

Curriculum Vitae: Mitchell T. Irwin

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Citizenship: Canadian

Education / Academic Appointments

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| 2015 - present: | Associate Professor, Dept. of Anthropology,
Northern Illinois University, DeKalb, IL, USA |
| 2012 - 2015: | Assistant Professor, Dept. of Anthropology,
Northern Illinois University, DeKalb, IL, USA |
| 2016 - present: | Associate Member (Graduate Faculty), Dept. of Biological Sciences
Northern Illinois University, DeKalb, IL, USA |
| 2013 - present: | Associate Member, Institute for the Environment, Sustainability and Energy
Northern Illinois University, DeKalb, IL, USA |
| 2010 - 2012: | Visiting Academic, School of Biological Sciences,
University of Queensland, Brisbane, QLD, Australia |
| 2008 - 2010: | Postdoctoral Research Associate, Redpath Museum,
McGill University, Montreal, QC, Canada |
| 2006 - 2008: | NSERC Postdoctoral Fellow (Advisor: Dr. Colin Chapman),
Dept. of Biology, McGill University, Montreal, QC, Canada |
| 1998 - 2006: | Interdepartmental Doctoral Program in Anthropological Sciences,
Stony Brook University; Concentration: Primate Ecology and Conservation
MS: May 2001
PhD: May 2006, "Ecological Impacts of Forest Fragmentation on Diademed Sifakas
(<i>Propithecus diadema</i>) at Tsinjoarivo, Eastern Madagascar: Implications for
Conservation in Fragmented Landscapes"
Recipient, <i>President's Award to Distinguished Doctoral Students</i> (2006) |
| 1994 - 1998 | University of Toronto (& Queen's University), Toronto/Kingston, Ontario, Canada
BSc (Honours, with high distinction); GPA: 4.00 |

Primary Research Foci

- **Effects of Habitat Disturbance on Physiological Health and Behaviour of Primates: Implications for Socioecology and Conservation.** I use observational techniques, physiologic health assessments, nutritional analyses of foods, endoparasite assessments and endocrinology to investigate mechanisms through which forest fragmentation and disturbance affect the ecology, behavior, mobility and health of wild primates. These data can provide good tests for socioecological theory (i.e., effects of resource density and patchiness), as well as improving conservation planning. Currently efforts focus on nutritional ecology and parasitology.
- **Effects of Habitat Disturbance on Lemur Community Ecology.** I use census methods and population ecology to examine changes in species richness and abundance across habitat disturbance and fragmentation gradients.

Peer-Reviewed Publications

My research output has been 52 publications in peer-reviewed journals or scholarly books since 2000. This 19-year period spanned 6 years before the awarding of my PhD and 13 years after. My primatology / physical anthropology papers have been published in discipline-leading journals: *American Journal of Physical Anthropology* (2012 Impact Factor: 2.481), *American Journal of Primatology* (2.459), and *International Journal of Primatology* (1.786), and *PlosOne* (3.234), and collaborative works have been published in *Science* (33.611) and *PNAS* (9.674). My papers in biological journals include medium- to high-ranking journals such as *Scientific Reports* (4.525), *Biological Conservation* (3.794), *Molecular Phylogenetics and Evolution* (4.066), *Biotropica* (2.351), *Journal of Mammalogy* (2.308), and *Animal Conservation* (2.692). My work has been well-cited by leaded researchers in the field: my 69 ISI-listed articles and published abstracts have been cited 1020 times (*h-index* = 18; author identifier A-1482-2012, ORCID 0000-0003-2088-0028).

(* denotes student / supervised)

53. **Irwin MT**, Raharison JL (in press) Interpreting small-scale patterns of ranging by primates: What does it mean, and why does it matter? In: GPS and GIS for Primatologists: A Practical Guide (C. Shaffer, F Dolins, J. Hickey, L. Porter & N. Nibbelink, eds.). Cambridge: Cambridge University Press.
52. Morelli TL, Smith AB, Mancini AN, Balko EA, Borgerson C, Dolch R, Farris Z, Federman S, Golden CD, Holmes S, **Irwin M**, Jacobs RL, Johnson S, King T, Lehman S, Louis, Jr. EE, Murphy A, Randriaingongo HNT, Randrianarimanana HLL, Ratsimbazafy J, Razafindratsima OH, Baden AL (2020) The fate of Madagascar's rainforest habitat. *Nature Climate Change* 10:89-96.
51. Rasolonjatovo SM*, **Irwin MT** (2019) Exploring social dominance in wild diademed sifakas (*Propithecus diadema*): Females are dominant, but it's subtle and the benefits aren't clear. *Folia Primatologica*. DOI: 10.1159/000503345
50. **Irwin MT**, Samonds KE, Raharison JL, Junge RE, Mahefarisoa KL, Rasambainarivo F, Godfrey LR, Glander KE (2019) Morphometric signals of population decline in diademed sifakas occupying degraded rainforest habitat in Madagascar. *Scientific Reports* 9:8776. DOI:10.1038/s41598-019-45426-2
49. Rijamanalina HG*, Vololontsoa CT*, Thureau EG*, Hamrick AM*, Rahajanirina AN, Ranaivoarisoa JF, Randrianasy J, **Irwin MT** (2019) Observation of Fission-Fusion Dynamics in Diademed Sifakas (*Propithecus diadema*) at Tsinjoarivo, eastern Madagascar. *Lemur News*.
48. Samonds KE, Crowley BE, Rasolofomanana TRN, Andriambelomanana MC, Andrianavalona TH, Ramihangihajason TN, Rakotozandry RB, Nomenjanahary ZB, **Irwin MT**, Wells NA, Godfrey LR (2019) A new late Pleistocene subfossil site (Tsaramody, Sambaina basin, central Madagascar) with implications for the chronology of habitat and megafaunal community change on Madagascar's central plateau. *Journal of Quaternary Science*. DOI:10.1002/jqs.3096
47. Tecot SR†, **Irwin MT**†, Raharison JL (2019) Variation in fecal cortisol levels across habitats and seasons in *Propithecus diadema*. *Conservation Physiology* 7(1):coz001. DOI:10.1093/conphys/coz001 (†co-first authors)
46. Jacobs RL, Veilleux CC, Louis Jr. EE, Herrera J, Hiramatsu C, Frankel DC, **Irwin MT**, Melin AD, Bradley BJ (2019) Less is more: Lemurs (*Eulemur* spp.) may benefit from loss of trichromatic vision. *Behavioral Ecology and Sociobiology* 73:22 DOI: 10.1007/s00265-018-2629-9
45. Meador LR, Godfrey LR, Rakotondramavo J-C, Ranivoharimanana L, Zamora A, Sutherland MR, **Irwin MT** (2019) *Cryptoprocta spelea*: What did it eat and how do we know? *Journal of Mammalian Evolution* 26:237-251.
44. Rakotomalala JE*, Proctor S*, Rakotondravony D, Rakotondraparany F, Raharison JL, **Irwin MT** (2017) Influence des caractéristiques forestières et des perturbations anthropogéniques sur la distribution des lémuriens de la forêt classée d'Ankadivory (Tsinjoarivo-Ambatolampy). *Malagasy Nature* 12:16-31.

