### MARCELLA J. KELLY

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## **EDUCATION**

B.S.	1991	University of California, Davis.	Wildlife and Fisheries Biology
Ph.D.	2000	University of California, Davis.	Ecology. Advisor: Dr. Tim Caro

### PROFESSIONAL EMPLOYMENT

2016 – Present	Professor, Department of Fisheries and Wildlife Sciences	
	Virginia Polytechnic Institute and State University, Blacksburg, VA.	
2007 – 2016	Associate Professor, Department of Fisheries and Wildlife Sciences	
	Virginia Polytechnic Institute and State University, Blacksburg, VA.	
2001 – 2007	Assistant Professor, Department of Fisheries and Wildlife Sciences	
	Virginia Polytechnic Institute and State University, Blacksburg, VA.	
1999 – 2001	Adjunct Professor, Biology Department California State University, SanFrancisco.	

### **COURSES TAUGHT**

## Undergraduate courses:

Population Dynamics and Estimation (Virginia Tech), 2003 - 2017

Wildlife Field Techniques (Virginia Tech), 2001-present

Rainforest to Reef: Natural Resource Monitoring in Belize, Central America; Virginia Tech study abroad 2009-2012.

## **Graduate Courses:**

Carnivore Conservation Seminar (Virginia Tech), 2001

Advanced Topics in Applied Population Ecology (Virginia Tech), 2005-2010 alternate years Parameter Estimation (Virginia Tech) 2011, 2012 – Present (alternate years).

## RESEARCH SUPPORT (SELECTED)

- 2016-2020 Virginia Appalachian Covote Study II VDGIF \$534.000
- 2016-2020 Florida Predator-Prev Study \$263,000
- 2016-2019 Bobcat Ecology in Appalachia VDGIF \$242,000
- 2014-2019 Philadelphia Zoo Global Conservation Leader Award \$100,000
- 2013-2014 Bobcat Density via Molecular Scatology VDGIF: \$37,500
- 2012-2016 Black Bear Density and Ursid Research Center support \$176,959
- 2011-2014 Eastern Coyote Ecology in the Appalachians. VDGIF \$342,000.
- 2008-2011 United States Department of Agriculture Co-Pi with Dr. Glen Stevens. Integrating science, education, and extension Belize and Virginia \$95,000
- 2009-2012 Impacts of highway construction on red wolf movement, habitat use and survival. North Carolina Department of Transportation. \$464,000.
- 2007-2008 National Science Foundation (NSF) Facilities Improvement Grant Las Cuevas Research Center \$150,000.
- 2006-2008: Using remote acoustic detectors to predict bat species occurrence across the landscape for 14 bat species in Virginia. \$74,500.
- 2001-present: The use of remote cameras for wildlife studies: \$310,185

