

## **Toni Lyn Morelli**

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### **Current Position**

Research Ecologist – U.S. Geological Survey, DOI Northeast Climate Science Center  
Adjunct Assistant Professor – Department of Environmental Conservation  
University of Massachusetts  
134 Morrill Science Center, Amherst, MA 01003

### **Education**

August 2008    Ph.D. in Ecology and Evolution  
Stony Brook University, Stony Brook, NY  
Advisor: Dr. Patricia Wright

May 2001        B.S. in Zoology (With Honors)  
Michigan State University (MSU), East Lansing, MI

### **Grants, Awards, and Fellowships**

- Northeast Climate Science Center Research Grant, 2016-2019, \$469,000
- National Park Service Grant, Bioblitz Analysis, 2016, \$7500
- Northeast Climate Science Center Research Grant, 2015-2017, \$150,000
- California Landscape Conservation Cooperative Grant\*, 2013-2014, \$47,000
- California Landscape Conservation Cooperative Grant\*, 2011-2013, \$127,000
- \*In collaboration with Professors Steve Beissinger and Craig Moritz at U.C. Berkeley
- NSF Postdoctoral Research Fellowship in Biology, 2010-2011, \$123,000
- U.S. Department of Agriculture, Certificate of Merit, 2009
- U.S. Presidential Management Fellowship Finalist, 2008
- George C. Williams Research Award, 2008
- National Science Foundation, Doctoral Dissertation Improvement Grant, 2006-2007, \$12,000
- Louis Leakey Foundation Research Grant, 2006, \$13,500
- Idea Wild equipment grant, 2006
- National Science Foundation Graduate Research Fellowship, 2003-2006, \$120,000
- Graduate Council Fellowship, Stony Brook University, 2001-2008
- Margot Marsh Biodiversity Fund grant, Conservation International, 2005, \$8,000
- Catholic Campaign for Human Development grant recipient, 2005
- Margot Marsh Biodiversity Fund grant, Conservation International, 2003, \$5,000
- Women in Science Collaborating (AAAS-NSF) grant, 2003, \$5,000
- Primate Conservation, Inc. grant, 2002-2003, \$5,000
- Presidential Scholarship, Stony Brook University, 2001-2003
- Sokal and Slobodkin Travel Award, 2002
- Howard Hughes Undergraduate Research Fellowship, 1999-2001
- Professorial Assistantship, Michigan State University, 1997-1999

**Previous Professional Experience**

- 2012- 2015 Postdoctoral Fellow and Staff for the Northeast Climate Science Center, USGS  
Conduct research on the impacts of climate change on boreal forest and montane wildlife; coordinate and develop research with partners and stakeholders for landscape and species adaptation in the face of climate change;
- 2012-2014 Research collaborator at UC Berkeley, funded by the CA Landscape Conservation Cooperative: Analyzed climate change refugia and habitat connectivity
- 2011-2013 U.S. Forest Service Technical Advisor to the D.R. Congo's Ministry of Environment  
Focused on issues of land use planning, biodiversity conservation, forest inventory, and carbon mitigation (REDD+) preparation and monitoring
- 2010-2011 National Science Foundation Bioinformatics Postdoctoral Fellow at UC Berkeley  
Conducted species distribution modeling, occupancy modeling, GIS analysis, and field research of climate change impacts on montane mammals under the supervision of Professors Craig Moritz and Steve Beissinger
- 2009 Research Ecologist, Pacific Southwest Research Station, U.S. Forest Service  
Developed climate change adaptation options with Dr. Connie Millar
- 2001-2008 National Science Foundation Graduate Research Fellow and Stony Brook Graduate Council Fellow: Conducted field and captive research on olfactory communication, kin recognition, kin selection, social behavior, and molecular ecology of Madagascar primates; Collaborators included Profs Patricia Wright, Stony Brook University, Leslie Knapp, University of Cambridge, UK
- 1999-2001 Howard Hughes Undergraduate Research Scholar: Analyzed the molecular ecology of waterfowl under supervision of Prof. Kim Scribner, Michigan State University
- 1997-1999 Professorial Assistant: Studied the behavior of African mammals under the supervision of Profs Laura Smale and Kay Holekamp, Michigan State University

