

HERNÁN LÓPEZ-FERNÁNDEZ

CURRICULUM VITAE

Department of Natural History, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario M5S 2C6, Canada AND Department of Ecology and Evolutionary Biology, University of Toronto, 25 Willcocks Street, Toronto, Ontario, Canada M5S 3B2

From January 1, 2018: Department of Ecology and Evolutionary Biology, Program in the Environment and Museum of Zoology, University of Michigan, Ann Arbor, USA MI 48109, USA

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Web: <https://sites.google.com/site/hlffishes/>

Professional preparation:

2006 – 2007 - Postdoctoral Research Associate, Section of Ecology, Evolution and Systematic Biology, Texas A&M University. Postdoctoral advisors: Kirk O. Winemiller and Rodney L. Honeycutt.

2005 – 2006 - Postdoctoral Fellow, Section of Integrative Biology, University of Texas at Austin. Postdoctoral advisor: Daniel I. Bolnick.

2004 - Ph. D. Section of Ecology, Evolution and Systematic Biology, Texas A&M University. Dissertation Title: Phylogeny of geophagine cichlids from South America (Perciformes: Cichlidae). Kirk O. Winemiller and Rodney L. Honeycutt, Dissertation Co-Advisors.

1998 - Licenciante in Biology (B.S.). Universidad de Los Andes, Mérida, Venezuela. Major: Biology, Minor (Specialization): Animal Ecology.

Professional appointments:

2018- (Starting January) - Associate Professor, Department of Ecology and Evolutionary Biology and Program in the Environment; Associate Curator of Fishes, University of Michigan Museum of Zoology, University of Michigan, Ann Arbor, USA.

2015- present - Associate Professor, Department of Ecology and Evolutionary Biology, University of Toronto, Canada

2014–2015 - Department Head, Department of Natural History, Royal Ontario Museum, Toronto, Canada.

2013–2014 - Deputy Department Head, Department of Natural History, Royal Ontario Museum, Toronto, Canada.

2012 – present - Curator of Ichthyology, Freshwater Fishes, Department of Natural History, Royal Ontario Museum, Toronto, Canada.

2008 – 2015 - Assistant Professor, Department of Ecology and Evolutionary Biology, University of Toronto, Toronto, Canada.

2008 – 2012 - Associate Curator of Ichthyology, Freshwater Fishes, Department of Natural History, Royal Ontario Museum, Toronto, Canada.

Languages: Spanish (Speak, read, write), English (Speak, read, write), Portuguese (Speak, read).

Grants, honors and awards (last 10 years):

2016-2020 – Elected Member, Board of Governors, American Society of Ichthyologists and Herpetologists.

2016 – *Louise Hawley Stone Charitable Trust*, Acquisition Grant (with D.C. Evans and K. Seymour), Royal Ontario Museum (CD\$60,850.00).

2016 – Research Award for Exploration and Conservation of Guiana Shield fishes, Durham Region Aquarium Society, Durham, Ontario, Canada (CD\$ 400.00).

- 2015 – *Scientist of the Year Award*, Canadian Association of Aquarium Clubs.
- 2015 - *Schad Foundation for Conservation*, Royal Ontario Museum Governors (\$30,000.00).
- 2014-2019 - Macroevolutionary patterns and processes in Neotropical freshwater fishes: cichlids as a model. Natural Sciences and Engineering Research Council of Canada, *Discovery Grant* (\$170,000.00).
- 2012 - *Rebanks Postdoctoral Fellowship*, Royal Ontario Museum Governors. Competitive peer-reviewed proposal award that supported Dr. Katriina L. Ilves for a 2-year postdoctoral research position (\$100,000.00).
- 2011 - Rebanks student internship, Royal Ontario Museum Governors (for Frances Hauser, Ph.D. student). (\$3,5000.00).
- 2011 - *James Böhlke Memorial Endowment Fund*, Academy of Natural Sciences of Philadelphia. (US\$500.00).
- 2010 - *Schad Foundation for Conservation*, Royal Ontario Museum Governors (\$30,000.00).
- 2009-2014 - Adaptive radiation and the role of ecology in Neotropical cichlid fish divergence. Natural Sciences and Engineering Research Council of Canada, *Discovery Grant*, (\$110,000.00).
- 2008 - National Geographic Society, Committee for Research and Exploration - US\$16,310.
- 2006 - Excellence in Writing Award, American Cichlid Association, for “Geophaginae: earth eating is not the whole story”, Buntbarsche Bulletin.
- 2005 - Adaptive Radiation and Evolutionary Convergence in Neotropical Cichlids. National Science Foundation (K.O. Winemiller, P.I. and R.L. Honeycutt, Co-PI; **H. López-Fernández** and M.L.J. Stiassny, Collaborators) (US\$232,000).

Peer-reviewed grants, Royal Ontario Museum Governors - 2008 (Fieldwork, \$21,668.00), 2009 (Fieldwork, \$21,279.00), 2013 (Phylogenomics, \$15,850.36), 2014 (Fieldwork, \$14,865.00), 2016 (Fieldwork, \$11,050).

Peer-reviewed grants, Royal Ontario Museum, Dept. Natural History – 2008 (Fieldwork, \$4,000.00), 2009 (Fieldwork, \$5,000.00), 2010 (Fieldwork, \$5,000.00), 2014 (Fieldwork, \$5,000.00); 2016 (Fieldwork, \$5,000).

