D. Luke Mahler

CURRICULUM VITAE

Department of Ecology & Evolutionary Biology, The University of Toronto
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Professional Appointments

July 2015 – Present – Assistant Professor, Dept. of Ecology & Evolutionary Biology, University of Toronto
Oct. 2014 – July 2015 – Postdoctoral Fellow, Dept. of Ecology & Evolutionary Biology, University of Kansas (PI: R. Glor)
Oct. 2013 – Oct. 2014 – Postdoctoral Fellow, Dept. of Evolution & Ecology, UC Davis (PI: P. Wainwright)
Oct. 2011 – Oct. 2013 – Center for Population Biology Postdoctoral Fellow, UC Davis
Nov. 2011 – Co-chair, Anoline Lizard Specialist Group, IUCN Species Survival Commission

Education

2012 – Ph.D., Organismic and Evolutionary Biology, Harvard University (advisor: J. Losos)
2003 – B.A., Biology with Honors, University of Chicago

Grants, Honors, and Awards

2016 – Dimensions of Biodiversity Grant, National Science Foundation (as Senior Personnel with collaborator Ian Wang, UC Berkeley; $1,486,000 USD)
2016 – Connaught New Researcher Award ($35,000 CAD)
2015 – Discovery Grant, NSERC ($155,000 CAD)
2015 – John R. Evans Leaders Fund, CFI ($359,965 CAD)
2015 – Ontario Research Fund, Ontario MRI ($359,965 CAD)
2011 – R. A. Fisher Prize, Society for the Study of Evolution ($1,000 USD)
2011 – Center for Population Biology Postdoctoral Fellowship, University of California at Davis
2010 – NESCent Graduate Student Fellowship ($12,000 USD)
2010 – NESCent Short Term Visitor Award ($3,200 USD)
2010 – Certificate of Excellence, Derek Bok Teaching and Learning Center, Harvard University
2009 – Robert A. Chapman Memorial Scholarship, Harvard University ($5,125 USD)
2008 – Doctoral Dissertation Improvement Grant, National Science Foundation ($11,984 USD)
2008 – Ken Miyata Field Research Award ($2,300 USD)
2008 – Certificate of Excellence, Derek Bok Teaching and Learning Center, Harvard University
2008 – Conference Grant, Graduate Student Council, Harvard University ($1,000 USD)
2008 – Summer Research Grant, David Rockefeller Center for Latin American Studies ($2,500 USD)
2007 – Henri Seibert Award for Best Presentation, Joint Herpetology Meetings, St. Louis ($200 USD)
2007 – Winter Research Grant, David Rockefeller Center for Latin American Studies ($2,200 USD)
2007 – Student Meeting Travel Award (New Zealand), Society for the Study of Evolution ($700 USD)
2007 – Putnam Expeditionary Award for fieldwork in Tanzania, Harvard University ($17,210 USD)
2005 – Graduate Research Fellowship Award, National Science Foundation ($90,000 USD)

2003 – Honors Thesis, BA in Ecology and Evolution (Adv: Paul Sereno), University of Chicago
2002 – Summer Research Grant, Garfield Park Conservatory ($100 USD)

Published and In Press Articles

Medina, I., J. B. Losos, and D. L. Mahler. *In press*. Evolution of dorsal pattern variation in Greater Antillean *Anolis* lizards. *Biological Journal of the Linnean Society*

Mahler, D. L., S. M. Lambert, A. J. Geneva, J. Ng, S. B. Hedges, J. B. Losos, and R. E. Glor. 2016. Discovery of a giant chameleon-like lizard (*Anolis*) on Hispaniola and its significance to understanding replicated adaptive radiations. *The American Naturalist* 188:357-364.

Algar, A. C., and D. L. Mahler. 2015. Area, climate heterogeneity, and the response of climate niches to ecological opportunity in island radiations of *Anolis* lizards. *Global Ecology and Biogeography*. DOI: 10.1111/geb.12327

Sherratt, E., M. del R. Castañeda, M. Garwood, D. L. Mahler, T. J. Sanger, A. Herrel, K. de Queiroz, J. B. Losos. 2015. Amber fossils demonstrate deep-time stability of Caribbean lizard communities. *PNAS* 112:9961-9966.