**Teaching Experience**

- Spring 2017 Course instructor for [Decision Analysis for Climate Change 2017](#), in partnership with the National Conservation and Training Center
- Spring 2016 Co-Instructor for Ecological Impacts of Climate Change (ECO 691) seminar, University of Massachusetts
- Fall 2014 Lead Instructor/Course Designer for Conservation and Animal Behavior (NRC 597), University of Massachusetts
- 2010-2011 Math tutor and coordinator for the Prison University Project, San Quentin, CA
- 2009-2011 Instructor, Sierra Nevada Teacher Institute, California Institute for Biodiversity
- Fall 2010 Co-facilitator for Species Responses to Climate Change (Graduate seminar), UC Berkeley
- Spring 2008 Lead Instructor for Behavioral Ecology (BIO 359), Stony Brook University
- Spring 2007 Lead Instructor for Behavioral Ecology (BIO 359), Stony Brook University
- Spring 2003 Teaching assistant for Introductory Biology (BIO 150), Stony Brook University
- Fall 2001 Teaching assistant for Introductory Biology (BIO 201), Stony Brook University
- Spring 2001 Teaching assistant for Behavioral Ecology (ZOL 415), Michigan State University
- Fall 1999 Teaching assistant for Animal Behavior (ZOL 313), Michigan State University
- Spring 1999 Teaching assistant for Honors Intro. Biology (LBS 144), Michigan State University

**Publications (\* mentored student author)**

- Morelli, T.L.**, R. Rowe, S. DeStefano, S. Jane\*, M. Ratnaswamy, & K. Nislow. *In Prep.* The Effect of Climate Change on Forest Mammals in the Northeastern United States. To be submitted to *The Journal of Wildlife Management*.
- Galbraith, H. & **Morelli, T.L.** *In review.* Vulnerabilities to climate change of Massachusetts animal species of greatest conservation need. Massachusetts Department of Fish and Game report.
- Enquist, C.E., et al. *In Review.* Translational Ecology: Revolution, Evolution, or a Different Set of Clothes (OR, new clothes for an old emperor)? *Frontiers in Ecology & Evolution*.
- Hallett, L.M., **T.L. Morelli**, et al. *In Review.* Navigating translational ecology: Creating opportunities and overcoming obstacles for scientist participation. *Frontiers in Ecology & Evolution*.
- Schwartz, M.W., K.J. Hiers, F.W. Davis, G. Garfin, S.T. Jackson, A.J. Terando, C.A. Woodhouse, **T.L. Morelli**, M.A. Williamson, & M.W. Brunson. *In Review.* Developing a Translational Ecology Workforce. *Frontiers in Ecology & Evolution*.
- Janowiak, M.K., et al. *In Review.* New England Forest ecosystem vulnerability assessment: a report from the New England Climate Change Response Framework. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station.
- Jacobs, R.L., T.S. MacFie, A.N. Spriggs, A.L. Baden, **T.L. Morelli** et al. *In Revision.* Novel and highly polymorphic colour vision in the diurnal, largest-bodied extant lemurs. *Biology Letters*.
- Maher, S., **T.L. Morelli**, M. Hershey\*, A. Flint, L. Flint, C. Moritz, & S.R. Beissinger. *In Revision.* Erosion of refugia in the Sierra Nevada meadows network. *Ecosphere*.
- Milton, A. D.\*, B. I. Inogwabini, **T.L. Morelli**, & A. A. Aguirre. *In Revision.* Impacts of deforestation on ecosystem services, wildlife, and public health in the northwest Democratic Republic of Congo. *EcoHealth*.
- Morelli, T.L.**, S. Maher, K. Nydick, W. Monahan, C. Daly, S. Dobrowski, J. Ebersole, A. Flint, S. Jackson, J. Lundquist, C.I. Millar, K. Redmond, S. Sawyer, S. Stock, & S.R. Beissinger. 2016. Climate change refugia as a tool for climate adaptation. *PLOS ONE*.\*
- \*Highlighted in a recent NPR interview: [nepr.net/news/2016/08/23/umass-researchers-look-for-the-places-that-climate-change-forgot](http://nepr.net/news/2016/08/23/umass-researchers-look-for-the-places-that-climate-change-forgot)
- Staudinger, M.D., **T.L. Morelli**, & A.M. Bryan. 2015. Integrating Climate Change into Northeast and Midwest State Wildlife Action Plans. DOI Northeast Climate Science Center Report, Amherst, Massachusetts.
- Oyono, P.R., **T.L. Morelli**, J. Sayer, et al. 2014. Allocation and use of forest land: Current trends, issues and perspectives. In: *The Forests of the Congo Basin - State of the Forest 2013*. Eds: de Wasseige, C., J. Flynn, D. Louppe, F. Hiol Hiol, Ph. Mayaux. Weyrich. Belgium. 328 p.
- Morelli, T.L.**, R.A. Hayes, H.F. Nahrung, T.E. Goodwin, I.H. Hirwa, L.J. MacDonald & P.C. Wright. 2013. Relatedness communicated in lemur scent. *Naturwissenschaften* 100: 769–777.
- Eastman, L.E.\*, **T.L. Morelli**, K.C. Rowe, C.J. Conroy & C. Moritz. 2012. Size increase in high elevation ground squirrels over the last century. *Global Change Biology* 18: 1499–1508.
- Morelli, T.L.**, A.B. Smith, C. Kastely\*, I. Mastroserio\*, C. Moritz & S.R. Beissinger. 2012. Anthropogenic refugia ameliorate the severe climate-correlated decline of a montane mammal along its trailing edge. *Proceedings of the Royal Society B* 279: 4279-4286.\*\*
- \*\*Chosen as Editor's Choice by Science Magazine: Vignieri, S. 2012. [Humans mitigate climate change effects](http://www.sciencemagazine.com/article/humans-mitigate-climate-change-effects). *Science*: 1274.
- Morelli, T.L.**, S. Yeh, N. Smith & C.I. Millar. 2012. Climate Project Screening Tool: An aid for climate change adaptation. U.S.D.A. Forest Service PSW-RP-236.
- Peterson, D.L., C.I. Millar, L.A. Joyce, M.J. Furniss, J.E. Halofsky, R.P. Neilson & **T.L. Morelli**. 2012. Responding to climate change on national forests: a guidebook for developing adaptation options. Gen. Tech. Rep. U.S.D.A. Forest Service GTR-PNW-855.
- Wright, P.C., et al. 2012. Long-term lemur research at Centre Valbio, Ranomafana National Park, Madagascar. In: Kappeler, P.M. & D.P. Watts (eds). *Long-term Field Studies of Primates*. Berlin Heidelberg: Springer. 67-100.