Peer-reviewed publications: Google Scholar citations = 1140, h-index = 17, i10-index = 26

49. Arbour, JH & **López-Fernández, H.** 2017. Intrinsic constraints on the diversification of Neotropical cichlid adductor mandibulae size. *The Anatomical Record* (Accepted).
48. Lehmborg ES, Elbassiouny, AA, Bloom, DD, **López-Fernández H**, Crampton, WGR & Lovejoy NR. 2017. Fish biogeography in the "Lost World" of the Guiana Shield: Phylogeography of the weakly electric knifefish *Gymnotus carapo* (Teleostei: Gymnotidae). *Journal of Biogeography* (Accepted with minor revisions).
47. Hauser, FE, KL Ilves, RK Schott, GM Castiglione, **López-Fernández, H** & Chang BSW. 2017. Evolutionary and functional divergence of rhodopsin during the radiation of Central American cichlids. *Molecular Biology and Evolution*, In press.
46. Kullander, S.O., **H. López-Fernández** & P. van der Sleen. 2017. The Family Cichlidae – Cichlids in *Field Guide to the Genera of Fishes in the Amazon-Orinoco basins*, edited by J.S. Albert & P. van der Sleen, University of California Press, In Press.
45. Lujan, N.K, C.A Cramer, R. Covain, S. Fisch-Muller, N.R. Lovejoy and **H. López-Fernández**. 2017. Evolutionary relationships and biogeographical patterns within the ornamental wood-eating catfish genera *Panaqolus* and *Panaque* (Siluriformes, Loricariidae), with descriptions of four new taxa. *Molecular Phylogenetics and Evolution* 109: 321-336.
44. Arbour, J.H. & **H. López-Fernández**. 2016. Continental cichlid radiations: functional diversity reveals the role of changing ecological opportunity in the Neotropics. *Proceedings of the Royal Society Series B*, 283(1836): 20160556.

43. Varela, H.R., J. Zuanon, S.O. Kullander and **H. López-Fernández**. 2016. *Teleocichla preta*, a new species of cichlid fish from the Rio Xingu basin in Brazil. *Journal of Fish Biology*, 89:1551-1569.
42. Lujan, N.K., V. Mesa-Vargas, V. Astudillo-Clavijo, R. Barriga-Salazar and **H. López-Fernández**. 2015. A multilocus molecular phylogeny for *Chaetostoma* Clade genera and species with a review of *Chaetostoma* (Siluriformes: Loricariidae) from the Central Andes. *Copeia*, 664-701 (Awarded Copeia's best paper by a junior researcher [Nathan K. Lujan] for the year 2015).
41. Astudillo-Clavijo, V., J.H. Arbour and **H. López-Fernández**. 2015. Selection towards different adaptive optima drove the early diversification of locomotor morphology in the radiation of Neotropical geophagine cichlids. *BMC Evolutionary Biology*, 15:77 [[Highly Accessed](#)].
40. Lujan, N.K., J.W. Armbruster, N.R. Lovejoy & **H. López-Fernández**. 2015. Multilocus molecular phylogeny of the suckermouth armored catfishes (Siluriformes: Loricariidae) with a focus on the subfamily Hypostominae. *Molecular Phylogenetics and Evolution*, 82: 269-288.
39. Arbour, J. H. and **H. López-Fernández**. 2014. Adaptive landscape and functional diversity of Neotropical cichlids: implications for the ecology and evolution of Cichlinae (Cichlidae: Cichliformes). *Journal of Evolutionary Biology*, 27: 2431-2442, doi: 10.1111/jeb.12486
38. Steele, S.E. & **H. López-Fernández**. Body Size Diversity and Frequency Distributions of Neotropical Cichlid Fishes (Cichliformes: Cichlidae: Cichlinae), *PLoS ONE*, e106336, DOI: 10.1371/journal.pone.0106336.
37. Thompson, A.W., R. Betancur-R, **H. López-Fernández** & G. Ortí. 2014. A Time-Calibrated, Multi-locus Phylogeny of Piranhas, Pacus, and Allies (Characiformes: Serrasalminae) and a Comparison of Species Tree Methods. *Molecular Phylogenetics and Evolution*, 81: 242-257.
36. Arbour, J.H., R. Barriga and **H. López-Fernández**. 2014. A new species of *Bujurquina* (Teleostei: Cichlidae: Cichlasomatini) from the río Danta, Ecuador, with a key to all known species in the genus *Copeia*, 2014: 79-86.
35. **López-Fernández, H.*** J.H. Arbour*, S.C. Willis, C. Watkins, R.L. Honeycutt & K.O. Winemiller. 2014. Morphology and efficiency of a specialized foraging behavior, substrate sifting, in Neotropical cichlid fishes. *PLoS ONE*, 9(3); e89832, DOI:10.1371/journal.pone.0089832. *Equal contributions
34. Schott, R., S. Refvik, F. E. Hauser, **H. López-Fernández**, B. Chang. 2014. Positive Selection at Non-Overlapping Sites in Rhodopsin from Lake vs. Riverine Cichlids. *Molecular Biology and Evolution*, 31 (5), 1149-1165. DOI:10.1093/molbev/msu064
33. Ilves, K. & **H. López-Fernández**. 2014. A targeted next-generation sequencing toolkit for exon-based cichlid phylogenomics. *Molecular Ecology Resources*, 14: 802-811. DOI: 10.1111/1755-0998.12222
32. Maldonado-Ocampo, J.A., **H. López-Fernández**, D.C. Taphorn, C. R. Bernard, W.G.R. Crampton & N.R. Lovejoy. 2014. *Akawaio penak*, a new genus and species of Neotropical electric fish (Gymnotiformes, Hypopomidae) endemic to the Upper Mazaruni River in the Guiana Shield. *Zoologica Scripta*, 43: 24-33, DOI: 10.1111/zsc.12035.
31. Alofs, K.M., E.A. Liverpool, D.C. Taphorn, C.R. Bernard & **H. López-Fernández**. 2014. Mind the (information) gap: the importance of exploration and discovery for assessing conservation priorities for freshwater fish. *Diversity and Distributions*, 20: 107-113, DOI: 10.1111/ddi.12127
30. Malabarba, M.C., L.R. Malabarba & **H. López-Fernández**. 2014. On the Eocene cichlids from the Lumbra Formation: additions and implications for the Neotropical ichthyofauna. *Journal of Vertebrate Paleontology*, 34: 49-58.
29. Hauser, F.E. & **H. López-Fernández**. 2013. *Geophagus crocatus*, a new species of geophagine cichlid from the Berbice River, Guyana (Teleostei: Cichlidae). *Zootaxa* 3731: 279-286.
28. Phillip, D.A., D.C. Taphorn, E. Holm. J. Gilliam, B. Lamphère & **H. López-Fernández**. 2013. Annotated list and key to the riverine fishes of Trinidad & Tobago. *Zootaxa*, 3711: 1-64.
27. Lujan, N.K., H. Agudelo-Zamora, D.C. Taphorn, P. N. Booth & **H. López-Fernández**. 2013. Description of a new, narrowly endemic South American darter (Perciformes: Crenuchidae) from the central Guiana Shield highlands of Guyana. *Copeia*, 2013: 454-463.
26. Steele, S.E., E.A. Liverpool & **H. López-Fernández**. 2013. *Krobia petitella*, a new species of cichlid fish from the Berbice River in Guyana (Teleostei: Cichlidae). *Zootaxa*, 3693:152-162.