# **OUTREACH AND CAPACITY BUILDING EXPERIENCE (SELECTED)**

- 2019 September. Workshop for Women in the Field. Co-instructor for 2-day workshop for undergraduate and graduate student women in field techniques, heath, hygiene, and safety. Riau Province, Sumatra Indonesia. Also, half day workshop at Andalas University, Padang, Indonesia on overview of common field techniques for invasive and non-invasive sampling. Key Note Speakker: Co-occurrence modeling of carnivores: Scaling up from local camera trap surveys to global insight. National Meeting on Tropical Ecology and Biodiversity. Andalas University, Padang, Sumatra, Indonesia.
- 2014-2019. Philadelphia Zoo CREW outreach program. Hosted up to 20 inner-city high school students from Philadelphia per year at Virginia Tech for 2-3 days. Students are from diverse backgrounds, have completed up to 2-4 years of the Philadelphia Zoo's Champions for Restoring Endangered Wildlife (CREW) program, and most are college bound. The outreach program exposes students to STEM fields specifically in wildlife ecology.
- 2011- Present: Nepal Tiger Genome Project. Workshop: Non-invasive sampling for wildlife. Attendees ~30 park staff and field workers in Chitwan National Park; Nepal. Second workshop on non-invasive sampling, design and analysis:Kathmandu Nepal. Final workshop for Center for Molecular Dynamics, Nepal (CMDN) staff on mark-recapture techniques.
- 2010 Ugyen Wangchuck Institute for Conservation and Environment (UWICE), Conference and Training Workshop Bumthang, Bhutan. Conducted in collaboration with the University of Montana. Workshop on "Wildlife Research Techniques in Rugged Mountainous Environments in Asia." Presentation: Wildlife Research Using Non-invasive remotely triggered cameras.
- 2008- Present: Research and Capacity Building. Collaboration with Wildlife Conservation Society,
  Madagascar Program, to build a camera trapping biodiversity survey program for the Masoala-Makira
  Landscape, Madagascar emphasis on rare terrestrial mammals
- 2004-2006: Research and Capacity Building. Collaboration with Carnivore Center: Tanzanian Wildlife Research Institute (TAWIRI), and the Zoological Society of London (ZSL), Advisor for a country-wide, remote camera survey protocol for 35 species of carnivores.
- 2003-Present. International Union for the Conservation of Nature (IUCN), Cat Specialist Group. Review and rank red-list species. Responsible for bobcat, cougar, jaguar, ocelot.

### PEER REVIEWED PUBLICATIONS

Please See Publications Tab on Website

### **HONORS AND AWARDS**

- 2018-2019 College of Natural Resources and Environment Outstanding Mentor Award (VT)
- 2017-2018 Outstanding Teaching Award College of Natural Resources and Environment (VT)
- April 2017 University-wide, Alumni Award for Excellence in International Research (VT)
- 2016-2017 Certificate of Teaching Excellence in the College of Natural Resources and Environment (VT)
- November 2013 Global Conservation Leader Award; Philadelphia Zoo. 4th Annual Conservation Gala Event
- March 2012-College of Natural Resources, Curriculum Club Award for Excellence in Teaching (VT)
- March 2008-College of Natural Resources, Curriculum Club Award for Excellence in Teaching (VT)
- August 2006-FiW, Curriculum Club Award for Excellence in Teaching (VT)
- March 2005-College of Natural Resources, Curriculum Club Award for Excellence in Teaching (VT)
- May 2003- Graduate Student Appreciation award (VT)
- June 2001- Merton-Love Award for best Ph.D. dissertation in Ecology. UC Davis.
- June 2001- Finalist for Best Student Paper. Society for Conservation Biology, Missoula, MT.
- June 1998- Campus-wide award for Outstanding Graduate Student Teaching
- June 1997- Jastro-Shields Research Award for outstanding graduate student research
- Fall 1997- Spring 1998 Ecology Block Grant Fellowship for outstanding research proposal.

#### PROFESSIONAL MEMBERSHIPS

American Society of Mammalogists, American Association of Zoos and Aquariums, Eastern Cougar Advisory Board, IUCN Cat Specialist Group, Society for Conservation Biology, The Wildlife Society, Wild Felid Research and Management Association (Scholarship Chair).