- Farris, Z.J.\*, **T.L. Morelli**, T. Sefczek & P.C. Wright. 2011. Comparing aye-aye (*Daubentonia madagascariensis*) presence and distribution between degraded and non-degraded forest within Ranomafana National Park, Madagascar. *Folia Primatologica* 82: 94–106.
- Morelli, T.L.** & S. Carr. 2011. A review of the potential effects of climate change on quaking aspen (*Populus tremuloides*) in the western United States and a new tool for surveying sudden aspen decline. Gen. Tech. Rep. U.S.D.A. Forest Service GTR-PSW-235.
- Morelli, T.L.**, L.A. Joyce & C.I. Millar. 2011. Climate Project Screening Tool. U.S. Forest Service.
- Morelli, T.L.**, M.C. McGlinchy & R.P. Neilson. 2011. A climate change primer for land managers from the Sierra Nevada. Gen. Tech. Rep. U.S.D.A. Forest Service GTR-PSW-RP-262.
- Rowe, K.C., S. Singhal, M. MacManes, J. Ayroles, **T.L. Morelli**, E. Rubidge, Ke Bi & C.C. Moritz. 2011. Museum genomics: low-cost and high-accuracy genetic data from historical specimens. *Molecular Ecology Resources* 11(6): 1082-1092.
- King, S.J., **T.L. Morelli**, S. Arrigo-Nelson, F.J. Ratelolahy, L.R. Godfrey, J. Wyatt, S. Tecot, J. Jernvall & P.C. Wright. 2011. Morphometrics and pattern of growth in wild sifakas (*Propithecus edwardsi*) at Ranomafana National Park, Madagascar. *American Journal of Primatology* 73: 155-172.
- Morelli, T.L.** 2009. The ecology of a primate community. (Review of the book *Monkeys of the Tai Forest: An African Primate Community*). *Ecology* 90: 287-288.
- Morelli, T.L.**, S.J. King, S.T. Pochron & P.C. Wright. 2009. The rules of disengagement: takeovers, infanticide, and dispersal in a rainforest lemur, *Propithecus edwardsi*. *Behaviour* 146: 499-523.
- Wright, P.C., S.J. Arrigo-Nelson, K.L. Hogg, B. Bannon, **T.L. Morelli**, J. Wyatt, A.L. Harivelo & F. Ratelolahy. 2009. Habitat disturbance and seasonal fluctuations of lemur parasites in the rain forest of Ranomafana National Park, Madagascar. In: Huffman, M.A. & C.A. Chapman (eds). *Primate Parasites Ecology: The Dynamics and Study of Host-Parasite Relationships*. Cambridge, UK: Cambridge University Press. 311-330.
- Andriantompohavana, R., T.L. Morelli, S.M. Behncke, S.E. Engberg, R.A. Brenneman & E.E. Louis Jr. 2007. Characterization of 20 microsatellite marker loci in the red-bellied brown lemur (*Eulemur rubriventer*). *Molecular Ecology Notes* 7: 1162-65.
- Hayes, R.A., **T.L. Morelli** & P.C. Wright. 2006. Volatile components of lemur scent secretions vary throughout the year. *American Journal of Primatology* 68: 1202-1207.
- Hayes, R.A., **T.L. Morelli** & P.C. Wright. 2005. The chemistry of scent marking in two lemurs: *Lemur catta* and *Propithecus verreauxi coquereli*. In: Mason R. T., LeMaster M. P. & Müller-Schwarze D. (eds). *Chemical Signals in Vertebrates X*. Kluwer/Plenum/ Academic Press p 159-167. New York.
- Pochron, S.T., **T.L. Morelli**, J. Scirbona & P.C. Wright. 2005. Sex differences in scent marking in *Propithecus edwardsi* of Ranomafana National Park, Madagascar. *American Journal of Primatology* 66: 97-110.
- Pochron, S.T., **T.L. Morelli**, P. Terranova, J. Scirbona, J. Cohen, G. Kunapareddy, G. Rakotonirina, R. Ratsimbazafy, R. Rakotosoa & P.C. Wright. 2005. Patterns of male scent marking in *Propithecus edwardsi* of Ranomafana National Park, Madagascar. *American Journal of Primatology* 65: 103-115.
- Hayes, R.A., **T.L. Morelli** & P.C. Wright. 2004. Anogenital gland secretions of *Lemur catta* and *Propithecus verreauxi coquereli*: a preliminary chemical examination. *American Journal of Primatology* 63(2):49–62.
- Hario, M., T.E. Hollmén, **T.L. Morelli** & K.T. Scribner. 2002. Effects of mate removal on the fecundity of common eider *Somateria mollissima* females. *Wildlife Biology* 8(3): 161-168.
- Boydston, E.E., **T.L. Morelli** & K.E. Holekamp. 2001. Sex differences in territorial behavior exhibited by the spotted hyena (*Crocuta crocuta*). *Ethology* 107(5): 369-385.