43. Kistler L, Johnson SM, **Irwin MT**, Louis EE, Ratan A, Perry GH (2017) A massively parallel strategy for STR marker development, capture and genotyping. *Nucleic Acids Research* 45(15):e142 DOI: 10.1093/nar/gkx574
42. Jacobs RL, MacFie TS, Spriggs AN, Baden AL, Morelli TL, **Irwin MT**, Lawler RR, Pastorini J, Mayor M, Lei R, Culligan R, Hawkins MTR, Kappeler PM, Wright PC, Louis Jr. EE, Mundy NI, Bradley BJ (2017) Novel and highly polymorphic colour vision in the diurnal, largest-bodied extant lemurs. *Biology Letters* 13. DOI: 10.1098/rsbl.2017.0050.
41. Kappeler PM, Cuozzo FP, Fichtel C, Ganzhorn JU, Gursky-Doyen S, **Irwin MT**, Ichino S, Lawler R, Nekaris KA, Ramanamanjato J-B, Radespiel U, Sauther ML, Wright PC, Zimmerman E (2017) Long-term field studies of lemurs, lorises and tarsiers. *Journal of Mammalogy* 98:661-669.
40. **Irwin MT**, Raharison JL, Junge RE, Chapman CA, Rothman JM (2017) Minerals in the foods and diet of diademed sifakas: Are they nutritional challenges? *American Journal of Primatology*. DOI: 10.1002/ajp.22623 (*featured article*)
39. Miller RT*, Raharison JL, **Irwin MT** (2017) Competition for dead trees between humans and aye-ayes (*Daubentonia madagascariensis*) in central eastern Madagascar. *Primates* 58:367-375. DOI: 10.1007/s10329-016-0585-4
38. Ganzhorn J, Arrigo-Nelson S, Carrai V, Chalise M, Donati G, Dröscher I, Eppley T, **Irwin M**, Koch F, Koenig A, Kowalewski M, Mowry C, Patel E, Pichon C, Ralison J, Reisdorff C, Simmen B, Stalenberg E, Starrs D, Terboven J, Wright P, Foley W (2017) The importance of protein in leaf selection of folivorous primates. *American Journal of Primatology*. DOI: 10.1002/ajp.22550
37. Jacobs RL, Spriggs A, MacFie TS, Baden AL, **Irwin MT**, Wright PC, Louis Jr. EE, Lawler RR, Mundy NI, Bradley BJ (2016) Primate genotyping via High Resolution Melt Analysis (HRMA): Rapid and reliable identification of color vision status in wild lemurs. *Primates* 57:541-547.
36. **Irwin MT** (2016) Habitat change: Loss, fragmentation and degradation. In: *An Introduction to Primate Conservation* (Wich S, and Marshall A, eds.). Oxford: Oxford University Press.
35. **Irwin MT**, Raharison JL, Raubenheimer D, Chapman CA, Rothman JM (2015) The nutritional geometry of resource scarcity: Effects of lean seasons and habitats on nutrient intakes and balancing in a wild sifaka. *Plos One* 10(6):e0128046. doi:10.1371/journal.pone.0128046
34. Yildirim S, Yeoman CJ, Janga, SC, Thomas SM, Ho M, Leigh SR, **Primate Microbiome Consortium**, White BA, Wilson BA, Stumpf RM (2014) Primate vaginal microbiomes exhibit species specificity without universal *Lactobacillus* dominance. *International Society for Microbial Ecology Journal* 8:2431-2444. doi:10.1038/ismej.2014.90
33. Schwitzer C, Mittermeier RA, Johnson SE, Donati G, **Irwin M**, Peacock H, Ratsimbazafy J, Razafindramanana J, Louis Jr. EE, Chikhi L, Colquhoun IC, Tinsman J, Dolch R, LaFleur M, Nash S, Patel E, Randrianambinina B, Rasolofoharivelo T, Wright PC (2014) Averting lemur extinctions amid Madagascar's political crisis. *Science* 343:842-843.
32. Pontzer H, Raichlen DA, Gordon AD, Schroeffer-Walker KK, Hare BA, O'Neill MC, Muldoon KM, Dunsworth HM, Wood BM, Isler K, Burkart J, **Irwin M**, Shumaker RW, Lonsdorf EV, Ross SR (2014) Primate energy expenditure and life history. *Proceedings of the National Academy of Sciences (USA)* 111:1433-1437.
31. **Irwin MT**, Raharison JL, Raubenheimer D, Chapman C, Rothman J (2014) Nutritional correlates of the "lean season": Effects of seasonality and frugivory on the nutritional ecology of diademed sifakas. *American Journal of Physical Anthropology* 153:78-91.