25. Arbour, J.H & **H. López-Fernández**. 2013. Ecological variation in South American geophagine cichlids arose during an early burst of adaptive functional morphological evolution. *Proceedings of the Royal Society, Series B*, 280(1763):20130849.
24. Netto-Ferreira, A.L., **H. López-Fernández**, D.C. Taphorn, E.A. Liverpool. 2013. New species of *Lebiasina* (Ostariophysi: Characiformes: Lebiasinidae) from the upper Mazaruni River drainage, Guyana. *Zootaxa*, 3652: 562-568
23. **López-Fernández, H.**, J. H. Arbour, K. O. Winemiller & R. L. Honeycutt. 2013. Testing for ancient adaptive radiations in Neotropical cichlid fishes. *Evolution*, 67: 1321-1337. (Journal Issue Cover)
22. **López-Fernández, H.**, D. C. Taphorn & E. Liverpool. 2012. Phylogenetic diagnosis and expanded description of the genus *Mazarunia* Kullander 1990 (Teleostei: Cichlidae) from the upper Mazaruni River, Guyana, with description of two new species. *Neotropical Ichthyology*, 10(3):465-486
21. Willis, S.C., **H. López-Fernández**, C.G. Montaña, I.P. Farias, G. Orti. 2012. Species-level phylogeny of 'Satan's perches' based on discordant gene trees (Teleostei: Cichlidae: *Satanoperca* Günther 1862). *Molecular Phylogenetics and Evolution*, 63: 798-808.
20. **López-Fernández, H.** K. O. Winemiller C. G. Montaña, & R. L. Honeycutt. 2012. Diet-morphology correlations in the radiation of South American geophagine cichlids (Perciformes: Cichlidae: Cichlinae). *PLoS ONE* 7(4):e33997 doi:10.1371/journal.pone.0033997
19. **López-Fernández, H.** & J. S. Albert. 2011. Paleogene radiations. In. Albert, J. & R. E. Reis (Eds.) *Historical Biogeography of Neotropical Freshwater Fishes*, University of California Press Pp. 105-117.
18. Hulsey, C.D. & **Hernán López-Fernández**. 2011. Nuclear Central America. In. Albert, J. & R. E. Reis (Eds.) *Historical Biogeography of Neotropical Freshwater Fishes*, University of California Press. Pp. 279-291.
17. Arbour, J. & **H. López-Fernández**. 2011. *Guianacara dacrya*, a new species from the Rio Branco and Essequibo River drainages of the Guiana Shield (Cichlidae, Perciformes). *Neotropical Ichthyology* 9: 87-96.
16. Taphorn, D. C., J. W. Armbruster, **H. López-Fernández** & C. R. Bernard. 2010. Description of *Neblinichthys brevibracchium* and *N. echinasus* from the upper Mazaruni River, Guyana (Siluriformes: Loricariidae), and recognition of *N. roraima* and *N. yaravi* as distinct species. *Neotropical Ichthyology*, 8: 615-624.
15. **López-Fernández, H.**, K.O. Winemiller & R.L. Honeycutt. 2010. Multilocus phylogeny and rapid radiations in Neotropical cichlid fishes (Perciformes: Cichlidae: Cichlinae). *Molecular Phylogenetics and Evolution*, 55: 1070-1086. [Highly Cited]
14. Taphorn, D. C. T., **H. López-Fernández** & C. R. Bernard. 2008. *Apareiodon agmatos*, a new species from the upper Mazaruni river, Guyana (Teleostei: Characiformes: Parodontidae). *Zootaxa* 1925: 31-38.
13. Montaña, C.G., **H. López-Fernández** & D.C. Taphorn. 2008. A new species of *Crenicichla* (Perciformes: Cichlidae) from the Rio Ventuari, Upper Rio Orinoco, Amazonas State, Venezuela. *Zootaxa*, 1856: 33-40.
12. Winemiller, K.O., **H. López-Fernández**, D. C. Taphorn, L. Nico and A. Barbarino. 2008. Fish assemblages of the Casiquiare River, a corridor and zoogeographic filter for dispersal between the Orinoco and Amazon basins. *Journal of Biogeography*, 35: 1551-1563.
11. Bolnick, D.I, M. Turelli, **H. López-Fernández**, P.C. Wainwright and T.J. Near. 2008. Accelerated mitochondrial evolution and 'Darwin's corollary': Asymmetric viability of reciprocal F₁ hybrids in centrarchid fishes. *Genetics*, 178: 1037-1048.
10. **López-Fernández, H.** & D.I. Bolnick. 2007. What causes partial F₁ hybrid viability? Incomplete penetrance versus genetic variation. *PLoS ONE* 2(12): e1294. doi:10.1371/journal.pone.0001294.
9. Correa, S.B., K.O. Winemiller, **H. López-Fernández** and M. Galetti. 2007. Seed consumption and dispersal by fishes: evolutionary perspectives. *BioScience*, 57: 748-756.
8. **López-Fernández, H.**, D.C. Taphorn and S.O. Kullander. 2006. Two new species of *Guianacara* from the Venezuelan portion of the Guiana Shield (Perciformes: Cichlidae). *Copeia*, 2006: 384-395.