Revell, L. J., D. L. Mahler, R. G. Reynolds, and G. J. Slater. 2015. Placing cryptic, recently extinct, or hypothesized taxa into an ultrametric phylogeny using continuous character data: a case study with the lizard *Anolis roosevelti*. *Evolution* 69:1027-1035.

Helmus, M. R., D. L. Mahler, and J. B. Losos. 2014. Island biogeography in the Anthropocene. *Nature* 513:543-546.

Thomson, R., D. C. Plachetzki, D. L. Mahler, and B. R. Moore. 2014. A critical appraisal of the use of microRNA data in phylogenetics. *Proceedings of the National Academy of Sciences* 111:E3659-E3668.

Mahler, D. L., and T. Ingram. 2014. Phylogenetic comparative methods for studying clade-wide convergence. Pp. 425-450 in L. Z. Garamszegi, Ed. *Modern Phylogenetic Comparative Methods and their Application in Evolutionary Biology*. Springer-Verlag, Berlin.

Rocha, L. A., and 122 others, including D. L. Mahler. 2014. Specimen collection: An essential tool. *Science* 344:814-815.

Mahler, D. L., T. Ingram, L. J. Revell, and J. B. Losos. 2013. Exceptional convergence on the macroevolutionary landscape in island lizard radiations. *Science* 341:292-295. **Recommended by Faculty of 1000.*

Ingram, T., and D. L. Mahler. 2013. SURFACE: Detecting convergent evolution from comparative data by fitting Ornstein-Uhlenbeck models with stepwise Akaike Information Criterion. *Methods in Ecology and Evolution* 4:416-425.

Lambert, S. M., A. J. Geneva, D. L. Mahler, and R. E. Glor. 2013. Using genomic data to revisit an early example of reproductive character displacement in Haitian *Anolis* lizards. *Molecular Ecology* 22:3981-3995.

Böhm, M. and 226 others, including D. L. Mahler. 2013. The conservation status of the world's reptiles. *Biological Conservation* 157:372-385.

Algar, A. C., D. L. Mahler, R. E. Glor, and J. B. Losos. 2012. Niche incumbency, dispersal limitation, and climate shape geographical distributions in a species-rich island adaptive radiation. *Global Ecology and Biogeography*. 22:391-402.

Revell, L. J., D. L. Mahler, P. R. Peres-Neto, and B. D. Redelings. 2012. A new method for identifying exceptional phenotypic diversification. *Evolution* 66:135-146.

Sanger, T. J., D. L. Mahler, A. Abzhanov, and J. B. Losos. 2012. Roles for modularity and constraint in the evolution of cranial diversity among *Anolis* lizards. *Evolution* 66:1525-1542.

Losos, J. B., M. Woolley, D. L. Mahler, O. Torres-Carvajal, K. E. Crandell, E. Schaad, A. E. Narváez, F. Ayala-Varela, and A. Herrel. 2012. Notes on the natural history of the little-known Ecuadorian horned anole, *Anolis proboscis*. *Breviora* 531:1-17.

Stuart, Y. E., M. A. Landestoy, D. L. Mahler, D. Scantlebury, A. J. Geneva, P. S. VanMiddlesworth, and R. E. Glor. 2012. Two new introduced populations of the Cuban green anole (*Anolis porcatus*) in the Dominican Republic. *IRCF Reptiles & Amphibians* 19:71-75.

Ingram, T., and D. L. Mahler. 2011. Perspective: Niche diversification follows key innovation in Antarctic fish radiation. *Molecular Ecology* 20:4590-4591.

Falk, B. G., D. L. Mahler, and S. L. Perkins. 2011. Tree-based delimitation of morphologically ambiguous taxa: a survey of the lizard malaria parasites of Hispaniola. *International Journal for Parasitology* 41:967-980.

Mahler, D. L., and R. E. Glor. 2011. Natural History Note: *Anolis cybotes cybotes* (Hispaniolan Stout Anole) and *Anolis marron* (Jacmel Gracile Anole). Predation/Prey. *Herpetological Review* 42:272-273.