30. Crowley BE, Blanco MB, Arrigo-Nelson SJ, **Irwin MT** (2013) Stable isotopes document resource partitioning and effects of forest disturbance on sympatric cheirogaleid lemurs. *Naturwissenschaften* 100:943-956.
29. Samonds KE, Godfrey LR, Ali JR, Goodman SM, Vences M, Sutherland MR, **Irwin MT**, Krause DW (2013) Imperfect isolation: Factors and filters shaping Madagascar's extant vertebrate fauna. *PLoS ONE* 8(4):e62086.
28. Godfrey LR, Schwartz GT, Jungers WL, Catlett KK, Samonds KE, King SJ, Muldoon KM, **Irwin MT**, Burney DA (2013) Life history variation in Madagascar's giant extinct lemurs. In: *Leaping Ahead: Advances in Prosimian Biology* (J. Masters, M. Gamba & F. Genin, eds.). New York: Springer, pp. 51-59.
27. Ratsimbazafy HJ, Arrigo-Nelson SJ, Dollar LJ, Feistner ATC, Holmes CM, **Irwin MT**, Johnson SE, Stevens NJ, Wright PC (2013) Conservation of prosimians in Madagascar: A view from the great red island. In: *Leaping Ahead: Advances in Prosimian Biology* (J. Masters, M. Gamba & F. Genin, eds.). New York: Springer, pp. 387-396.
26. Samonds KE, Godfrey LR, Ali JR, Goodman SM, Vences M, Sutherland MR, **Irwin MT**, Krause DW (2012) Spatial and temporal arrival patterns of Madagascar's vertebrate fauna explained by distance, ocean currents, and ancestor type. *Proceedings of the National Academy of Sciences (USA)* 109:5352-5357.
25. Crowley BE, Thorén S, Rasoazanabary E, Barrett MA, Zohdy S, Blanco MB, McGoogan KC, Arrigo-Nelson SJ, **Irwin MT**, Vogel ER, Wright PC, Radespiel U, Godfrey LR, Koch PL, Dominy NJ (2011) Explaining geographical variation in the isotope composition of mouse lemurs (*Microcebus*). *Journal of Biogeography* 38:2106-2121.
24. Crowley BE, Godfrey LR, **Irwin MT** (2011) A glance to the past: Subfossils, staple isotopes, seed dispersal and lemur species loss in southern Madagascar. *American Journal of Primatology* 73:25-37.
23. Groeneveld LF, Blanco MB, Raharison JL, Rahalinarivo V, Rasolarison RM, Kappeler PM, Godfrey LR, **Irwin MT** (2010) MtDNA and nDNA corroborate existence of sympatric dwarf lemur species at Tsinjoarivo, eastern Madagascar. *Molecular Phylogenetics and Evolution* 55:833-845.
22. **Irwin MT**, Junge RE, Raharison JL, Samonds KE (2010) Variation in physiological health of Diademed Sifakas across intact and fragmented forest at Tsinjoarivo, eastern Madagascar. *American Journal of Primatology* 72:1013-1025. (**featured article**)
21. **Irwin MT**, Wright PC, Birkinshaw C, Fisher B, Gardner CJ, Glos J, Goodman SM, Loiselle P, Rabeson P, Raharison JL, Raheirialao MJ, Rakotondravony D, Raselimanana A, Ratsimbazafy J, Sparks J, Wilmé L, Ganzhorn JU (2010) Patterns of species change in anthropogenically disturbed forests of Madagascar. *Biological Conservation* 143:2351-2362.
20. Samonds KE, Zalmout I, **Irwin MT**, Krause DW, Rogers RR, Raharivony LL (2009) *Eotheroides lambondrano*, new middle Eocene seacow (Mammalia, Sirenia) from the Mahajanga basin, northwestern Madagascar. *Journal of Vertebrate Paleontology* 29:1233-1243.
19. **Irwin MT**, Raharison JL (2009) A review of the endoparasites of the lemurs of Madagascar. *Malagasy Nature* 2:66-93.
18. **Irwin MT**, Raharison JL, Wright PC (2009) Spatial and temporal variability in predation on rainforest primates: Do forest fragmentation and predation act synergistically? *Animal Conservation* 12:220-230.
17. Blanco MB, Godfrey LR, Rakotondratsima M, Rahalinarivo V, Samonds KE, Raharison JL, **Irwin MT** (2009) Discovery of sympatric dwarf lemur species in the high-altitude rainforest of Tsinjoarivo, eastern Madagascar: Implications for biogeography and conservation. *Folia Primatologica* 80:1-17.