7. **López-Fernández, H.**, R.L. Honeycutt, M.L.J. Stiassny and K.O. Winemiller. **2005**. Morphology, molecules, and character congruence in the phylogeny of geophagine cichlids from South America (Perciformes: Labroidae). *Zoologica Scripta*, 34: 627-651.
6. **López-Fernández, H.**, R.L. Honeycutt and K.O. Winemiller. **2005**. Molecular phylogeny and evidence for an adaptive radiation of geophagine cichlids from South America (Perciformes: Labroidae). *Molecular Phylogenetics and Evolution*, 34: 227-244.
5. Willis, S.C., K.O. Winemiller and **H. López-Fernández**. **2005**. Habitat structural complexity and morphological diversity of fish assemblages in a Neotropical floodplain river. *Oecologia*, 142: 284-295.
4. **López-Fernández, H.** and K.O. Winemiller. **2005**. Status of *Dionda diaboli* and report of established populations of exotic fish species in Lower San Felipe creek, Val Verde County, Texas. *The Southwestern Naturalist*, 50: 246-251.
3. **López-Fernández, H.** and D.C. Taphorn. **2004**. *Geophagus abalios*, *G. dicrozoster* and *G. winemilleri* (Perciformes: Cichlidae), three new species from Venezuela. *Zootaxa*, 439: 1-27.
2. **López-Fernández, H.** and K. O. Winemiller. **2003**. Morphological variation in *Acestrorhynchus microlepis* and *A. falcatus* (Characiformes: Acestrorhynchidae), reassessment of *A. apurensis* and distribution of *Acestrorhynchus* in Venezuela. *Ichthyological Exploration of Freshwaters*, 14: 193-208.
1. **López-Fernández, H.** and K. O. Winemiller. **2000**. A review of Venezuelan species of *Hypophthalmus* (Siluriformes: Pimelodidae). *Ichthyological Exploration of Freshwaters*, 11:35-46.

Manuscripts in review, revision or preprint:

3. Katriina L. Ilves, KL Torti, D. & **López-Fernández, H.** Exon-based phylogenomics strengthens the phylogeny of Neotropical cichlids and identifies remaining conflicting clades (Cichlomorphae: Cichlidae: Cichlinae). *Molecular Phylogenetics and Evolution* (In Revision); *bioRxiv* doi: <https://doi.org/10.1101/133512> - May 2, 2017
2. Arbour, J.H, C.G. Montaña, K.O. Winemiller, A. Pease, M. Soria-Barreto, J. Cochran-Biederman & **López-Fernández, H.** Feeding Ecology and Functional Diversification in Neotropical cichlids. *Evolution* (Revision in review).
1. **López-Fernández H.** Neotropical riverine cichlids: adaptive radiation and macroevolution at continental scales In: ME Abate & DLG Noakes (Eds.) *The Behavior, Ecology and Evolution of Cichlid Fishes: A Modern Synthesis*. Springer Academic (Invited book chapter, revised).

Popular Articles:

- 2017 BurrIDGE, ME & **H. López-Fernández**. Up the River: The ROM's ichthyology research team travels the Saramacca into uncharted territory. *ROM Magazine*, Spring 2017
- 2014 BurrIDGE, M. & **López-Fernández, H.** A "lot" has happened in a century. *ROM Magazine* 47(2): 3 pp.
- 2014 **López-Fernández, H.** The found fishes of the Lost World, Practical Fish Keeping, reprinted from ROM Magazine, February 2014.
- 2012 Lujan, N.K. & **H. López-Fernández**. Rivers of Life – Fishing for answers in the exotic biodiversity of the Amazon headwaters, *ROM Magazine*, 2012
- 2012 **López-Fernández, H.** The found fishes of the Lost World, Part II. Paradise Lost? *ROM Magazine*, Fall 2012
- 2012 **López-Fernández, H.** The found fishes of the Lost World, Part I. *ROM Magazine*, Summer 2012
- 2011 **López-Fernández, H.** Exhibit A: Watching Angels. *ROM Magazine*, Summer 2011
- 2006 **López-Fernández, H.** Geophaginae: earth eating is not the whole story. Speakers Program, Buntbarsche Bulletin, 233: 8-14.

