

Curriculum vitae of

Paul M. Hime

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PRESENT POSITIONS

2016 - 2017 – National Center for Supercomputing Applications Blue Waters Graduate Research Fellow

2013 - 2017 – National Science Foundation Graduate Research Fellow

EDUCATION

2013 - spring 2017 (expected) – Ph.D. Candidate, Department of Biology, University of Kentucky (advisor: Dr. David W. Weisrock)

2011 - 2013 – Ph.D. Student, Department of Biology, University of Kentucky (advisor: Dr. David W. Weisrock)

2000 - 2004 – B.A., Biology, Washington University in St. Louis (advisor: Dr. Jonathan B. Losos)

DOCTORAL COMMITTEE

Drs. David W. Weisrock (Chair), Catherine R. Linnen, David F. Westneat, Christopher L. Schardl, Scott V. Edwards (Myrle E. and Verle D. Nietzel Visiting Distinguished External Examiner, Harvard University)

PREVIOUS APPOINTMENTS

2011 - 2013 – Graduate Research Assistant, Department of Biology, University of Kentucky (advisor: Dr. David W. Weisrock)

2007 - 2011 – Amphibian and Reptile Keeper, Saint Louis Zoological Park (curator: Dr. Jeffrey Ettlting)

2006 - 2007 – Research Technician and Laboratory Manager, Washington University in St. Louis (PI: Dr. Ralph S. Quatrano)

2004 - 2006 – Research Technician and Animal Care Technician, Washington University in St. Louis (PI: Dr. Jonathan B. Losos)

COMPETITIVE FELLOWSHIPS

2016 – Blue Waters Graduate Fellowship, National Center for Supercomputing Applications (\$50,000)

2013 - 2016 – Graduate Student Incentive Program Award, University of Kentucky (four-year total of \$6,500)

2013 – Graduate Research Fellowship, National Science Foundation (\$136,000)

RESEARCH GRANTS

2016 – Doctoral Dissertation Improvement Grant, National Science Foundation (\$18,967)

2016 – Conservation Research Grant, North Carolina Wildlife Resources Commission (\$3,577)

2014 – G. Flora Ribble Graduate Research Grant, University of Kentucky (\$700)

- 2014 – Graduate Research Award, Kentucky Academy of Sciences (\$966)
- 2013 – Graduate Student Research Award, Society of Systematic Biologists (\$2,000)
- 2013 – Ron Goellner Conservation Grant, Cryptobranchid Interest Group (\$1,000)
- 2013 – G. Flora Ribble Graduate Research Grant, University of Kentucky (\$700)
- 2012 – G. Flora Ribble Graduate Research Grant, University of Kentucky (\$500)
- 2011 – Wildlife Conservation Grant, Fresno Chaffee Zoo (\$1,964)
- 2010 – G. Flora Ribble Research Award, University of Kentucky (\$2,000)
- 2009 – WildCare Institute Conservation Grant, St. Louis Zoo (\$2,000)
- 2009 – Ron Goellner Conservation Grant, Cryptobranchid Interest Group (\$1,000)

TRAVEL GRANTS

- 2017 – G. Flora Ribble Travel Enhancement Grant, University of Kentucky (\$500)
- 2017 – Professional Development Travel Grant, University of Kentucky (\$400)
- 2016 – G. Flora Ribble Travel Enhancement Grant, University of Kentucky (\$500)
- 2015 – Professional Development Travel Grant, University of Kentucky (\$400)
- 2014 – G. Flora Ribble Travel Enhancement Grant, University of Kentucky (\$500)
- 2014 – Professional Development Travel Grant, University of Kentucky (\$400)
- 2014 – Ohio State Model-Based Phylogeography Workshop, NSF Travel Grant (\$600)
- 2013 – G. Flora Ribble Travel Enrichment Grant, University of Kentucky (\$500)
- 2013 – Professional Development Travel Grant, University of Kentucky (\$400)
- 2013 – U.T. Austin Phylogenomics Symposium, NSF Travel Grant (\$600)

AWARDS

- 2016 – University of Kentucky Myrle E. and Verle D. Nietzel Outstanding Dissertation Award
- 2015 – Top 300 Reviewers for *Molecular Ecology*