# COMPLETED PHD AND MS STUDENTS (REVERSE CHRONOLOGICAL ORDER)

- 1. McNitt, David C., MS. 2019. Spatial Ecology of Bobcats (Lynx rufus) in the Appalachian Mountains of Western Virginia. August 2019.
- 2. <u>Augustine, Ben C.</u>, PhD. 2018. Leveraging Partial Identity Information in Spatial Capture-Recapture Studies with Applications to Remote Camera and Genetic Capture-Recapture Surveys. <u>April 2018.</u>
- 3. Mesa-Cruz, Bernardo, PhD. 2018. Ecology of black bears: hibernation, cub growth and pseudopregnancy. March 2018.
- 4. <u>Poor, Erin E., PhD.</u> 2018. A multiscale analysis and quantification of human impacts on Sumatran tiger (Panthera tigris sumatrae) habitat in Riau, Sumatra. September 2018.
- 5. <u>Hilborn, Anne W.</u>, PhD. 2017. The effect of individual variability and larger carnivores on the functional response of cheetahs. December 2017.
- 6. Rowe, Chris B., M.S. 2017. The influence of habitat features and co-occurring species on puma (Puma concolor) occupancy across eight sites in Belize, Central America. December 2017.
- 7. <u>Rich, Lindsey N., PhD. 2016.</u> Monitoring and Conserving Wildlife Communities across Northern Botswana. September 2016.
- 8. <u>Satter, Chris B.</u>, M.S. 2016. Estimating population density and survival of ocelots in six study sites over multiple years in Belize, Central America. December 2016.
- 9. Morin, Dana J., 2015. Ph.D. Spatial ecology and demography of eastern coyotes (Canis latrans) in western Virginia. May 2015.
- 10. Murphy, Asia J., 2015. M.S. The biodiversity mirage: the effects of habitat degradation and exotic predators on ground-dwelling forest birds, tenrecs and lemurs in northeastern Madagascar. May 2015. Coadvised with Dr. Sarah Karpanty
- 11. <u>Farris, Zachary J.</u>, 2014. Ph.D. Fragmentation, hunting, and exotic carnivores: The fate of Madagascar's carnivores across the Masoala-Makira landscape, NE Madagascar. December 2014. Co-advised with Dr. Sarah Karpanty
- 12. <u>Thapa, Kanchan</u>, 2014. Ph.D. Ecology of tigers in Churia habitat and a non-invasive genetic approach to tiger conservation in Terai Arc, Nepal. October 2014.
- 13. Montague, David M., 2014. M.S. Diet and Feeding Ecology of the Coyotes, Black Bears, and Bobcats in Western Virginia, and Preliminary Assessment of Coyote Parasites. September 2014.
- 14. <u>Kane, Mamadou D.</u>, 2014. M.S. Estimating population size, density, and occupancy of lions (*Panthera leo*), leopards (*P. pardus*), and servals (*Leptailurus serval*) using camera traps in the Niokolo Koba National Park in Senegal, West Africa. July 2014.
- 15. Mesa Cruz, J. Bernardo, 2014. M.S. Non-invasive assessment of stress hormones, parasites, and diet, using scat of five felid species in Belize, Central America. April 2014.
- 16. <u>Wultsch, Claudia</u>, 2013. Ph.D. Jaguar population demography, space use, and genetic connectivity across 5 study sites in Belize, Central America. Co-Advised with Dr. Michael Vaughan. February 2013.
- 17. <u>St. Germain, Michael J.</u>, 2012. M.S. Bat Habitat Ecology Using Remote Acoustical Detectors at the Army National Guard Maneuver Training Center Fort Pickett, Blackstone, Virginia. May 2012.
- 18. <u>Sunarto</u>, 2011. Ph.D. Ecology and restoration of Sumatran tigers in forest and plantation landscapes March 2011.
- 19. <u>Tredick, Catherine</u>, 2011. Ph.D. Ecology of black bears in Canyon de Chelly National Monument: Managing bear-human interactions in a changing environment. Co-Chair w/ Dr. Mike Vaughan July 2011.
- 20. <u>J. Andrew Trent</u>, 2010. M.S. Ecology, habitat use, and conservation of Asiatic black bears in the Min Mountains, Sichuan province China. Co-Chair with Dr. Michael Vaughan. June 2010.
- 21. <u>Davis, Miranda</u>, 2009. M.S. Co-varying predator densities and mesopredator release of the ocelot across 5 study sites in Belize. May 2009.
- 22. <u>Batts, Greg</u>, 2008. M.S. An assessment of Quality Deer Management on a private hunt club in the Virginia Piedmont. Co-Chair with Dr. Michael Vaughan. June 2008.
- 23. <u>Kaminski, Jeff</u> (deceased), 2006. Project completed. Disturbance Effects on Small Mammal Communities in a Managed Appalachian Forest. Posthumous degree. January 2006.
- 24. Laver, Peter, 2005. M.S. Cheetah of the Serengeti Plains: A home range analysis. November 2005.
- 25. Wright, Kate, 2005. M.S. Model Validation and Improvement Using New Data on Habitat Characteristics Important to Forest Salamanders, and Short-Term Effects of Forestry Practices on Salamander Movement and Population Estimates. November 2005. (Co-Chair with Dr. Carola Haas)
- Dillon, Adam, 2005. M.S. Ocelot Density and Home Range in Belize, Central America: Camera-Trapping and Radio Telemetry. September 2005.