Postdoctoral Fellows

- 2012-2015 - Dr. Katriina Ilves – Rebanks Postdoctoral Fellow, Department of Natural History, Royal Ontario Museum. *Currently* Assistant Professor, Dyson College of Arts and Science, Pace University, New York.
- 2012 -2014 - Dr. Nathan K. Lujan – (Coadvised with Nathan R. Lovejoy). Dept. Ecology and Evolutionary Biology, U Toronto. *Currently* Postdocotral Fellow, Department of Biology, University of Toronto, Scarborough

Graduate students

- 2017 – Thomas Morgan (Ph.D.), Dept. Ecology and Evolutionary Biology, U Toronto.
- 2016 – Sean Anderson (MSc), Dept. Ecology and Evolutionary Biology, U Toronto.
- 2014 - present - Viviana Astudillo (Ph.D. Candidate), Dept. Ecology and Evolutionary Biology, U Toronto.
- 2013 - present - Sarah Steele (Ph.D. Candidate), Dept. Ecology and Evolutionary Biology, U Toronto.
- 2011- present - Frances Hauser (Ph.D. Candidate, co-supervised with Belinda Chang), Dept. Ecology and Evolutionary Biology, U Toronto.
- 2010-2015 - Jessica Arbour (Ph.D. Completed), Dept. Ecology and Evolutionary Biology, U Toronto. *Currently*: NSERC Postdoctoral Fellow, Sharlene Santana Lab, Department of Biology and Burke Museum, University of Washington, Seattle.
- 2010-2013 - Elford Liverpool (M.Sc. Completed co-supervised with P. DaSilva), Dept. Biological Sciences, U Guyana. *Currently*: Lecturer, School of Forestry, U Guyana, Georgetown; Scientific Personnel, Centre for the Study of Biological Diversity, University of Guyana.
- 2012-2103 - Stéphanie Lefebvre (M.Sc. Completed, co-supervised with N. R. Lovejoy), Dept. Ecology and Evolutionary Biology, U Toronto.
- 2010-2012 - Shannon Refvik (M.Sc. Completed, co-supervised with Belinda Chang), Dept. Ecology and Evolutionary Biology, U Toronto.

Visiting Graduate students

- 2016 – Alvar Hernando Callejas (M.Sc.). Masters Program in Ecology, Autonomous University of Madrid, Spain.
- 2014 - Ricardo Britzke (Ph.D. Supervisor: Claudio de Oliverira, co-supervisor: Jonathan S. Ready). Institute for Biosciences, State University of São Paulo, Botucatu, Brazil.

Undergraduate students

- 2015-2016 - Tobias Mankis, Dept. Ecology and Evolutionary Biology, U Toronto. EEB498-Advanced research studies
- 2015-2016 - Stephanie Blain, Dept. Ecology and Evolutionary Biology, U Toronto, EEB498-Advanced research studies. *Currently*: Ph.D Student, Dolph Schluter Lab, University of British Columbia, Vancouver, Canada.
- 2015 - Stephanie Blain, Dept. Ecology and Evolutionary Biology, U Toronto, NSERC-Undergraduate Student Research Award.
- 2014 - Victor de Brito, Federal University of Rio de Janeiro. Summer internship as part of FAPESP Science without Borders program. Dept. Ecology and Evolutionary Biology, U Toronto, Mississauga. *Currently*: MSc Student, Federal University of Rio de Janeiro.
- 2013- 2014 - Gillian Fuss, Dept. Ecology and Evolutionary Biology, U Toronto, EEB498-Advanced Research studies.
- 2012- 2013 - Viviana Astudillo-Clavijo, Dept. Ecology and Evolutionary Biology, U Toronto, EEB498-Advanced Research studies.

Graduate student supervisory committees

Dept. Ecology and Evolutionary Biology, U Toronto

- 2016: Yan Wang, PhD, (Dissertation Defense committee); Lauren Barth, PhD (Appraisal committee); Andrew Chin, PhD (Appraisal committee).
- 2015: Lucia Kwan, Ph.D. Completed; Danielle DeCarle, MSc.; James Boyko, MSc; Karl Lamothe, PhD (Appraisal committee).
- 2014: Ruben Cordero, MSc. Completed; Yan Wang, PhD, (Appraisal committee).
- 2013: Matthew Kolman, PhD, Completed; Emma Lehmborg, MSc. Completed; Bradley Doyle, MSc. Completed; Collin VanBuren, M. Sc. Completed.
- 2012: Devin Bloom, Ph.D. Completed; Derek Larson, Ph.D. (Appraisal committee.)
- 2011: Julio Rivera, Ph.D. Completed; Kristen Brochu, M.Sc. Completed.
- 2010: Gustavo Ybazeta, Ph.D. Completed (Defense committee); Christopher McGarrity, M.Sc. Completed, (Defense committee).
- 2009: Rosemary Gibson, Ms.C. Completed, (Defense committee); Christina Davy, Ph.D. Completed, (Appraisal committee); Christopher Blair, Ph.D. Completed, (Appraisal committee).