16. Wright PC, Johnson SE, **Irwin MT**, Jacobs R, Schlichting PE, Lehman SM, Louis EE, Arrigo-Nelson SJ, Raharison JL, Rafalirarison RR, Razafindratsita V, Ratsimbazafy J, Ratelolahy FJ, Dolch R, Tan C (2008) The crisis of the critically endangered greater bamboo lemur (*Prolemur simus*). *Primate Conservation* 23:5-17.
15. **Irwin MT** (2008) Feeding ecology of diademed sifakas (*Propithecus diadema*) in forest fragments and continuous forest. *International Journal of Primatology* 29:95-115.
14. Johnson SE, Lei R, Martin SK, **Irwin MT**, Louis EE (2008) Does *Eulemur cinereiceps* exist? Preliminary evidence from genetics and ground surveys in southeastern Madagascar. *American Journal of Primatology* 70:372-385.
13. **Irwin MT** (2008) Diademed sifaka (*Propithecus diadema*) ranging and habitat use in continuous and fragmented forest: Higher density but lower viability in fragments? *Biotropica* 40:231-240.
12. Godfrey LR, **Irwin MT** (2007) The evolution of extinction risk: Past and present anthropogenic impacts on the primate communities of Madagascar. *Folia Primatologica* 78:405-419.
11. Godfrey LR, Jungers WL, Schwartz GT, **Irwin MT** (2007) Ghosts and orphans: Madagascar's vanishing ecosystems. In: Elwyn L. Simons: A Search For Origins (J.G. Fleagle, C.C. Gilbert, eds.). New York: Springer, pp. 361-395.
10. **Irwin MT** (2007) Living in forest fragments reduces group cohesion in diademed sifakas (*Propithecus diadema*) in eastern Madagascar, by reducing food patch size. *American Journal of Primatology* 69:434-447.
9. **Irwin MT**, Raharison JL, Rakotoarimanana H, Razanadrakoto E, Ranaivoson E, Rakotofanala J, Randrianarimanana C (2007) Diademed sifakas (*Propithecus diadema*) use olfaction to forage for the inflorescences of subterranean parasitic plants (Balanophoraceae: *Langsdorffia* sp., and Cytinaceae: *Cytinus* sp.). *American Journal of Primatology* 69:471-476.
8. **Irwin MT** (2006) Ecologically enigmatic lemurs: The sifakas of the eastern forests (*Propithecus candidus*, *P. diadema*, *P. edwardsi*, *P. perrieri* and *P. tattersalli*). In: Lemurs: Ecology and Adaptation (L. Gould & M. Sauther, eds.). New York: Springer, pp. 305-326.
7. **Irwin MT**, Johnson SE, Wright PC (2005) The state of lemur conservation in southeastern Madagascar: Population and habitat assessments for diurnal and cathemeral lemurs using surveys, satellite imagery and GIS. *Oryx* 39:204-218.
6. **Irwin MT**, Samonds KE, Raharison JL, Wright PC (2004) Lemur latrines: Observations of latrine behavior in wild primates and possible ecological significance. *Journal of Mammalogy* 85:420-427.
5. **Irwin MT**, Ravelomanantsoa HV* (2004) Illegal rum production threatens health of lemur populations at Tsinjoarivo, eastern central Madagascar: Brief report and request for information. *Lemur News* 9:16-17.
4. Godfrey, LR, Samonds KE, Jungers WL, Sutherland MR, **Irwin MT** (2004) Ontogenetic correlates of diet in Malagasy lemurs. *American Journal of Physical Anthropology* 123:250-276.
3. **Irwin MT**, Samonds KE (2002) Range extension of the Madagascar Red Owl (*Tyto soumagnei*) in Madagascar: The case of a rare, widespread species? *Ibis* 144:680-683.
2. **Irwin MT**, Samonds KE, Raharison JL (2001) A biological inventory of the lemur community of Réserve Spéciale de Kalambatritra, south-central Madagascar. *Lemur News* 6:24-28.
1. **Irwin MT**, Smith TM, Wright PC (2000) Census of three eastern rainforest sites north of Ranomafana National Park: Preliminary results and implications for lemur conservation. *Lemur News* 5:20-22.

Peer-Reviewed Publications Submitted and in Preparation

Heffernan KS*, Samonds KE, Godfrey LR, **Irwin MT** (submitted) Unexpected high reproductive success rates in diademed sifakas (*Propithecus diadema*) from the fragmented forests of Tsinjoarivo, Madagascar.

Thurau EG*, **Irwin MT** (in prep.) The prevalence of condensed tannins in the diet of folivorous diademed sifakas and its impact of protein intakes.

Spencer LA*, **Irwin MT** (submitted) Cryptosporidium and Giardia incidence amongst lemurs, humans, domestic animals and black rats in Tsinjoarivo, Madagascar.

Spencer LA*, DuBour A*, Fitzpatrick M*, Raharison JL, Semel B*, **Irwin MT** (in prep.) Helminth parasites of lemurs at Tsinjoarivo, Madagascar.

Asangba AE, Mugisha L, Rukundo J, Lewis RJ, Halajian A, Cortés-Ortiz L, Junge RE, **Irwin MT**, Karlson J, Perkin A, Watsa ME, Leigh SR, Stumpf RM (in prep.) Comparing Multiple Body Site Microbiomes of Non-Human Primates.

Tapanes E, Kamilar JM, Nukula M, **Irwin MT**, Bradley BJ (in prep.) Climate and anthropogenic change may impact pelage variation in wild sifaka lemurs (*Propithecus diadema*).

Semel BP*, **Irwin MT**, Raharison JL, Chapman CA, Rothman JM, King RB (in prep.) A nutritional analysis of geophagy in diademed sifakas.

Irwin MT, Raharison JL (in prep.) Ecosystem in decay: Factors influencing primate species extinctions in forest fragments of Tsinjoarivo, Madagascar.

Other Publications

Schwitzer C, Baker-Médard M, Dolch R, Golden C, **Irwin M**, Johnson S, Patel E, Raharivololona BM, Ratsimbazafy J, Razafindramanana J, Volampeno S (2013) Factors contributing to lemur population decline on a national scale, and proposed immediate and longer-term mitigation actions. In: Lemurs of Madagascar, A Strategy for their Conservation 2013-2016 (Schwitzer C, Mittermeier RA, Davies N, Johnson S, Ratsimbazafy J, Razafindramanana J, Louis Jr. EE, Rajaobelina S, eds.). Bristol, UK: IUCN SSC Primate Specialist Group, Bristol Conservation and Science Foundation, and Conservation International, pp. 34-51.

Irwin M, Blanco M, Raharison JL, Samonds K (2013) Anjozorobe-Angavo & Tsinjoarivo. In: (Schwitzer C, Mittermeier RA, Davies N, Johnson S, Ratsimbazafy J, Razafindramanana J, Louis Jr. EE, Rajaobelina S, eds.). Bristol, UK: IUCN SSC Primate Specialist Group, Bristol Conservation and Science Foundation, and Conservation International, pp. 83-85.