ARTICLES IN PREPARATION

- Hime PM**, Briggler JT, Reece JS & Weisrock DW. Genome scans uncover a phylogenetically conserved system of female heterogamety in the deeply divergent salamander family Cryptobranchidae.
- Hime PM**, Lemmon AR, Lemmon EM, Prendini ES, Raxworthy CJ, Brown JM, Thomson RC, Kortyna M, Peloso PLV, Noonan BP, Keogh JS, Donnellan SC, Pyron RA, Kratovil JK, Kunte K, Das S, Gaitonde N, Ron S, Labisko J, Mueller RL, Green DM & Weisrock DW. Phylogenomics of Amphibia.
- Hime PM**, Unger SD, Briggler JT, Freake M, McMillan A, Williams L, Drayer AN, Foley MF, Groves J, Lemmon EM & Weisrock DW. Cryptic branches in the *Cryptobranchus* tree; Genome-scale data reveal an underestimation of species diversity in North America's largest salamander.

PUBLICATIONS (*Denotes undergraduate co-author)

- [7] **Hime PM**, Hotaling SR, Grewelle RE*, O'Neill EM, Shaffer HB, Voss SR & Weisrock DW. 2016. The influence of locus number and information content on species delimitation: an empirical test case in an endangered Mexican salamander. *Molecular Ecology*. 25(23):5959–5974.
- [6] Murphy MO, Price SJ, **Hime PM**, Drayer AN & Weisrock DW. 2016. A review of common mudpuppy (*Necturus maculosus*) capture methods and a description of a revised trap design. *Herpetological Review*. 47(4):575-578.
- [5] **Hime PM**, Drayer AN & Price SJ. 2014. Natural History Notes. *Necturus maculosus* (common mudpuppy). Larval Guarding. *Herpetological Review*. 45(3):474.
- [4] **Hime PM**, Drayer AN & Price SJ. 2014. Natural History Notes. *Aneides aeneus* (green salamander). Death Feigning. *Herpetological Review*. 45(3):470.

- [3] Browne RK, Li H, Wang Z, Okada S, **Hime PM**, McMillan A, Wu M, Diaz R, McGinnity D & Briggler JT. 2013. The giant salamanders (Cryptobranchidae): Part B. Biogeography, ecology, and reproduction. *Amphibian and Reptile Conservation*. 5(4):30-50.
- [2] Browne RK, Li H, Wang Z, **Hime PM**, McMillan, Wu M, Diaz R, Hongxing Z, McGinnity D & Briggler JT. 2012. The giant salamanders (Cryptobranchidae): Part A. Paleontology, phylogeny, genetics, and morphology. *Amphibian and Reptile Conservation*. 5(4):17-29.
- [1] Sanger TJ, **Hime PM**, Johnson MA, Losos JB & Diani VJ. 2008. Laboratory protocols for captive husbandry and embryo collection of *Anolis* lizards. *Herpetological Review*. 39(1):58-63.

INVITED TALKS

- 2017 (upcoming) – Title TBD. 8th Hellbender Symposium Keynote Address. Jackson, MS.
- 2016 – Varied approaches to hellbender conservation in Kentucky and beyond: Field surveys, genetic sex determination, and species boundaries. Purdue University Hellbender Working Group Meeting. West Lafayette, IN.
- 2016 – From the roots to the shoots: Using genomic data to reconstruct the amphibian Tree of Life, and using the amphibian Tree of Life to confront pressing conservation challenges. AZA Amphibian Taxon Advisory Group Meeting. St. Louis, MO.
- 2014 – Genomic approaches to amphibian evolution and conservation. SUNY Buffalo Biology Department Seminar Series. Buffalo, NY.
- 2013 – Next-generation approaches to hellbender conservation: Using transcriptomics to generate data for multilocus species delimitation. Purdue University. West Lafayette, IN.
- 2010 – Leveraging next-generation sequencing to inform conservation management of endangered species. Washington University Genome Center. St. Louis, MO.
- 2010 – Hellbender recovery efforts at the Saint Louis Zoo: Field surveys and captive management. Saint Louis Zoological Park Conservation Seminar Series. St. Louis, MO.