External graduate student committee roles

- 2017: Kimberly L. Foster, Ph.D., Committee Member, Western Michigan University, Kalamazoo, MI. Advisor: Devin Bloom
- 2017: Emanuell Ribeiro, Ph.D., Committee Member, University of Puerto Rico, Puerto Rico. Advisor: Ricardo Betancur
- 2008: Natasha Meliciano, Ms.C. Completed, Evaluation panel, Univ. Federal do Amazonas, Brazil. Advisor: Izeni P. Farias

Volunteers and interns

- 2013: Vanessa Minke-Martin, Fleming College intern, Program in Environmental Visual Communication, ROM ichthyology research and 100 anniversary.
- 2012: Saili Bunde, Fleming College intern, Forensic Sciences, ROM Laboratory of Molecular Systematics, Multilocus phylogeny of the cichlid genus *Geophagus*.
- 2011: Rex Tang, Volunteer at the ROM ichthyology lab, identifying and cataloguing of fish samples from Costa Rica and Venezuela.
- 2010-2011: Jared Sheath, Co-op volunteer High School student, organization of the ROM-Ichthyology tissue collection
- 2009-2010: Jackie Hung, Volunteer student, organization of the ROM-Ichthyology tissue collection.
- 2009: Paul Cheung, Undergraduate volunteer at the ROM Laboratory of Molecular Systematics, Multilocus phylogeny of the cichlid genus *Geophagus*.
- 2009: Kevin Shu, Co-op volunteer High School student, organization of the ROM-Ichthyology tissue collection.
- 2006-2007: Undergraduate Mentor. Undergraduate Mentoring in Environmental Biology Program, National Science Foundation. Students: Cassidy Crane and Crystal Watkins, projects: A multilocus phylogeny of the Neotropical Cichlidae and Feeding performance of Neotropical cichlids on benthic prey.
- 2006: Undergraduate Mentor. Research Experience for Undergraduates Program, National Science Foundation. Student: Cassidy Crane, project: A phylogeny of the Neotropical Cichlidae based on ribosomal 16S sequences.
- 2005-2006: Undergraduate Mentor. Section of Integrative Biology, University of Texas at Austin. Students: Zack Lanfear, Sheng Ma. Project: Postzygotic hybrid inviability in sunfishes in the genus *Lepomis*.
- 1998-2003: Undergraduate Mentor, Department of Wildlife and Fisheries Sciences, Texas A&M University. Students: Stuart Willis, Michele Pepperman, Jeremy Walther. Various projects on fish ecology and behavior.

Courses taught at Dept. Ecology and Evolutionary Biology, U Toronto

2014-2016 - Approaches to Study Biodiversity (EEB 466H) – Undergraduate.
2012-2015 - Advanced Research Studies (EEB 498Y) – Undergraduate.
2011-2016 - Diversity of Fishes (EEB 382H) – Undergraduate.
2010 - Faculty Research Course (EEB 1100H) – Graduate.
2008-2010 - Seminar in Ecology (EEB495Y, Fall) – Undergraduate.

Field expeditions (Last 10 years):

Summer 2017: Lake Superior, Ontario, Canada
Spring 2017: Uruguay, Laguna Merin, Uruguay and Río de la Plata basins
Fall 2016: Suriname, Saramacca and Commewijne rivers
Spring 2016: Guyana, Mazaruni basin;
Fall 2014: Suriname, Marowijne, Corantijn, Suriname basins
Spring 2014: Guyana, Potaro, Kuribrong basins
Spring 2012: Ecuador, Pacific versant of the Andes
Spring 2011: Guyana, upper Mazaruni basin
Spring 2010: Guyana, Berbice, Rupununi basin, Trinidad and Tobago
Spring 2009: Guyana, Rupununi basin
Spring 2008: Guyana, upper Mazaruni basin
Fall 2008: Brazil, Iriri-Xingu basin
Fall 2007: Mexico, Chiapas, Lacanjá, Cedros basins
Spring 2005: Venezuela, upper Orinoco, Mavaca, Ocamo basins
Spring-Fall 2005: Central Texas basins

Service:

Editorial Board Membership

2017-Present - Associate Editor, *Molecular Phylogenetics and Evolution*
2016-Present - Experts Directory for the Invading Species Hotline and EDDMapS Ontario, Invading Species Awareness Program, Ontario Federation of Anglers and Hunters
2014-Present - Associate Editor, *Neotropical Ichthyology*
2010-Present - Editorial Board, *Canadian Journal of Zoology*

Selected Committees

2017 – Symposium coordinator, Neotropical cichlids, in “II Symposium on Phylogeny and Classification of Neotropical Fishes”, Londrina, Pará State, Brazil, 23-27 October, 2017.
2015 - Chair, Search Comm. Curator of Ornithology, Dept. Natural History, Royal Ontario Museum.
2014-2015 - Member, Royal Ontario Museum Executive Group
2014-2015 - Member, Royal Ontario Museum Collections, Exhibits and Research Comm.
2012-2014 - Member, Graduate Affairs Comm., Dept. Ecology and Evolutionary Biology, U Toronto.
2011-2012 - Member, Graduate Admissions Comm., Dept. Ecology and Evolutionary Biology, U Toronto.
2009-present - Chair, Collections Comm., Dept. Natural History, Royal Ontario Museum.
2009-present - Co-chair, Animal Care Comm., Royal Ontario Museum.
2009-present – Peer-review committee, Royal Ontario Museum Governors.

Ad-hoc referee for research funding agencies

U.S. National Science Foundation; United States-Israel Binational Science Foundation; National Geographic Society, Committee for Research and Exploration; American Cichlid Association, Jordan Endowment Fund.