#### OTHER GRADUATE DEGREE PROJECTS

 Vance, James. 2014. Master in Natural Resources. GPS Telemetry Collar Performance and Effects on Elk Habitat Use in the Rugged Mountains of Southwest Virginia

### COURSE, CURRICULUM, AND PROGRAM DEVELOPMENT

- 1. Population Dynamics and Estimation (FiW 4414). This course covers traditional population ecology and dynamics (e.g. intrinsic rates of increase, exponential and logistic growth, density dependence). I created a more current population dynamics course that includes hands-on assignments designed to teach students to manipulate real world data. Students estimate population sizes, conduct population viability analyses, conduct harvest assessment, and explore other estimation and modeling techniques. Instruction includes population ecology and management of non-game and endangered species, thus reflecting the current needs in this field. (Taught 9 times as revamped course evaluation average: 3.50/4.0; taught 7 times new 6.0 scoring scale evaluation average 5.21/6.0).
- 2. Advanced topics in Applied Population Dynamics. This course was an advanced course for graduate students. It covered Population Viability Analyses, Risk Assessment, Population Projection, and Virtual Population Analyses. The course was based in linear algebra and matrix modelling and covered basics of mark-recapture, abundance, and survival analyses. Over time, demand for more advanced mark-recapture, information theoretic, and Bayesian inference grew, and the course evolved into Parameter Estimation (see below). (Taught 3 times; evaluation average 3.77/4.0).
- 3. Parameter Estimation (FiW 6984/5984). Graduate students must have previously taken an undergraduate course in population dynamics or the equivalent. The course estimates population parameters such as abundance, density, survival, and occupancy through manipulation of real data sets. Exploration of frequentist versus information theoretic philosophical approaches and probability theory with special attention to maximum likelihood estimators. Basic Bayesian inference is also covered. In addition, this course explains the logic and mathematics behind the numerous computer software packages available for various analyses (DISTANCE, PRESNECE, MARK, DENSITY, and SPACECAP, etc.) as well as works with students proficient in R to conduct analyses in R (1 course 2011 evaluation average: 4.0/4.0; Since 2012 taught in alternate, even-numbered years with new 6.0 evaluation scale but few respondents in the online SPOT system 5.73/6.0).
- 4. Wildlife Field Techniques (FiW 4214): I restructured this course from its original lecture/lab format to instead consist of 6 labs and a 10-day field intensive held at Mountain Lake Biological Station (MLBS). This course gives students the hands-on experience in field research and animal handling. They gain a realistic view of how ecological field work is conducted with the most up to date techniques for data collection. Students not only collect their own field data, they analyze the data, and present results in both written and oral format at the end of the session. This hands-on approach allows students to conduct a research project from start to finish. Evaluation score improved substantially with adding the intensive. (Two courses in 2001 and 2002 before adding the 10-day field intensive- evaluation average: 3.55/4.0. Taught annually since 2004 with field intensive evaluation average: 3.97/4.0; courses at 6 point scale with intensive 5.89/6.0).
- 5. Rainforest to Reef: Resource Management in Belize; Study Abroad (NR 3954). In 2008, I created a new Study Abroad program for students in the College of Natural Resources that is also relevant to students in other majors (biology, environmental sciences, and social sciences). This course examines natural resource management issues in Belize such as wildlife conservation, forestry practices and non-timber forest products, archeological and cultural preservation, conservation and research in a developing nation, and natural and current cultural history of Belize. VT and Belizean undergraduate students attend lectures and field activities together fostering cultural exchange and creating more globally conscious students. The close proximity of Belize and the nature of accommodations, allows for a relatively inexpensive study abroad option that is not currently available for CNR students. Usually offered every other year (4 courses– Evaluation 4.0/4.0; one course on new scale 5.75/6.0 but few respondents)