Mahler, D. L., L. J. Revell, R. E. Glor, and J. B. Losos. 2010. Ecological opportunity and the rate of morphological evolution in the diversification of Greater Antillean anoles. *Evolution* 64:2731-2745.
**Awarded Fisher Prize from the Society for the Study of Evolution*

Losos, J. B., and D. L. Mahler. 2010. Adaptive radiation: the interaction of ecological opportunity, adaptation, and speciation. Pp. 381-420 in M. A. Bell, D. J. Futuyma, W. F. Eanes, and J. S. Levinton, Eds. *Evolution Since Darwin: The First 150 Years*. Sinauer Associates, Sunderland, MA.

Revell, L. J., D. L. Mahler, J. R. Sweeney, M. Sobotka, V. E. Fancher, and J. B. Losos. 2010. Nonlinear selection and the evolution of variances and covariances for continuous characters in an anole. *Journal of Evolutionary Biology* 23:407-421.

Lovely, K. R., D. L. Mahler, and L. J. Revell. 2010. The rate and pattern of tail autotomy in five species of Puerto Rican anoles. *Evolutionary Ecology Research* 12:67-88.

Pinto, G., D. L. Mahler, L. J. Harmon, and J. B. Losos. 2008. Testing the island effect in adaptive radiation: Rates and patterns of morphological diversification in Caribbean and mainland *Anolis* lizards. *Proceedings of the Royal Society B* 275:2749-2757.

Gifford, M. E., A. Herrel, and D. L. Mahler. 2008. The evolution of locomotor morphology, performance, and anti-predator behaviour among populations of *Leiocephalus* lizards from the Dominican Republic. *Biological Journal of the Linnean Society* 93:445-456.

Swenson, N., D. L. Mahler, M. Ferro, and A. Ritchie. 2007. The energetic determination, spatial dispersion and density dependence of *Myrmeleon* pits in Las Cruces, Costa Rica. *Biotropica* 39:774-777.

Mahler, D. L., and M. Kearney. 2006. The palatal dentition in squamate reptiles: morphology, development, attachment, and replacement. *Fieldiana: Zoology, New Series* 182:1-61.

Mahler, L. 2005. Definitive record of Abelisauridae (Dinosauria: Theropoda) from Morocco. *Journal of Vertebrate Paleontology* 25:234-237.

Submitted Articles (manuscripts available upon request)

Ingram, T., A. Harrison, D. L. Mahler, M. R. Castañeda, R. E. Glor, A. Herrel, Y. E. Stuart, and J. B. Losos. *In revision*. Comparative tests of the role of dewlap size in *Anolis* lizard speciation.

Gunderson, A., D. L. Mahler, and M. Leal. *In review.* A functional analysis of the contribution of climatic niche divergence to adaptive radiation.

Afkhami, M. E., D. L. Mahler, J. H. Burns, M. G. Weber, M. F. Wojciechowski, J. Sprent, and S. Y. Strauss. *In review*. Phylogenetic patterns of nodulation across legumes and the relationship between a resource mutualism and diversification.

Informal Publications

Mahler, D. L., A. Herrel, and J. B. Losos. Eds. 2010. *Anolis* Newsletter VI, Museum of Comparative Zoology, Harvard University, Cambridge, MA. 213 pp.

Invited Seminars

2016 – American Society of Naturalists VP Symposium; Joint Evolution Meeting; Austin, TX
2016 – University of Massachusetts Boston; Boston, MA
2016 – University of Michigan; Ann Arbor, MI (*Early Career Scientists Symposium*)
2015 – Pontificia Universidad Católica del Ecuador; Quito, Ecuador
2015 – University of Toronto Mississauga; Mississauga, ON
2015 – Forecasting Evolution Conference; Lisbon, Portugal
2015 – University of Texas at Austin; Austin, TX
2014 – Icesi University; Cali, Colombia
2014 – University of New Orleans; New Orleans, LA
2014 – Michigan State University; East Lansing, MI
2014 – University of North Carolina at Chapel Hill; Chapel Hill, NC
2014 – University of Toronto; Toronto, ON
2014 – UCLA; Los Angeles, CA
2013 – San Francisco State University; San Francisco, CA
2013 – Iowa State University; Ames, IA
2013 – Brigham Young University; Provo, UT
2012 – California Academy of Sciences; San Francisco, CA
2011 – UC Berkeley; Berkeley, CA (*MVZ Lunch Seminar*)
2011 – Joint Evolution Meeting; Norman, OK (*R. A. Fisher Prize Award Seminar)*
2011 – UC Davis (*CPB Fellowship Interview*)
2011 – University of Arizona (*G. G. Simpson Fellowship Interview*)
2010 – NESCent; Durham, NC

