of America in studying and contributing services related to conservation and wildlife. The purpose of the online system is to provide species, habitat, environmental, infrastructure, and conservation information in a GIS, Geographic Information System through ESRI ArcGIS online to be available for Scouts to be used as map visuals, a tool to create maps and communicate information for earning merit badges and awards. The wildlife conservation online mapping system will be accessible via computers, tablets and cell phones. Information such as trails, parks, preserves, natural areas, beaches, scenic areas, bird watch areas and more will also be available for the Boy Scouts. This will give insights as to recreation and nature opportunities to help inform scouts and groups of good ways to spend their time and enhance the enjoyment of their lives.

INTERNATIONAL CENTER FOR TROPICAL BOTANY AT THE KAMPONG

Mentor: Christopher Baraloto

The International Center for Tropical Botany (ICTB) at The Kampong has several opportunities for internships in programs related to tropical plant conservation. Projects include (i) the mapping and revision of the botanical determinations of the living collections at The Kampong on Biscayne Bay in Coconut Grove; (ii) horticultural assistance to plant orchids and tropical plants throughout The Kampong ; (iii) the development of databases and descriptive notecards for genera of tropical plants to be used in teaching and visitor displays; and (iv) work with the Young Explorers after-school environmental programs for middle school students.

DEERING ESTATE

South Florida Biodiversity, Science, and Restoration at the Deering Estate

Mentor: Christopher Bumpus

The Deering Estate offers multiple options for study of plants and animals. Example internship projects include: (i) study of growth rates in the pine rocklands following a prescribed burn; (ii) studies of avian populations at Deering and avian uses of plants; (iii) habitat use and population studies of Reef Geckos (*Sphaerodactylus notatus*); (iv) surveys for invasive anoles; (v) biodiversity surveys in seagrass and mangrove environments; (vi) competition experiments for native vs. nonnative plants; (vii) salinity effects on native vs. nonnative plants; and (viii) aquatic species inventories.

ZOO MIAMI

Mentors: Steven Whitfield and Frank Ridgely

Gopher Tortoise Conservation and Ecology

Zoo Miami's pine rocklands habitat hosts a significant population of gopher tortoises - native threatened tortoises that construct deep burrows that provide a home for the tortoises - as well as hundreds of other species of vertebrates and invertebrates. The C&R department is conducting a thorough study of gopher tortoises, and is conducting zoo-wide surveys for gopher tortoise burrows, observing tortoise behavior at burrow entrances using motion-sensing video cameras, investigating seed dispersal by tortoises, and conducting radiotelemetry to understand movement patterns and habitat use. For Fall 2017, we are seeking an intern to join our gopher tortoise team to conduct radiotelemetry and follow individual tortoises in the pine rocklands at Zoo Miami.

Mapping Zoo Miami's botanical collection

Zoo Miami has an extensive collection of ornamental plants used within the zoo's landscaped public area. Many of the plants are identified to species and labeled to help educate visitors on botanical diversity. However, mapping of landscaping plants and full identification has been minimal. Interns working on this project may help to identify plant species within the zoo's public area, and create maps using Geographic Positioning Systems (GPS) and Geographic Information Systems (GIS).

Butterfly propagation

Zoo Miami's pine rocklands are home to several species of imperiled butterflies, and butterfly conservation programs have been a focus of Zoo Miami's C&R department for several years. Zoo Miami has recently renovated a World War II-era munitions bunker into a solar- and wind-powered butterfly conservation laboratory, the "Butterfly Bunker." We are seeking an intern in Fall 2017 to begin propagating two species of native butterflies - the Atala Hairstreak (*Eumaeus atala*) and the Giant Swallowtail (*Papilio cresphontes*). An intern could refine propagation techniques for these species, and help develop protocols for release of butterflies at public sites within the zoo and throughout the local community. The intern would also participate in the data collection and care for Florida Duskywing (*Ephyriades brunnea*) larvae and pupae in an effort to establish a documented life history for this imperiled species.

RARE SPECIES CONSERVATORY FOUNDATION

Mentors: Paul Reillo and Karen McGovern (located 1.5-2 hours north of FIU)

Bongo Antelope Fingerprinting – Identifying Individuals Using Stripe Patterns

Student will create a photographic record of all bongo resident at the Rare Species Conservatory Foundation and create a photo identification master log for each individual based on stripe patterns to be integrated into existing records at RSCF.

Pygmy Marmoset Vocalization Study

Students will record vocalization patterns of pygmy marmosets resident at the Rare Species Conservatory Foundation and interpret different calls in different situations (alarm, attack, mate calling, adults vs juveniles, etc.) creating a master vocal record with descriptors for each call.

Red-Browed Amazon Parrot Identification

Student will create a photographic record of all Red-browed Amazon parrots resident at the Rare Species Conservatory Foundation and create a photo identification master log for each individual based on feather color, band numbers and family groups to be integrated into existing records at RSCF.

Exotic Plant Identification and Utility Study

Student will identify, photograph and label exotic and invasive plants at the Rare Species Conservatory Foundation. Student will document what species (native, non-native, RSCF animals), if any, utilize the plants (nesting, consumption, etc.) and what long and short term effect that has on the landscape (further or accelerated spread of exotic plants, partial to total eradication of exotic plants, etc.)

MONTGOMERY BOTANICAL CENTER

Mentor: Patrick Griffyth

Botanical Garden Management

Montgomery Botanical Center (MBC) is a 120-acre botanic garden in Coral Gables, founded by Nell Montgomery Jennings, in honor of her late husband, Colonel Robert Montgomery. MBC is best known for its National Palm Collection and National Cycad Collection, as well as for its high standards in the management of living plant collections. With plants from around the world growing on a common site, MBC is frequently visited by scientists who make use of these living treasures, as well as students who can learn from these plants. The plants are also managed as a conservation collection, providing a genetically robust backup for native palm and cycad populations in the wild.

Internship opportunities at MBC are focused on the fundamental management of these living collections, as well as their study. Interns at MBC work to promote the health of seeds and seedlings in the nursery, care for mature palms, cycads and trees on the grounds, help to manage labels, maps and data with our team, and are encouraged to contribute their own ideas and improvements to our operation.