### **Invited Presentations**

- Morelli, T.L.** Implementing climate adaptation strategies. U.S. Forest Service First Fridays on Climate Change Talks webinar, March 2016.
- Morelli, T.L.** The effects of climate change on wildlife. U.C. Davis, CA, February 2016.
- Morelli, T.L.** Implementing climate adaptation strategies. NCCWSC webinar, December 2015.
- Morelli, T.L.** From molecules to mountains: Studying the impacts of global change on wildlife habitat. University of Maine, Orono, ME, February 2015.
- Morelli, T.L.** Managing climate change refugia for climate adaptation. ESA, Baltimore, MD, September 2014.
- Morelli, T.L.** The effect of climate change on primates. Hunter College, NY, April 2014.
- Morelli, T.L.** From molecules to mountains: a landscape perspective on the impacts of global change. Eastern Michigan University, Ypsilanti, MI, January 2014.
- Morelli, T.L.** Kinship among primates. University of Massachusetts, 2013.
- Morelli, T.L.** Climate Project Screening Tool. Pacific Northwest Climate Change Collaboration (C3) Webinar. 2012.
- Morelli, T.L.** Tools for adapting to climate change. Forest Service Climate Change Information Meeting. Cadillac, MI, 2010.
- Morelli, T.L.** Managing for climate and climate impacts. California Institute for Biodiversity-Sierra Nevada Teacher Institute, Fish Camp, CA, 2010.
- Morelli, T.L.** The potential effect of climate change on quaking aspen (*Populus tremuloides*) in the West. California Forest Pest Council meeting. Woodland, CA, 2009.
- Morelli, T.L.** The population dynamics of the Milne-Edwards' Sifaka. UC Davis, CA, 2009.