Irwin MT (2008) In it for the long haul: Impacts of seasonality on primates, primatologists and paleoanthropologists (Review of *Seasonality in Primates: Studies of Living and Extinct Human and Non-human Primates* by Brockman and van Schaik). American Journal of Primatology 70:711-714.

Irwin MT, Samonds KE, Raharison FJL (2008) Transfert de Gestion: Beanana, Tsinjoarivo. Lemur News 13:7-10.

Irwin MT (2004) A broad view of evolution: A symposium in honor of George Williams. Evolutionary Anthropology 13:201-202.

Irwin MT (2002) The story of May, a courageous dwarf lemur. Newsletter of the International Primate Protection League 29:12-14.

Meeting Presentations

Since I began attending professional meetings in 1999, I have contributed to 83 meeting presentations. Of these, I was first author for 26. The meetings have included: American Association of Physical Anthropologists, American Society of Primatologists, International Primatological Society, and the Association for Tropical Biology and Conservation.

Symposia Chaired

Arrigo-Nelson SJ, Ravahatramananjarasoa FN, **Irwin MT**, Zamora A (2016) Fifty years of sifakas: Evolutionary perspectives and conservation advances. Joint Meeting of the International Primatological Society and the American Society of Primatologists, Chicago, IL, USA.

Arrigo-Nelson SJ, **Irwin MT**, Ratelolahy F (2006) Rainforest sifakas: Yesterday, today and tomorrow. Twenty-first Congress of the International Primatological Society, Entebbe, Uganda.

Awards

2005 **Oral Paper Award, American Society of Primatologists**; best oral presentation by a student at the 28th annual meeting of the Society (August 17-20, 2005).

Invited Lectures

I have given 32 invited lectures from 2002 to present. Twelve of these have been research talks at academic seminar series (Duke University, University of Queensland, Australian National University, Queensland University of Technology, Purdue University, University of North Carolina, McGill University, Concordia University, Hunter College, University of Quebec at Montreal, University of Calgary, and Mount Holyoke College).

Media Coverage

- 2019: NIU Newsroom (<https://newsroom.niu.edu/2019/07/09/study-finds-severely-disturbed-habitats-have-impacted-health-of-madagascars-critically-endangered-lemurs/>)
Secondary coverage: Phys.org (<https://phys.org/news/2019-07-severely-disturbed-habitats-impacted-health.html>)
- 2019: Mongabay (<https://news.mongabay.com/2019/07/study-finds-lemurs-in-degraded-madagascar-forest-skinny-and-stunted/>)
- 2018: NIU Newsroom (<https://newsroom.niu.edu/2018/04/09/spearheading-protection-of-malagasy-rainforest/>, 9 April)
- 2016: NIU Newsroom (<http://newsroom.niu.edu/2016/10/27/food-for-thought-anthropologist-mitch-irwin-to-study-diets-of-adorable-and-endangered-lemurs/>, 27 October)
- 2014: NIU Today (<http://www.niutoday.info/2014/02/20/lemur-conservation-crisis/>, 20 February)
- 2014: NIU Today (<http://www.niutoday.info/2014/01/14/niu-prof-helps-shed-light-on-primate-longevity/>, 14 January)
- 2013: NIU Today (<http://www.niutoday.info/2013/10/07/something-wild/>, 7 October)
- 2012: Totally Wild (Channel 10, National Television, Australia; <http://ten.com.au/totally-wild-tw20-120.htm>; 28 August)
- 2012: Totally Wild (Channel 10, National Television, Australia; <http://ten.com.au/totally-wild-tw20-091.htm>; 20 June)
- 2010: Découverte (Radio-Canada television program; <http://www.radio-canada.ca/emissions/decouverte/2010-2011/Reportage.asp?idDoc=122723>; 24 October).
- 2010: Daily Planet (Discovery Channel Canada television program; May 25).
- 2007: National Geographic News (<http://news.nationalgeographic.com/news/2007/12/071224-mistletoe-research.html>).
- 2006: "Wild Chronicles" Episode 205 (aired on PBS, Discovery Channel; <http://news.nationalgeographic.com/news/2006/11/061129-lemur-video.html>).
- 2001: Toronto Star (newspaper)

Teaching Experience (Field)

Summer 2013, 2014, 2015, 2017, 2019: Northern Illinois University, ANTH 493/593 **Madagascar, Past and Present: Biodiversity, Extinction and Conservation** (Study Abroad, Co-instructor)

Summer 2012: University of Massachusetts, Amherst, ANTH 493/593 **Madagascar, Past and Present: Biodiversity, Extinction and Conservation** (Study Abroad, Co-instructor)

Teaching Experience (Classroom)

Spring 2015, Spring 2017: Northern Illinois University, ANTH 790 **Graduate Seminar**

Fall 2014: Northern Illinois University, ANTH 491/591 **Primate Social Behavior**

Spring 2014, Fall 2015, Fall 2016, Spring 2018, Fall 2018, Fall 2019: Northern Illinois University, ANTH 341 **Primate Ecology**

Fall 2013, Spring 2016, Spring 2018: Northern Illinois University, ANTH 491/591 **Primates and Food**

Fall 2013, Spring 2015, Fall 2016, Fall 2018, Spring 2019, Fall 2019: Northern Illinois University, ANTH 240

Introduction to Physical Anthropology / Becoming Human

Spring 2013, Fall 2014, Spring 2016: Northern Illinois University, ANTH 101 **Human Origins**

Fall 2012, Spring 2014, Fall 2015, Spring 2017, Spring 2019: Northern Illinois University, ANTH 444/544

Primate Ecology and Conservation

Spring 2007, 2008, 2010: Concordia University, LOYC 320 **Biodiversity on Earth**

Spring 2008, 2010: Concordia University, LOYC 310 **Science and the Contemporary World**

Spring 2009, 2010: McGill University, REDM 400 **Science and Museums** (Secondary Instructor)

