



## College News

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### **New Cornell-Smithsonian joint graduate program trains future wildlife conservation scientists**



Jennifer Nagashima was the first student admitted to the doctoral program, beginning her work while the collaborative program was being piloted.

students committed to conservation will learn to become independent investigators equipped to study, understand, and preserve some of the rarest species on the planet.

“We are in the midst of Earth’s sixth mass extinction, and this crisis is manmade,” said Dr. Alex Travis, director of the Cornell Center for Wildlife Conservation who helped organize the program. “Although we must continue to take every effort to preserve natural ecosystems, numbers of more and more species have dropped so low that they require focused conservation efforts. We want to train top students in a setting in which they will be able to apply basic scientific approaches and cutting edge techniques to the preservation of biodiversity. The knowledge these collaborations generate will then help solve real conservation problems around the world.”

Students admitted to the five-year program benefit from the dual mentorship of a Cornell faculty member and an SCBI staff scientist. Starting with a summer rotation at the SCBI before their first fall semester, students will complete two more lab rotations while taking classes in Cornell’s Biomedical Sciences graduate program. Collaborative research projects will

Human history has never seen a more pivotal time for wildlife. While extinction threatens nearly one-quarter of all known vertebrate species, scientists are creating interdisciplinary techniques and partnerships geared towards recovering endangered populations. To meet the global challenge of preserving biodiversity, Cornell University and the Smithsonian Conservation Biology Institute (SCBI) have teamed up to offer a new shared graduate program that will train the next generation of wildlife conservation scientists.

The Cornell-Smithsonian Joint Graduate Training Program (JGTP) officially began accepting applications in October 2011, with the goal of training students who will leverage the complementary strengths of basic research at the world’s leading veterinary college and conservation initiatives pioneered by the nation’s preeminent wildlife research institute. Using the diverse facilities, resources, and expertise available at each institution,

utilize resources in Ithaca and SCBI campuses (in Front Royal, VA and Washington, DC), allowing students the rare opportunity to work with advanced biomedical facilities at Cornell and endangered species populations such as cheetahs, clouded leopards, cranes, oryx, and others at SCBI.

“Collaborations between institutions are critical to succeed in saving species and their natural habitats,” said Dr. Pierre Comizzoli, DVM, PhD, a reproductive physiologist at the SCBI’s Center for Species Survival who helped launch the program. “The joint program offers a unique opportunity for talented graduate students to be trained by scientists using the most advanced approaches in biology and conservation. It is really exciting to be part of this effort.”

Jennifer Nagashima, the first JGTP student admitted during last year’s pilot phase, exemplifies this collaborative potential with her work on canine reproduction.

“Of all the species of common veterinary interest, comparatively little is known about how to control or assist reproduction in dogs, and even less in wild canids,” said Travis. “Through the JGTP, Jennifer is working with scientists at Cornell and the SCBI who study complementary aspects of canid reproduction.”

Nagashima studies aspects of female reproduction during her time in Dr. Nucharin Songsasen’s SCBI lab, where she works on in-vitro egg maturation and fertility synchronization. In the Travis lab, she is learning new technologies to preserve genetic resources of male animals using spermatogonial stem cells. She’s also synthesizing both lines of training in studies on assisted reproduction techniques such as in-vitro fertilization and embryo transfer. She has rounded out her studies by delving into how hormones control the canine reproductive cycle with Dr. Ned Place, a reproductive endocrinologist at Cornell.

“These topics are highly complementary, and Jennifer’s study benefits tremendously from her work in these three labs,” said Travis. “Bringing these skills together could help manage captive populations of endangered canids such as the African Wild Dog and South America’s Maned Wolf. Interestingly, these same approaches could help dog breeders filter diseases out of domestic populations while also helping humans. There are over 400 human diseases having similarity to diseases in dogs. Identifying genetic causes of disease can then benefit everyone.”

The Smithsonian Conservation Biology Institute plays a key role in the Smithsonian’s global efforts to understand and conserve species and train future generations of conservationists. Headquartered in Front Royal, Va., SCBI facilitates and promotes research programs based at Front Royal, the National Zoo in Washington, D.C., and at field research stations and training sites worldwide.

Prospective students who are interested in this opportunity should visit Cornell’s College of Veterinary Medicine, Office of Graduate Education for more information: [www.vet.cornell.edu/OGE/](http://www.vet.cornell.edu/OGE/).



Native to southeast South America, maned wolves thrive in wide, uninterrupted spaces such as open forests, savannahs and marshlands. Although they have no natural predators, maned wolves are listed as near threatened by the International Union for Conservation of Nature due to human expansion and land development.

*Photo credit: Smithsonian’s National Zoo*