Contributed Presentations

2015 – SSAR Herpetology Meeting; Lawrence, KS
2015 – University of Toronto Atwood Colloquium; Toronto, Canada
2014 – American Society of Naturalists Meeting; Asilomar, CA
2013 – Society of Integrative and Comparative Biology Meeting; San Francisco, CA
2012 – Bay Area Biosystematists Meeting; Davis, CA
2012 – UC Berkeley "Herp Group" Seminar; Berkeley, CA
2012 – World Congress of Herpetology; Vancouver, Canada
2012 – Joint Evolution Meeting; Ottawa, Canada
2010 – Duke University, Durham, NC (*Systematics Group*)
2010 – Joint Evolution Meeting; Portland, OR
2009 – *Anolis* Symposium IV; Cambridge, MA
2009 – Joint Herpetology Meeting; Portland, OR
2009 – Joint Evolution Meeting; Moscow, ID
2009 – Society of Integrative and Comparative Biology Meeting; Boston, MA
2008 – Latin American Congress of Herpetology VIII; Havana, Cuba
2007 – Joint Herpetology Meeting; St. Louis, MO (**won best talk in Systematics and Evolution*)
2007 – Joint Evolution Meeting; Christchurch, New Zealand
2006 – Society of Integrative and Comparative Biology Meeting; Orlando, FL

Professional Service

Founder, Co-chair:	IUCN SSC Anoline Lizard Specialist Group, 2011-Present
Council Member:	Society of Systematic Biologists, 2016-Present
Board Member:	Scientific Advisory Board, The Reptile Database, 2014-Present
Panelist:	National Science Foundation

Reviewer:	Acta Oecol., Afr. J. Herpetol., Am. Nat., Austral Ecol., Bioinformatics, Biol. J. Linn. Soc., Biol. Lett., BMC Evol. Biol., Breviora, Copeia, Ecol. Monogr., Ecology, Ecol. Lett., Evolution, Evol. Dev., Evol. Ecol., Func. Ecol., Glob. Ecol. Biogeo., Herp. Cons. Biol., Herp. Rev, J. Evol. Biol., J. Herpetol., J. Trop. Ecol, Limnol. Oceanogr., Methods Ecol. Evol., Nat. Geo. (grant reviewer), Nature, Nature Comm., NSF (DEB grant reviewer), Oecologia, Proc. Roy. Soc. B, Rev. Biol. Trop., Science Advances, SDE Graduate Women in Science (grant reviewer), Syst. Biol., Trends Ecol. Evol., Zool. J. Linn. Soc.
Co-organizer:	*Anolis* Symposium IV, Cambridge, MA, 2009
Editor:	The 6th *Anolis* Newsletter, 2010, 213 pp. (proceedings for *Anolis* Symposium IV)
Subject Matter Editor:	Ecology, 2013-present (I currently serve as an *Ad Hoc* SME)

Mentoring

I have guided the following students in conducting research, conducting IUCN Red List assessments, performing fieldwork, writing manuscripts, and/or presenting results at meetings.