## Recent Invited Lectures/Seminars/Presentations (32 total)

- 1. Kelly, M.J. 2019. Carnivore coexistence: insights from non-invasive sampling of predators across forested ecosystems. Invited seminar speaker. Smithsonian Conservation Biology Institute, Front Royal, Virginia. March 28, 2019. ORAL.
- 2. Kelly, M.J. 2019. Camera trapping techniques and applications to Botswana. Centre for Conservation of African Resources, Animals, Communities, and Land Use. CARACAL, Kasane, Botswana. June 28, 2019. ORAL.
- 3. Kelly, M.J. 2018. A biologist's path toward understanding carnivore competition and coexistence across ecosystems. Department of Biological Sciences Seminar, Duquesne University, Pittsburg, PA. September 28 2018.
- 4. Kelly, M.J. 2018. A carnivore ecologist's path towards understanding predator competition and coexistence across ecosystems. University of Montana, Missoula, MT. September 21, 2018.
- 5. Kelly, M.J. and A. H. Hilborn. Social Media with a Conservation Message. The Wildlife Society North Carolina annual state meeting. Haw River State Park. Brown's Summitt. NC. February 27, 2018.
- Kelly, M.J. 2017. What can we learn about carnivore co-existence ecology from non-invasive sampling of large predators. Case studies from jaguars, tigers, and fosas. WFSC Animal Conservation Seminar Series, Texas A and M, College Station, TX. March 31, 2017.
- 7. Kelly, M.J. 2017. Non-invasive sampling reveals insights into carnivore coexistence in forested ecosystems. Biology Department Seminar. University of Mississippi; Oxford, MS. September 08, 2017.
- 8. Kelly, M.J. 2016. Carnivore co-existence in forested ecosystems: What can we learn from non-invasive sampling of large predators? Seminar Speaker. Clemson University Oct 13, 2016.
- 9. Kelly, M.J. 2015. Insights into carnivore ecology via non-invasive mark-recapture, occupancy, and genetic connectivity for elusive top predators such as jaguars and tigers. University of Alberta, Edmonton, Canada. September 2015.
- Kelly, M.J. 2015. Using remote cameras and non-invasive genetics to study elusive wild cats: insights from jaguars in Belize. Salisbury University, Maryland. Lecture presented at Mountain Lake Biological Station, Virginia, July 2015.
- 11. Kelly, M.J. 2015. Using remote cameras and noninvasive genetics to study elusive wild cats: insights from jaguars in Belize to tigers in Nepal. Natural Science and Mathematics Colloquium. St. Mary's College of Maryland, St. Mary, Maryland. March 2015.
- 12. Kelly, M.J. 2015. Non-invasive sampling provides insights into carnivore co-existence ecology via mark-recapture, occupancy, and genetic connectivity for jaguars, tigers, and fossa. Forestry and Environmental Resources Seminar Series. North Carolina State University. Raleigh, North Carolina, March 2015.
- 13. Kelly, M.J. 2015. Linking non-invasive sampling techniques to advance carnivore ecology. Spring Seminar Series. The Jones Ecological Research Center at Ichuway. Newton, Georgia. April 2015.