Spring 2002: Stony Brook University, ANP 420 **GIS and Remote Sensing** (Teaching Assistant)

Spring 2001: Stony Brook University, ANP 360 **Primate Conservation** (Teaching Assistant)

Spring 1999, 2000: Stony Brook University, ANT 104 **Introduction to Archeology** (Teaching Assistant)

Fall 1998, 1999: Stony Brook University, ANP 120 **Introduction to Physical Anthropology** (Teaching Assistant)

Teaching Awards

2017-18 Outstanding Teacher in Anthropology, NIU

Supervision of Student Research Projects (Sole supervisor unless otherwise noted)

2019 - Chloé Gherardi: MA research, NIU (co-supervisor)

2019 - Harizo Georginnot Rijamanalina, MS, University of Antananarivo: **"Group Spacing and Spatial Geometry of *Propithecus diadema* in Tsinjoarivo Forest"**

2018-19 Chazal Tatamoniaina Vololontsoa, MS, University of Antananarivo: **"Social tolerance of the dominant adult female of *Propithecus diadema* during feeding in Tsinjoarivo Forest"**

2017 - Amanda Hamrick: MA research, NIU

2017-19 Emma Thurau: MA research, NIU: **"Prevalence of condensed tannins in the diet, and its impact on protein intake of Diademed Sifakas (*Propithecus diadema*) at Tsinjoarivo, Madagascar"**

2017 - Laurie Spencer: PhD research, NIU

2017-18 James Mogan, Undergraduate Research, NIU: **"Exploring the relationships between stressors and cortisol production in captive and wild sifakas" (Honors Thesis)**

2016-19 Shallu Prasher: MA research, NIU: **"Evaluating Spatial Distributions of Scent-Marks In Semi-Free-Ranging Groups of *Lemur catta* At The Duke Lemur Center"**

2016 - Vololona Rahalinarivo: PhD research (co-supervisor), University of Antananarivo

2016-18 Caitlin Bemis: **"Prehensility in hominins: Anatomy of a "Precision Grip" in fossil and living primates"** MA research, NIU (committee member)

2015-18 Amanda DuBour: **"Dietary constraints and strategies in the red-bellied lemur (*Eulemur rubiventer*), and their implications for conservation"** MA research, NIU

2014-16 Meredith Keeley: **"Patch-sharing in diademed sifakas and brown lemurs"** Fieldwork internship.

2014-present	Katie Heffernan: "Effects of habitat disturbance on the teeth of <i>Propithecus diadema</i> in the forests of Tsinjoarivo" PhD research, NIU
2014-15	Safidy Rasolonjatovo: "Patterns of female dominance in <i>Propithecus diadema</i>" MS research, University of Antananarivo
2014 -	Maharavo Razafindraseta: "Defecation habits and their impacts on the transmission of lemur parasites" MS research, University of Antananarivo
2014-16	Margaret Buehler: "Intersexual social interactions in <i>Cebus capucinus</i>" MA research, NIU (committee member)
2014-16	Jessica Ritsche: "Do folivores deplete patches? Feeding ecology of Costa Rican mantled howlers (<i>Alouatta palliata</i>)" MA research, NIU (committee member)
2014-16	Xiaoying Zhong: "The phylogeny of <i>Homo erectus</i>" MA research, committee member
2013-15	Brandon Semel: "A multi-species approach to elucidating the ecological function of primate geophagy" MA research, NIU
2013-17	Laurie Spencer: "Prevalence and abundance of <i>Cryptosporidium</i> in lemurs, humans and domestic livestock at Tsinjoarivo" MA research, NIU
2013-16	Kim Foreit: "Leading behavior, positioning, and group spacing as indicators of dominance in <i>Hapalemur griseus</i>" MA research, NIU
2013	Kathryn Olson: "Parasite burden of sifakas occupying intact and degraded habitat" NIU Undergraduate Research Apprenticeship Program.
2012-14	Molly Fitzpatrick: "Effects of habitat change on <i>Hapalemur griseus</i> feeding ecology and parasite load" . MA research, NIU.
2012-14	Anna Kordek: "Stress and Behavior of Male Bonobos in Groups of Varied Sex Ratio" MA research, NIU (committee member)
2012-14	Sylvia Orellana: "Balancing the Scales: Diurnal Temporal Variation in the Feeding and Foraging Patterns of <i>Saguinus fuscicollis</i>" MA research, NIU (committee member)
2013	Kim Lein: "Patterns of scentmarking in bamboo lemurs and sifakas" . Undergraduate Independent Research supported by USOAR (NIU).
2011	Kelly O'Loughlin: "Patterns of scentmarking in gentle bamboo lemurs (<i>Hapalemur griseus</i>) at Tsinjoarivo, Madagascar" . Independent Research Project
2011	Holiarimino Vololonoro: "Diet, ranging and behavior of gentle bamboo lemurs (<i>Hapalemur griseus</i>) at Tsinjoarivo, Madagascar" . Masters student, University of Antananarivo (external advisor)
2010	Gabrielle Lupien: "Ontogeny of Infant Independence of Diademed Sifakas inhabiting Intact and Fragmented Forest at Tsinjoarivo, Madagascar" . Internship, Vanier College, Montreal, QC, Canada.
2010	Jean-Elvis Rakotomalala: "Effects of Selective Logging on Lemur Communities at Tsinjoarivo, Madagascar" . Masters student, University of Antananarivo (external advisor)
2010	Katrina Bélanger-Smith, Maryse Tadros: "Dental Wear Analysis of the Diademed Sifaka (<i>Propithecus diadema diadema</i>)" . Independent Research Project, REDM 400 (Science & Museums), McGill University.
2009	Brian Gerber: "Carnivore Ecology in a Fragmented Landscape at Tsinjoarivo, Madagascar" . MSc student at Virginia Tech (co-ordinated field logistics and contributed to research design).
2009	Andrea Reid, Madeline Cronin: "An exploration of parasites within fecal samples of critically endangered Diademed Sifaka (<i>Propithecus diadema diadema</i>)" Independent Research Project, REDM 400 (Science & Museums), McGill University.
2009-2010	Sarah Proctor: "The impact of selective logging on Lemur communities at Tsinjoarivo, Madagascar." Student at University of York, Masters in Research of Environmental Management and Ecology.
2007-2008	Katie Bresner: "Investigating Parasitism in Sifakas in Continuous Forests and Forest Fragments in Tsinjoarivo Forest, Madagascar" . Honours Thesis, Dept. of Anthropology, McGill University.
2007-2008	Tim Devlin: Independent study in Physical Anthropology (survey of the field and subfields) . Dept. of Anthropology, McGill University (co-advisor).
2003-2004	Hasina Ravelomanantsoa: "Socioeconomics and Illegal Rum Production at Tsinjoarivo, Madagascar" . MSc (DEA) student, University of Antananarivo.