Referee for peer-reviewed publications

American Museum Novitates, Aqua: International Journal of Ichthyology, Axios Reviews, Biological Journal of the Linnean Society, Biota Colombiana, BMC Evolutionary Biology, Checklist, Copeia, Cybium, Ecology, Environmental Biology of Fishes, Evolution, Genetica, Hydrobiologia, International Journal of Evolutionary Biology, Journal of Anatomy, Journal of Biogeography, Journal of Fish Biology, Memoria de la Sociedad de Ciencias Naturales La Salle, Molecular Ecology, Molecular Phylogenetics and Evolution, Neotropical Ichthyology, Oikos, Organisms Diversity and Evolution, PanAmerican Journal of Aquatic Sciences, PLoS ONE, Proceedings of the Biological Society of Washington, Proceedings of the Royal Society Series B, Systematic Biology, Systematics and Biodiversity, Zoomorphology, Zootaxa

Professional societies:

American Society of Ichthyologists and Herpetologists, Society of Systematic Biologists, Society for the Study of Evolution, Brazilian Society of Ichthyologists, Fisheries Society of the British Isles, American Society of Naturalists, Society for Integrative and Comparative Biology.

Invited scientific talks (Last 5 years, 18 total since 2004):

2017 – Macroevolutionary approaches to understanding Neotropical fish diversity. Department of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor, MI, January 17, 2017.
2015 - Phylogenomics and patterns of macroevolutionary divergence in Neotropical cichlid fishes. Department of Biology, University of Puerto Rico, San Juan, PR, December 1, 2015.
2014 - Ancient adaptive radiations and ecomorphological convergence in Neotropical cichlid fishes. Department of Biology, Rochester University, Rochester, New York, USA, February 7.
2013 - Ancient adaptive radiations and ecomorphological convergence in Neotropical cichlid fishes. Department of Biology, Dalhousie University, Nova Scotia, Canada, September 19.
2013 - Keynote speaker: “Molecular phylogenies of non-ostariophysan clades: what they tell us about Neotropical fish evolution”. XXth Brazilian encounter of Ichthyologists, Maringá, Brazil.
2011 - Timing and patterns of diversification in Neotropical cichlid fishes. Museu de Ciências e Tecnologia, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil.
2011 - Phylogeny and adaptive radiations in Neotropical Cichlid Fishes. Department of Ecology and Evolutionary Biology, University of Toronto, Mississauga.

Invited Popular Talks (Last 5 years, 14 total since 2005):

2016 – Exploring and conserving the diversity of fishes in the Guiana Shield. Annual Convention of the Canadian Association of Aquarium Clubs, London, Ontario, May 21, 2016.
2016 – From fossils to genomes: Building the tree of life and the timeline of evolution in a modern museum. Annual Research Colloquium, Royal Ontario Museum, Toronto, February 23, 2016.
2014 – The found fishes of the “Lost World”: exploration, discovery and conservation of fishes in the Guiana Shield. Annual Meeting of the Canadian Association of Aquarium Clubs, Toronto, May 16-18, 2014.
2013 - Finding fishes in the Lost World and other adventures in South American fish evolution. Ottawa Valley Aquarium Society, Ottawa, March 23, 2013.
2012 - The found fishes of the Lost World: Diversity and conservation of the strangest fishes of South America, Durham Region Aquarium Society, Feb 11, 2012.

Contributed Scientific Talks and Presentations (Last 5 years, 39 total since 1999, *indicates students or postdoctoral researchers):

2017 - Hauser FE*, Ilves KL*, Castiglione GM, Schott, RK, **López-Fernández, H**, Chang BSW. Functional divergence of the dim light opsin following cichlid invasion of Central America. Evolution Meeting, Portland, OR, USA.