CONTRIBUTED TALKS AT SCIENTIFIC MEETINGS (Bold text denotes presenter)

- 2017 – What the hellbender? Genomic data reveal cryptic diversity in North America's largest salamander. **Hime PM**, Price SJ, Unger SD, Briggler JT, McMillan AM, Freake MJ, Drayer AN, Foley ME, Groves J, Lemmon EM, Williams L & Weisrock DW. 2017 Society of Systematic Biologists Satellite Meeting. Baton Rouge, LA. (Lightning Talk)
- 2016 – Phylogenomics of Amphibia and the nature of support and signal in big data sets. **Hime PM**, Lemmon AR, Lemmon EM, Prendini ES, Raxworthy CJ, Brown JM, Thomson RC, Kortyna M, Peloso PLV, Noonan BP, Keogh JS, Donnellan SC, Pyron RA, Kratovil JK, Kunte K, Das S, Gaitonde N, Ron S, Labisko J, Mueller RL, Green DM & Weisrock DW. 2016 Evolution Meetings. Austin, TX. (Oral Presentation)
- 2016 – What the hellbender? SNP-based species delimitation in North America's largest salamander. **Weisrock DW**, Hime PM, Price SJ, Unger SD, Briggler JT, McMillan AM, Freake MJ, Drayer AN, Foley ME, Groves J, Lemmon EM & Williams L. 2016 Evolution Meetings. Austin, TX. (Oral Presentation)
- 2015 – Phylogenomic perspectives on the amphibian tree of life. **Hime PM**, Lemmon AR, Lemmon EM, Prendini ES, Raxworthy CJ, Brown JM, Thomson RC, Kortyna M, Peloso PLV, Noonan BP, Keogh JS, Donnellan SC, Pyron RA, Kratovil JK, Kunte K, Das S, Gaitonde N, Ron S, Labisko J, Mueller RL, Green DM & Weisrock DW. University of Kentucky EcoLunch Seminar Series. Lexington, KY. (Oral Presentation)
- 2015 – Phylogenomic perspectives on the amphibian tree of life. **Hime PM**, Lemmon AR, Lemmon EM, Prendini ES, Raxworthy CJ, Brown JM, Thomson RC, Kortyna M, Peloso PLV, Noonan BP, Keogh JS, Donnellan SC, Pyron RA, Kratovil JK, Kunte K, Das S, Gaitonde N, Ron S, Labisko J, Mueller RL, Green DM & Weisrock DW. Society for the Study of Amphibians and Reptiles Meetings. Lawrence, KS. (Oral Presentation)

- 2015 – Genome-wide resolution of species boundaries and demography in *Cryptobranchus*. **Hime PM**. 7th Hellbender Symposium. Saint Louis, MO. (Oral Presentation)
- 2015 – Discovery and utility of sex-linked genes in hellbender salamanders. **Hime PM**. 7th Hellbender Symposium. St. Louis, MO. (Oral Presentation)
- 2014 – Genomic approaches to *Cryptobranchus* conservation. **Hime PM**, Nunziata SO, Briggler JT, Reece JS, Price SJ & Weisrock DW. Annual Joint Meetings of Ichthyologists and Herpetologists, Chattanooga, TN. (Oral Presentation)
- 2014 – Phylogenomics of Amphibia: Probing the genomic correlates of lineage diversification. **Hime PM**, Lemmon EM, Lemmon AR, Noonan BP, Keogh JS, Donnellan SC, Pyron RA, Mueller RL, Green DM & Weisrock DW. Annual Joint Evolution Meetings, Raleigh, NC. (Oral Presentation)
- 2014 – Leveraging genomics to understand and conserve an imperiled North American giant salamander. **Hime PM**, Price SJ & Weisrock DW. University of Kentucky EcoLunch Seminar Series. Lexington, KY. (Oral Presentation)
- 2014 – Leveraging genomics to inform *Cryptobranchus* conservation: Sex-linked genes, range-wide phylogenetics and species delimitation, and field surveys across Kentucky. **Hime PM**, Price SJ & Weisrock DW. Annual Southeast Partners for Amphibian and Reptile Conservation Meetings, Lake Cumberland, KY. (Poster)
- 2013 – Coalescent-based species delimitation using NGS-scale data: An empirical test case in ambystomatid salamanders. **Hime PM**, Hotaling SR, Shaffer HB, Voss SR & Weisrock DW. Annual Joint Evolution Meetings, Snowbird, UT. (Oral Presentation)
- 2011 – Conservation of cryptobranchid salamanders. **Hime PM**. University of Kentucky EcoLunch Seminar Series. Lexington, KY. (Oral Presentation)
- 2011 – The search for sex-linked genes in cryptobranchid salamanders: Genome-wide gene discovery and marker development. **Hime PM**, Weisrock DW, Kratovil JD & Reece JS. 5th Hellbender Symposium. Lycoming, PA. (Oral Presentation)
- 2009 – The search for sex-linked genes in cryptobranchid salamanders: Candidate gene approach and AFLP genome scans. **Hime PM**, Reece JS & Briggler JT. 4th Hellbender Symposium. Cumberland Falls, KY. (Oral Presentation)
- 2009 – Emerging methods for conservation of declining amphibian species. **Hime PM**. Saint Louis Zoological Park Conservation Seminar Series. (Invited Oral Presentation)
- 2008 – *Anolis* lizards: Species diversity, ecological disparity, and the development of an emerging model system. **Hime PM**. 32nd Annual International Herpetological Symposium. Nashville, TN. (Oral Presentation)
- 2008 – Captive management of *Vipera* and *Montivipera*: The importance of brumation and group dynamics. **Hime PM** & Ettling J. Saint Louis Zoological Park Conservation Seminar Series. St. Louis, MO. (Oral Presentation)
- 2007 – An efficient method for *Agrobacterium*-mediated transformation in *Ceratodon* and *Physcomitrella* mosses. Perroud PF, **Hime PM** & Quatrano RS. Washington University Biology Department. St. Louis, MO. (Oral Presentation)
- 2003 – Spatial ecology and demography of *Sceloporus* lizards in a secondary oak-hickory forest. **Hime PM**, Losos JB & Parks J. Tyson Research Center Summer Undergraduate Research Symposium. Eureka, MO. (Oral Presentation)