2001-2003: **Supervised Field Assistants in Madagascar.** Trained and mentored 10 undergraduate field assistants in observational and data collection techniques during dissertation-related field work in Madagascar (average tenure per assistant: 5 months)

Research Grants and Fellowships (postgraduate)

Since I began actively leading research projects in 1999, I have been awarded US\$257,286 in external grant funding, a highly competitive 2-year NSERC postdoctoral fellowship from the government of Canada (total value: CAD80,000) and a multi-year grant to achieve legal forest protection at Tsinjoarivo.

2018 **Rasmussen Family Foundation** (\$20,000): “Engaging local communities and conserving lemur populations at Tsinjoarivo, Madagascar” (renewal)

2017 **Rainforest Trust** (\$953,273 over 5 years): “Working with communities to protect the threatened high-altitude forest of Tsinjoarivo-Ambalaomby” (*funding for the legal creation of a protected area; written by Irwin and submitted on behalf of the Malagasy NGO SADABE; jointly awarded to SADABE and Madagasikara Voakajy*)

2017 **Rasmussen Family Foundation** (\$20,000): “Engaging local communities and conserving lemur populations at Tsinjoarivo, Madagascar” (renewal)

2016 **National Geographic Society Committee for Research and Exploration** (\$19,553): “Nutritional geometry, digestive constraints and limits to survival in two large-bodied lemur species”

2016 **Rasmussen Family Foundation** (\$20,000): “Engaging local communities and conserving lemur populations at Tsinjoarivo, Madagascar”

2016 **NIU Research & Artistry Grant** (\$14,000): “Nutritional geometry, digestive constraints and limits to survival in two sympatric lemurs: Do different lemurs play by different nutritional rules?”

2015 **Eppley Foundation for Research** (\$23,008): “Digestive constraints, cathemerality and limits to survival in brown lemurs (*Eulemur fulvus*) of Madagascar’s eastern rainforests”

2015 **NIU Lilian Cobb Faculty Travel Fellowship** (\$2000)

2014 **NIU Open Access Publishing Support** (\$1350)

2013 **NIU Research & Artistry Grant** (\$15,000): “Landscape ecology of the critically endangered greater bamboo lemur *Prolemur simus*: Towards an understanding of its patchy distribution”

2011 **Field Research for Conservation Grant, St. Louis Zoo** (\$10,000): “Health and physiology of threatened lemur populations at Tsinjoarivo, Madagascar: Linking biomedical health assessments with field primatology” With Jean-Luc Raharison.

2011 **Field Conservation Grant, St. Louis Zoo** (\$3,062): “Location and habituation of high-altitude *Prolemur simus* at Tsinjoarivo, eastern Madagascar” With Jean-Luc Raharison.

2011 **Primate Conservation, Inc.** (\$2,500): “Locating and habituating high altitude *Prolemur simus* at Tsinjoarivo, eastern Madagascar” (with Jean-Luc Raharison)

2009 **Primate Action Fund** (\$2,500): “Halting Politically-Induced Deforestation in the Short Term to Preserve the Unique Primate Community of Tsinjoarivo, Eastern Central Madagascar”

2009 **Primate Conservation, Inc.** (\$2,500): “Halting Politically-Induced Deforestation in the Short Term to Preserve the Unique Primate Community of Tsinjoarivo, Eastern Central Madagascar”

2009 **National Geographic Society Committee for Research and Exploration** (\$5,000): Supplemental Discretionary Funding. With Jean-Luc Raharison.

2007 **National Geographic Society Committee for Research and Exploration** (\$20,000): “Physiological Correlates of Habitat Degradation: A test with a Critically Endangered Primate” With Jean-Luc Raharison.

2007 **Field Research for Conservation Grant, St. Louis Zoo** (\$10,000): “Physiological correlates of habitat degradation: A test with a critically endangered primate, *Propithecus diadema*” With Jean-Luc Raharison.

2007 **Primate Action Fund** (\$3,400): “Counteracting the Threat of Government-Sponsored Logging To Preserve the Unique Primate Community of Tsinjoarivo, Eastern Central Madagascar”

2007 **Primate Conservation, Inc.** (\$2,500): “Counteracting the Threat of Government-Sponsored Logging to Preserve the Unique Primate Community of Tsinjoarivo, Eastern Central Madagascar”