Christopher Boccia – 2016-present – MSc, U. Toronto
Michael Foisy – 2015-present – MSc, U. Toronto
James Boyko – 2015-present – MSc, U. Toronto
Sara Campitelli – 2015-present – Undergraduate, U. Toronto
Christopher Boccia – 2015-2016 – Undergraduate, U. Toronto
Leon Li – 2014-2014 – Undergraduate, UC Davis
Joy Doong – 2014-2014 – Undergraduate, UC Davis
Robyn Saiki – 2014-2014 – Undergraduate, UC Davis
Kendall Davidek – 2013-2013 – Undergraduate, UC Davis
Andrew Magee – 2012-2013 – Undergraduate, UC Davis
Yasel U. Alfonso – 2009-2009 – Undergraduate, Universidad de Oriente, Cuba
Travis Hagey – 2008-2009 – Graduate student, University of Idaho
Karen Lovely – 2007-2009 – Undergraduate, Harvard University
Hannah Frank – 2007-2009 – Undergraduate, Harvard University
Allison Hsiang - 2008-2008 – Undergraduate, Harvard University
Deborah Chang – 2007-2007 – Undergraduate, Harvard University

Teaching and Course Development

2016 – Diversity of Amphibians & Reptiles (EEB384). Sole instructor for semester long 3rd-year undergraduate course at the University of Toronto. Developed and delivered lectures and laboratories.
2013-2014 – Development of online teaching module about evolution with Howard Hughes Medical Institute (http://www.hhmi.org/biointeractive/lizard-evolution-virtual-lab)
2012-2014 – Instructor, *Bodega Applied Phylogenetics Workshop*, UC Davis (materials available here: http://treethinkers.org/2014-workshop/)
2013 – Delivered 3-day workshop entitled *"Phylogenetically Correct Analysis of Species Data in Ecology and Evolution,"* UC Davis (materials available here: http://lukemahler.com/teaching/)
2012 – Lecturer, *Population Biology Graduate Group Core Sequence*, UC Davis (2 lectures)
2011 – TA, *The Evolution of the Niche*, Harvard University
2010 – TA, *Herpetology*, Harvard University (*Awarded Certificate of Excellence*)
2009 – Lecturer, *Vertebrate Evolution*, Harvard University (1 lecture)
2009 – Created, presented *Life's a Niche*, a Harvard Museum of Natural History public lecture and museum tour
2008 – Created, presented *Dinosaur Diversity*, a Harvard Museum of Natural History adult education course

2007 – TA, *Vertebrate Evolution*, Harvard University (*Awarded Certificate of Excellence*)
2005 – TA, *Evolution*, Washington University
2005 – Lecturer, *Evolution*, Washington University (1 lecture)
2000-2004 – Docent, lecturer, tutor, and chaperone, *Project Exploration* (*Project Exploration*, a Chicago non-profit dedicated to improving science education for women and minorities, received the 2009 US Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring)
2003 – TA, *Stones and Bones*, University of Chicago.

Media Outreach

In addition to the above activities, I communicate my research to the public by speaking with science reporters about my work (articles about recent work have appeared in Natural History Magazine, National Geographic Online, the Toronto Star, the LA Times, and several other online media publications). The following are selected *in depth* interviews I have done for various media outlets.

2016-06-26 – Interviewed about my research for *Toronto Star* article "New chameleon-like lizard species discovered in Dominican Republic"
2016-06-22 – Interviewed about my research for *CBC News* article "Giant chameleon-like lizard discovered in Dominican Republic"
2016-01-25 – Interviewed to provide expert commentary on other published research for *Toronto Star* article "What can you do with 300,000 dead bees?"
2015-07-23 – Interviewed to provide expert commentary on other published research for *Toronto Star* article "When snakes walked the Earth…sort of"
2014-09-24 – Interviewed about my research for *Wired.com* article "How global shipping could change our understanding of biodiversity"
2014-09-18 – Interviewed to provide expert commentary on other published research for *ClimateWire* article "Speedy lizards show ability to adapt to higher temperatures"
2013-07-18 – Interviewed about my research for *National Geographic Online's Not Exactly Rocket Science* article "Lookalike lizards and the predictability of evolution"
2013-07-18 – Interviewed about my research for *LiveScience* article "Caribbean lizards suggest evolution more predictable than thought"
2013-07-18 – Interviewed about my research for *Los Angeles Times* article "Evolution not as unpredictable as thought, study says"
2013-07-24 – Interviewed about my research for a radio segment on *Deutschlandradio* called "Evolution mit wiederholung"
2013-07-18 – Interviewed about my research for *Natural History Magazine* article "Evolutionary reruns"