TEACHING EXPERIENCE

- 2016 – Teaching Assistant, Society of Systematic Biologists Software School; Austin, TX
- 2016 – Guest Lecturer, University of Kentucky, Graduate Phylogenetics Course; Lexington, KY
- 2015 – Guest Lecturer, University of Kentucky, Graduate Bioinformatics Course; Lexington, KY
- 2014 – Instructor, AZA ATAG Advanced Hellbender Conservation and Management Course; St. Louis, MO
- 2014 – Guest Lecturer, SUNY Buffalo, Undergraduate Evolution Course; Buffalo, NY

2014 – Guest Lecturer, SUNY Buffalo, Undergraduate Genetics Course; Buffalo, NY
2014 – Instructor, National Evolutionary Synthesis Center (NESCent), Next Generation Sequencing for Phylogenetics and Phylogeography Course; Durham, NC
2012 – Teaching Assistant, University of Kentucky, Undergraduate Biology Lab; Lexington, KY
2011 – Teaching Assistant, University of Kentucky, Undergraduate Biology Lab; Lexington, KY

ADDITIONAL TRAINING

2017 – Society of Systematic Biologists Phylogenomics Workshop; Louisiana State University
2016 – Blue Waters Supercomputing Fellows Symposium; University of Illinois Urbana-Champaign
2016 – Blue Waters High Performance Computing Symposium; Sunriver, OR
2014 – Model Selection in Phylogeography; Mathematical Biosciences Institute/The Ohio State University
2013 – Phylogenomics Symposium and Workshop; University of Texas at Austin; Austin, TX
2012 – Estimating Species Trees Workshop; Mathematical Biosciences Institute/The Ohio State University

PROFESSIONAL SERVICE

2016 – UK Biology Department, Co-host and co-organizer for graduate student invited speaker
2016 – Kentucky State Science Fair, Middle and High School Bioinformatics/Computational Biology Judge
2015 - 2016 – UK Biology Department, Faculty Search Committee, Graduate Student Representative
2014 - 2016 – UK Biology Department, Graduate Affairs Committee, Graduate Student Representative

Ad Hoc Reviewer: Molecular Ecology, University Press of Kentucky, Society of Systematic Biologists Graduate Student Research Award, Cryptobranchid Interest Group Research Grants

PROFESSIONAL AFFILIATIONS

Society of Systematic Biologists, American Association for the Advancement of Science, Society for the Study of Amphibians and Reptiles, Kentucky Academy of Sciences, IUCN Anoline Lizard Specialist Group, Hellbender Salamander Conservation Genetics Working Group

PROFESSIONAL REFERENCES

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Dr. Steven J. Price

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Dr. Jonathan B. Losos

Monique and Philip Lehner Professor for the Study of Latin America
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