- 2016 – **López-Fernández, H.**, K.L. Ilves* & M.C. Malabarba. Phylogenomics, Fossils and a Tip-dating approach to the Age of Neotropical Cichlids. 100th Joint Meeting of Ichthyology and Herpetology, American Society of Ichthyologists and Herpetologists, New Orleans, LA, USA.
- 2016 – Ilves, K.L.* & **H. López-Fernández**. A Targeted Exon approach for (Neotropical) Cichlid Phylogenomics. 100th Joint Meeting of Ichthyology and Herpetology, American Society of Ichthyologists and Herpetologists, New Orleans, LA, USA.
- 2016 – Steele, S.E.* & **H. López-Fernández**. Examining the Role of Ontogeny and Body Size Evolution in the Diversification of Neotropical Cichlid Fishes. 100th Joint Meeting of Ichthyology and Herpetology, American Society of Ichthyologists and Herpetologists, New Orleans, LA, USA.
- 2016 - Astudillo-Clavijo, V*, K.L. Ilves*, W. Salzburger, M.L.J. Stiassny, **H. López-Fernández**. A Phylogenomic Tree for African non-Rift-Lake Cichlids. 100th Joint Meeting of Ichthyology and Herpetology, American Society of Ichthyologists and Herpetologists, New Orleans, LA, USA.
- 2016 - Hauser, F*, K.L. Ilves*, R. Schott, **H. López-Fernández** & B. Chang. Evolutionary Dynamics of the Dim-Light Visual Pigment in Neotropical Cichlid Fishes . 100th Joint Meeting of Ichthyology and Herpetology, American Society of Ichthyologists and Herpetologists, New Orleans, LA, USA.
- 2016 – Blain, S*, Astudillo-Clavijo, V*. Steele, S.E.* , Ilves, K.L. & **López-Fernández, H.** Phylogeography and morphological evolution in *Geophagus* cichlids. 46th Ontario Ecology, Ethology and Evolution Colloquium, University of Toronto, Toronto, ON, Canada.
- 2016 – Mankis, T*, Astudillo-Clavijo, V. & **López-Fernández, H.** 2016. The link between swimming morphology and habitat in a cichlid adaptive radiation. 46th Ontario Ecology, Ethology and Evolution Colloquium, University of Toronto, Toronto, ON, Canada.
- 2015 - **López-Fernández, H***, Alofs, K.M., Liverpool, E.A. and De Brito, V. 2015. Gold mining changes composition, habitat correlates and morphological attributes of an endemic fish assemblage in the Guiana Shield highlands, Guyana, South America. 100th Annual meeting of the Ecological Society of America, Baltimore, Maryland, USA.
- 2015 - Steele, S.E*, M.A. Kolmann & **H. López-Fernández**. 2015. Body size diversity across the fish tree of life and the impact of environment on maximum body size: does water and macrohabitat type shape the distribution of size? 100th Annual meeting of the Ecological Society of America, Baltimore, Maryland, USA.
- 2015 - Astudillo-Clavijo, V*. Arbour, J.H. & **H. López-Fernández**. 2015. Selection towards different adaptive optima drove the early diversification of locomotor phenotypes in the radiation of Neotropical geophagine cichlids. 100th Annual meeting of the Ecological Society of America, Baltimore, Maryland, USA.
- 2014 - Astudillo-Clavijo, V & **López-Fernández, H**, Ecomorphological diversification of Neotropical cichlids. Ontario Ecology, Ethology and Evolution Colloquium, University of Guelph, Guelph, Canada, May 8-10
- 2013 - Arbour, J.H. & **López-Fernández, H**, Patterns of morphological evolution support an ancient adaptive radiation in geophagine cichlids. Joint Meetings of Ichthyology and Herpetology, Albuquerque, USA
- 2013 - Lefebvre, S, Lujan N.K. & **López-Fernández, H**, Morphology and diet correlations in Neotropical suckermouth armored catfishes of the tribe Ancistrini (Siluriformes: Loricariidae). Joint Meetings of Ichthyology and Herpetology, Albuquerque, USA, July.
- 2013 - Steele, S.E. & **López-Fernández, H**, Exploring body size frequency distributions in Neotropical fishes and model systems. Joint Meetings of Ichthyology and Herpetology, Albuquerque, USA, July.
- 2013 - **López-Fernández, H**, K.M. Alofs, D.C. Taphorn, E.A. Liverpool & C.R. Bernard. Endemic fishes of the upper Mazaruni River basin, Guyana: the importance of exploration and discovery in assessing conservation priorities for freshwater fish
- 2013 - Schott, R.K., Hauser F.E., Refvik, S. **López-Fernández, H**, & Chang. B.S.W. Molecular evolution of dim-light visual pigments in lake and riverine cichlids. Society for Molecular Biology and Evolution Annual Meeting, Chicago, IL, 9 July.
- 2012 - **López-Fernández, H**, J. Arbour, K. O. Winemiller & R.L. Honeycutt. Time and patterns of lineage

and phenotype evolution in Neotropical cichlid fishes. *Evolution* 2012, Ottawa, Canada, July 2012 - J. Arbour & **H. López-Fernández**. Evolutionary trends in the functional morphology of Neotropical Geophagine cichlids. *Evolution* 2012, Ottawa, Canada, July 2012 - S. Refvik, **H. López-Fernández, H.** & B. Chang. Molecular evolution of Rhodopsin in Neotropical cichlids: Differences in selective constraint between African and Neotropical dim-light visual pigments. Meeting of the Society for Molecular Biology and Evolution, Dublin, Ireland, June.

Media interviews:

- “Journal Club PNAS: Analysis of bony fishes suggests convergent evolution is more prevalent than previously thought”; interview about the paper “Widespread ecomorphological convergence in multiple fish families spanning the marine–freshwater interface” by Aaron M. Davis and Ricardo Betancur-R, published in *Proceedings of the Royal Society Series B*, 2017, 284 2017. DOI: 10.1098/rspb.2017.0565 (May 20, 2017)
- “Hernán López-Fernández: Curator of Ichthyology in the Department of Natural History, Royal Ontario Museum”, biographical interview, *Boletim da Sociedade Brasileira de Ictiologia*, No. 115, (September 30, 2015).
- “Upper Mazaruni’s rare fish species facing extinction threat from mining” (Front page) interviewed by Gaulbert Sutherland, *Stabroek News*, Georgetown, Guyana, (May 18, 2014).
- “An ancient meal with modern Romulans”, in “Fed” by Corey Mintz, *The Toronto Star*, Toronto, Canada (January 11, 2014).
- “The Science Show” by Robyn Williams. ABC Radio National, Australia (2011).

Research featured in popular printed media (not comprehensive):

Buntbarsche Bulletin (2004), *Tropical Fish Hobbyist* (August 2004, February 2007), *DATZ Aquarien Terrarien* (2004), *ROM Magazine* (2008), *The Toronto Star* (2009, 2011), *Practical Fish Keeping* (2014).

Research featured in on-line media (not comprehensive):

Texas A&M University AgNews (2004), *innovations-report.de* (2004), *Practical Fish Keeping online news* (2004, 2005, 2006), *scienceblog.com* (2004), *sciencedaily.com* (2004), *Petfishtalk.com* (2004), *news.bio-medicine.org* (2004), *theaquariologist.com* (2008), *species.wikimedia.org* (2008), *afishtale.com* (2008), *fishforums.net* (2004), *aquarist.info* (2008), *aquanet.de* (2008)