### **Organized Conference Symposia**

- Climate-Influenced Species Range Shifts: Where Are We Headed? American Geophysical Union, San Francisco, CA, December 2016.
- Co-production of knowledge: Managers and scientists working together for effective conservation in the face of climate change. Natural Areas Conference, Davis, CA, October 2016.
- Managing Climate Change Refugia for Biodiversity Conservation. IUCN World Conservation Congress, Honolulu, HI, September 2016.
- Climate Refugia in a Changing World: Climatic and Hydrologic Processes Informing Ecological Responses. American Geophysical Union, San Francisco, CA, December 2015.
- Breaking from the Center: Increasing Resilience to Climate Change and Extreme Events from the Sierra Nevada to the Atlantic Ocean. Ecological Society of America, Sacramento, CA, 2014
- Climate Change Case Studies: Using Historical Data to Predict Future Responses, Society of Conservation Biology annual meeting, Auckland, New Zealand, December 2011.
- Methods for Assessing Pika Population Status, The California Pika Consortium, Sacramento, CA, Spring 2010.
- The American pika's capacity for resilience in the face of climate change. The Wildlife Society-The Western Section Annual Conference, Visalia, CA, January 2010.

### **Selected Leadership Experience**

Advisor for Ph.D. students Alexej Siren and Nigel Golden, University of Massachusetts, Current  
Committee member for Ashley Milton, Ph.D. student at George Mason University (Graduated 2015), and Tim Duclos, Master's student at University of Massachusetts (Current)  
Mentor for the Society of Conservation Biology Africa Section Mentoring Program, Current  
Founder of the University of Massachusetts "Climate and Critters" discussion group, Current  
Trained in structured-decision making at the National Conservation & Training Center, March 2016  
Organizer of the Climate Change Refugia Workshop, U.C. Berkeley, May 2014  
Mentor for four senior thesis projects, UC Berkeley, 2010-2012  
Participant in the workshop Adaptation to climate from a spatial perspective, Helsinki, FI, 2011  
Founder and committee member of the California Pika Consortium (CPC)  
Organizer for "Adapting to Climate Change in National Forests: A Workshop for Resource Managers", April 2010, Skamania Lodge, Stevenson, WA  
Chair of "The American Pika's Capacity for Resilience in the Face of Climate Change", The Wildlife Society – Western Section 2010 Pika Symposium, Visalia, CA  
Conference organizer for the Evaluating Climate Change in the Eastern Sierra Nevada workshop. Bishop, CA, 2009.  
Leader of an international research team in Madagascar, Summer 2003-2007  
Mentor of minority students through the National Science Foundation Alliances for Graduate Education and the Professoriate, 2005-2007  
Field Team Leader for the Earthwatch Institute program "The behavior and ecology of rainforest lemurs," Ranomafana National Park, Madagascar, 2003

### **Selected Community Service**

Volunteer for the Eureka! Girls Inc. summer program  
Outreach on climate science to elementary and high schools in the northeast and Midwest  
Coordinator and tutor for the Prison University Project, San Quentin Prison  
Collaborator on Empowering Madagascar, using renewable energy to provide light and clean water to rural medical clinics  
Coordinator of a reforestation project to encourage villagers to repopulate critical food resources for endangered primates  
Freewheel bike grant coordinator-fixing and granting used bikes to community members  
Executive Board member for Jobs with Justice-Long Island

### **Organization Memberships**

American Geophysical Union	The Ecological Society of America
American Society of Mammalogy	Society of Conservation Biology

## **Morelli References**

Mary Ratnaswamy  
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