2006	Research Grant, Margot Marsh Biodiversity Foundation (\$20,000): "Building Corridors and Conserving Forests at Tsinjoarivo, Eastern Central Madagascar: A Reforestation Initiative to Link Forest Fragments and Monitor Lemur Populations"; with Jean-Luc Raharison (renewal).
2006-2008	NSERC Postdoctoral Fellowship (PDF; 2 years, \$40,000CAD/year)
2005	Research Grant, Margot Marsh Biodiversity Foundation (\$19,000): "Building Corridors and Conserving Forests at Tsinjoarivo, Eastern Central Madagascar: A Reforestation Initiative to Link Forest Fragments and Monitor Lemur Populations"; with Jean-Luc Raharison.
2004	Research Grant, Margot Marsh Biodiversity Foundation (\$17,000): "Conserving Threatened Lemur Populations at Tsinjoarivo, Eastern Central Madagascar: Extended Regional Distribution Surveys and Population Monitoring of Sadabe, a Newly-Discovered Sifaka (<i>Propithecus diadema</i> ssp. nov.)"; with Jean-Luc Raharison.
2003	Research Grant, Margot Marsh Biodiversity Foundation (\$16,000): "Lemur Population Dynamics in the Fragmented Forest of Tsinjoarivo, Eastern Central Madagascar, and Conservation of 'Sadabe', a Newly-Discovered Sifaka (<i>Propithecus diadema</i> ssp. nov.)" (renewal)
2003	Research Grant, Primate Conservation, Inc. (\$1000): "Metapopulation Modeling of the Lemur Community in the Fragmented Forest of Tsinjoarivo, Eastern Central Madagascar" (renewal)
2003	Research Grant, International Primate Protection League (\$1000): "Lemur Population Dynamics in the Fragmented Forest of Tsinjoarivo, Eastern Central Madagascar, and Conservation of 'Sadabe', a Newly-Discovered Sifaka (<i>Propithecus diadema</i> ssp. nov.)"
2002	Research Grant, Margot Marsh Biodiversity Foundation (\$25,000): "Lemur Population Dynamics in the Fragmented Forest of Tsinjoarivo, Eastern Central Madagascar, and Conservation of 'Sadabe', a Newly-Discovered Sifaka (<i>Propithecus diadema</i> ssp. nov.)" (renewal)
2001	Research Grant, Margot Marsh Biodiversity Foundation (\$20,663): "Metapopulation Modeling of the Lemur Community in the Fragmented Forest of Tsinjoarivo, Eastern Central Madagascar"
2001	Research Grant, Primate Conservation, Inc. (\$2000): "Metapopulation Modeling of the Lemur Community in the Fragmented Forest of Tsinjoarivo, Eastern Central Madagascar"
2000	Research Grant, Margot Marsh Biodiversity Foundation (\$4000): "Survey of the Lemur Community of Kalambatritra Special Reserve, South Central Madagascar"
2000	Research Grant, Primate Conservation, Inc. (\$2000): "Survey of the Lemur Community of Kalambatritra Special Reserve, South Central Madagascar"
1999	Research Grant, Margot Marsh Biodiversity Foundation (\$3000): "A Survey of Lemur Communities in Corridor Forests Between Ranomafana National Park and the Mangoro River, Madagascar"
1999	Research Grant, Primate Conservation, Inc. (\$2600): "A Survey of Lemur Communities in Corridor Forests Between Ranomafana National Park and the Mangoro River, Madagascar"
1998-2006	Full Tuition Scholarship, IDPAS, Stony Brook University
1998-2001	Graduate School Fellowship, Stony Brook University

Professional Memberships

American Association of Physical Anthropologists (AAPA), American Society of Primatologists (ASP), International Primatological Society (IPS), International Primate Protection League (IPPL)

University Service

2019:	Presenter, DFI (Diversifying Faculty in Illinois) workshop, "Turning Fellows into Faculty"
2018:	Presenter, NIU CAUSE
2018 – present:	Faculty Advisor, Graduate Student Council (Anthropology)
2018 – present:	Department Representative, College Council
2014 – 2018:	Department Representative, Faculty Senate
2018 – present:	Department Representative, College Council
2016 – present:	Member, Exam Committee (Anthropology Dept.)
2016 – present:	Member, Personnel Committee (Anthropology Dept.)

2014 – 2016: Member, **Executive & Curriculum Committee (Anthropology Dept.)**
 2014 – present: Member, **Natural Areas Committee**, Institute for the Environment, Sustainability and Energy
 2014 – 2016: Faculty Advisor, **Green Paws (Student Club)**
 2013: Faculty Presenter, **Discover NIU Day** (for high school seniors)
 2012 – present: Anthropology Dept. **Chemical Hygiene Officer**
 2012 – 2014: Faculty Advisor, **NIU Anthropology Club**
 and 2018 – present

Professional Service

2018 – present: Vice-President, **Midwest Primate Interest Group**
 2016: Lecturer, International Primatological Society Pre-Congress Training Program in Primate Conservation
 2007 - 2010: Member, **Conservation Committee, International Primatological Society**
 2012 - present: Member, **IUCN-SSC Primate Specialist Group**
 2006 - 2010: Member, **Education Committee, American Society of Primatologists**
 2004 - 2005: President, **Behavioral Ecology Group**, discussion group at Stony Brook University

Papers and Grants Refereed

Journals (116): African Journal of Ecology (3), American Journal of Physical Anthropology (10), American Journal of Primatology (22), Animal Behaviour (1), Animal Conservation (1), Behavioral Ecology & Sociobiology (2), Behaviour (2), Biological Conservation (1), Biotropica (4), Chemoecology (3), Conservation Biology (2), Ecography (1), Endangered Species Research (3), Evolutionary Anthropology (1), Folia Primatologica (4), Global Ecology and Conservation (1), International Journal for Parasitology: Parasites and Wildlife (1), International Journal of Primatology (21), Journal of Wildlife Diseases (1), Journal of Natural History (1), Journal of Zoology (London) (2), Lemur News (5), Madagascar Conservation & Development (4), Malagasy Nature (1), Mammal Review (3), Oecologia (3), Oryx (4), Primate Conservation (1), Primates (6)

Chapters in Edited Volumes: 1

Granting agencies (78): National Science Foundation, USA (2), National Geographic Society (14), L.S.B. Leakey Foundation (3), International Primatological Society (10), Primate Conservation Inc. (49)

Professional References

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