## Recent Invited Keynotes (25 total)

- 1. Kelly, M.J. 2019. Keynote Speaker. Co-occurrence modeling of carnivores: Scaling up from local camera trap surveys to global insight. National Meeting on Tropical Ecology and Biodiversity. Andalas University, Padang, Sumatra, Indonesia. September 21, 2019. ORAL.
- Kelly, M.J. 2018. Co-existence ecology of large predators: insights gained from non-invasive genetics and remote camera traps. Keynote Speaker, Graduate Student Symposium. University of North Dakota, Fargo, ND. March 22, 2018.
- 3. Kelly, M.J. 2017. Non-invasive sampling reveals insights into carnivore community structure in forested ecosystems. Phi Sigma Biological Sciences Honor Society, Illinois State University, 18th annual research symposium, keynote speaker. March 24, 2017.
- 4. Kelly, M.J. 2016. Umbrella species or top-down controllers? Insights into carnivore co-existence ecology revealed through non-invasive sampling. David Otis Speaker Series. Colorado State University. September 30, 2016.
- 5. Kelly, M.J. 2016. Commencement speaker Casey Community School Gallon Jug, Belize. June 4, 2016
- 6. Kelly, M.J. 2014. Population Sampling: Jungles, Jaguars, & Scat Dogs. Philadelphia Zoo Zoofari Club and Docents. Philadelphia, Pennsylvania. November 2014.

- 7. Kelly, M.J. and Sunarto. 2014. Sumatran Tigers in Forest and Plantation Landscapes. Philadelphia Zoo Staff and Science Team. Philadelphia, Pennsylvania. November 2014.
- 8. Kelly, M.J. 2013. Umbrella species Umbrella Species or Trophic Cascades? Ecology of Co-existence in Wild Cats. University of Porto, Portugal. December 2013.
- 9. Stevens, G.; Kelly, M.J.; Smith, R. and M. LaChance. 2011. Belize Education and Science Exchange Program. Oral Presentation at the Natural Resource Extension Meeting. Montpelier, Virginia, Dec 2011.
- 10. Kelly, M.J. Rainforest to reef. Lecture Series, Belize of the Maya. Smithsonian Institution; Washington D.C., September 2010.
- 11. Kelly, M.J. 2010. What does the future hold for big cats? Ferrum College sustainability lecture series in conjunction with the College's 2009-2010 campus-wide theme, "Sustainability: Becoming the change you want to see in the world." The series is sponsored by Ferrum's School of Natural Sciences and Mathematics and features local and international experts. Ferrum, Virginia, February 2010.
- 12. Kelly, M.J. Wild Cats of Belize Portraits of Predators. Banquet Speaker: Texas Society of Mammalogists Annual Banquet. Junction, Texas. February 2010
- 13. Kelly, M.J. 2010. From African savannahs to neotropical rainforests: insights into co-existence ecology in felids. Texas A & M, Kingsville, Ceasar Kleberg Wildlife Institute. Kingsville, Texas. February 2010.
- 14. Kelly, M.J. 2008. Carnivore conservation: the ecology of co-existence. Institute of Forestry (IOF), Hetauda Campus, Tribuvan University, Nepal. August 2008.

### OTHER SERVICE TO PROFESSION

2015: International Union for the Conservation of Nature (IUCN). Evaluation and ranking for New World felids subcommittee. Online re-evaluation of felid status. Lead author – bobcats.

2014: Development of "A Protocol of Jaguar Survey and Monitoring Techniques and Methodologies". A Submission to the U.S. Fish and Wildlife Service in Partial Fulfillment of Contract F13PX01563 (contracted through the Wildlife Conservation Society). Four-day workshop at the Ladder Ranch in Caballo, New Mexico April 2014. Northwestern Recovery Unit - Jaguars in Mexico. Contributors: John Polisar, Sean Matthews, Rahel Sollman, Marcella Kelly, Jon Beckmann, Kim Fisher, Bart Harmsen, Melanie Culver, Octavio Rosas Rosas, Carlos De Angelo, Fernando Azevedo, Carlos López González, Rodrigo Nuñez, Tim O'Brien, and Eric Sanderson

2014 – Present. RESOLVE. Advisory Panel (AP) of the Quick Response Biodiversity Fund (QRBF). <a href="http://www.resolv.org/">http://www.resolv.org/</a>

2014: February. National Science Foundation FY14. Review panel member for Improvements in Facilities, Communications, and Equipment at Biological Field Stations and Marine Laboratories (FSML) Panel id: P140215. March 3-4 2014.

2018: Student Presentation Judge for the National Meeting of The Wildlife Society (TWS). Cleveland Ohio 2018.

2011: Student Presentation Judge for the National Meeting of The Wildlife Society (TWS). Waikaloa, Hawaii. Nov 2011.

2011 to present. Scholarship Committee Chairman. Wild Felid Research and Management Association (WFA).

2010 to 2013. Council Member Wild Felid Research and Management Association (WFA). <a href="http://www.wildfelid.org/board.php">http://www.wildfelid.org/board.php</a>

2007: International Union for the Conservation of Nature (IUCN). Red List classification for wild felids. Evaluation and ranking for New World felids subcommittee. Oxford, England; September 2007. Lead author- bobcat. <a href="http://www.iucnredlist.org/details/12521/0">http://www.iucnredlist.org/details/12521/0</a>

2003 to present: International Union for the Conservation of Nature (IUCN); Cat Specialist Group member.

2003 to 2008: Member of the Eastern Cougar Foundation Advisory Board. Scientific advisor for cougar distribution and for camera-trapping project in West Virginia in the Cranberry Wilderness Area.

# **SERVICE THAT PROMOTES DIVERSITY AND INCLUSION (SELECTED)**

I actively maintain a very diverse laboratory. Of the 27 graduate students I have completed or that are in progress, 10 are women, 8 are non-white, 7 are international, and 3 are first generation college students. At the undergraduate level, of the 36 students who have completed undergraduate research projects, 19 are women, 11 were non-white with 10 of these being international students, and 6 are first generation college students (3 from the US).

Each summer I support both Virginia Tech undergraduate and University of Belize undergraduate internships as students from both countries they live and work together for 10 weeks in the same field house while researching jaguars on my long-term monitoring project. This fosters cultural exchange while building a sense of team.

I have mentored African American student, Asia Murphy, during her NSF funded Research Experience for Undergraduates (REU) in 2011 at Mountain Lake Biological Station in Virginia and recruited her to Virginia Tech with and NSF pre-doctoral grant in 2012. She recently completed her MS degree at VT in 2015, co-advised with Dr. Sarah Karpanty.

2008- 2010: Served as a role model for students and faculty, but particularly female students at the Institute of Forestry (IOF) Nepal. Provided a model example of a research seminar in wildlife sciences. Facilitated two "Social Inclusion" workshops and two "Mentoring" workshops (1 each at the Pokhara and Hetauda campuses). Social inclusion in this context also refers to lower caste/class peoples in addition to females and other ethnic minorities – all of whom are underrepresented in the sciences (or in higher education in general).

2002 to 2003: Advisor for McNair Scholars program to provide research mentorship to students who are minorities or first generation college students. I mentored undergraduate Darrin Kite.

## **SERVICE TO STUDENTS (SELECTED)**

2005 to present: Faculty Advisor for the Student Chapter of the Wildlife Society. Weekly Executive committee meetings and twice a month general meetings. Includes chaperoning students on the Quiz Bowl team to the annual National meeting of The Wildlife Society (TWS) in fall semester each year. Includes chaperoning students to the Southeastern regional conclave competition each spring. Also includes overseeing weekend camera-trapping at Mountain Lake Biological Station (MLBS) for 2 months each Fall semester. I generally attend ¾ of the 10 weeks of weekend camera trapping to make sure students do not get lost in the woods.

2015: Host for the Student Chapter of The Wildlife Society Southeastern Conclave Event. Held at Smith Mountain Lake in Wirtz VA. Over 400 attendees from 22 schools in the Southeastern United States participated in this 3-day event that included the quiz bowl competition, team competitions, and individual competitions. March 12-15, 2015.

2011 to 2016. Scholarship Committee Chairman for graduate student competitive grant proposals. Wild Felid Research and Management Association (WFA).