

# April Marie Wright

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## Current Appointments

**Assistant Professor, Department of Biological Sciences**  
Southeastern Louisiana University  
August 2017 - Present

## Past Appointments

### National Science Foundation Postdoctoral Fellow in Biology

July 2016 - July 2017

Iowa State University & The Field Museum

*Supervisors: Dr. Tracy Heath & Dr. Corrie Moreau*

### Postdoctoral Researcher

Iowa State University

September 2015 - July 2016

Ecology, Evolution and Organismal Biology

*Supervisor: Dr. Tracy Heath*

### Postdoctoral Researcher

University of Kansas

July 2015 - July 2016

Ecology and Evolutionary Biology

*Supervisor: Dr. Mark Holder*

## Education

**2009-2015** PhD in Biology; University of Texas at Austin

Ecology, Evolution and Behavior

Award Date: April 14, 2015

*Supervisor: Dr. David Hillis*

**2005-2009** BA in Biology; St. Olaf College

## Publications

**Wright AM.** In review. A systematist's guide to estimating Bayesian phylogenies from morphological data. *Insect Systematics and Diversity*.

**Wright AM.** 2019. treesiftr: An R package and server for viewing phylogenetic trees and data *Journal of Open Source Education*, 2(11), 35, <https://doi.org/10.21105/jose.00035>

Devitt TJ, **Wright AM**, Cannatella DC, Hillis, DM. 2019. Species delimitation in endangered groundwater salamanders: Implications for aquifer management and biodiversity conservation. *Proceedings of the National Academy of Sciences* 116: 2624-2633.

Mueller UG, Kardish MR, Ishak HD, **Wright AM**, Solomon SE, Bruschi SM, Carlson AL, Bacci M. 2018. Phylogenetic patterns of ant-fungus associations indicate that farming strategies, not only a superior fungal cultivar, explain the ecological success of leafcutter ants. *Molecular Ecology* 27: 2414-2434.

**Wright, AM** 2017. Editor's note on 'Putting fossils in trees' special issue. *Biol. Lett.* 13: 1-2.

Lanfear, R, **Wright AM**, Fransden PB, Senfeld T, Calcott B. 2017. PartitionFinder 2: new methods for selecting partitioned models of evolution for molecular and morphological phylogenetic analyses. *Mol. Biol. and Evol.* 34: 772-773.

Matzke NJ, **Wright AM**. 2016. Inferring node dates from tip dates in fossil Canidae: the importance of tree priors. *Biol. Lett.* 12: 8.

Bapst DW, **Wright AM** Lloyd GT, Matzke NJ. 2016. Topology, divergence dates, and macroevolutionary inferences vary between different tip-dating approaches applied to fossil theropods (Dinosauria). *Biol. Lett.* 12: 7.

**Wright AM**, Lloyd GT, Hillis DM. 2016. Modeling character change heterogeneity in phylogenetic analyses of morphology through the use of priors. *Syst. Biol.* 65: 602-611.

Meirelles L, Solomon S, Bacci M, **Wright AM**, Mueller, U, Rodrigues, A. 2015. Shared Escovopsis infections destabilize the tripartite co-evolution hypothesis in the higher-attine fungus-growing ant symbiosis. *R. Soc. Open Sci.* 2:9.

**Wright AM**, Lyons KM, Brandley MB, Hillis DM. 2015. Which Came First? Robustness in Phylogenetic Reconstruction of Ancestral States. *J Exp Zool B* 324: 504-516.

**Wright AM** and Hillis DM. 2014. Bayesian Analysis Using a Simple Likelihood Model Outperforms Parsimony for Estimation of Phylogeny from Discrete Morphological Data. *PLoS One* 9:10.

Li T, Hua J, **Wright AM**, Cui Y, Xie Q, Bu W, Hillis DM. 2014. Long-branch attraction and the phylogeny of true water bugs (Hemiptera: Nepomorpha) as estimated from mitochondrial genomes. *BMC Evol Biol* 14:99.

## Technical Reports

Hillis DM, Devitt TJ, **Wright AM**, Cannatella DC. 2015. Genomic Assessment of Taxonomic Status of Central Texas Eurycea Salamanders. City of Austin Report.

## Grants

Louisiana Biomedical Research Network Pilot Project: Implementing a Dirichlet process for modeling complex biological data. \$50,000. Awarded: 2018.

National Science Foundation Postdoctoral Research Fellowship in Biology, Interdisciplinary Research Using Biological Collections: Estimating a Time-Scaled Phylogenetic Tree of Ants from Combined Molecular-Morphological Data. \$136,000. Awarded: 2016.

National Science Foundation Doctoral Dissertation Improvement Grant: Utilizing maximum likelihood estimation for phylogenetic estimation from morphological data. \$6,820. Awarded: 2013.

## Awards

University of Texas College of Natural Sciences Outstanding Teaching Assistant. \$500 Awarded: 2013.

Jackson School of Geosciences: Student Travel Award. \$600. Awarded: 2014.

## Curriculum Development

July 2018: Analytical Paleobiology Workshop.

- Published Lesson Materials: <https://wrightapril.github.io/APB2018/>

July 2016 - Present: Data Carpentry Python Ecology lesson maintainer.

- Published Lesson Materials: [10.5281/zenodo.570050](https://zenodo.org/record/570050)

August 2016: Nantucket developE Course. Workshop Materials: Developing Phylogenetic Methods in R

October 2014: Society of Vertebrate Paleontology Annual Meeting. Workshop: Using fossils as tips in phylogenetic analyses.

Spring 2013 & 2014: Center for Computational Biology and Bioinformatics, University of Texas at Austin. Course: Introduction to Biological Computing

Spring 2014: Center for Computational Biology and Bioinformatics Big Data in Biology Summer School, University of Texas at Austin. Course: Introduction to Python for Biologists

Fall 2014: Statistics and Data Science Department, University of Texas at Austin. Workshop: Intermediate Python.

## Teaching Assistant Experience

July 2014, July 2016: Woods Hole Workshop on Molecular Evolution; Woods Hole Marine Biological Laboratory.

September 2009 — May 2014: School of Biological Sciences, University of Texas at Austin. Courses: Advanced Systematics, Evolution, Evolution and Diversity, Lab Experience in Genetics, Human Biology, Genetics.

Fall 2011 — Spring 2012: Statistics and Data Science Department, University of Texas at Austin. Courses: Beginning Python.

September 2006 — May 2008: St. Olaf College. Courses: Genetics (lab section), Evolution and Diversity (lab section).

## Software

treeStartR - An R package for making starting trees from combined molecular, morphological and stratigraphic data. **Wright AM**. (developer - <https://github.com/ropensci/treeStartR>)

PartitionFinder2 - Dataset partitioning selection for likelihood and Bayesian phylogenetics. Lanfear R, Frandsen PB, **Wright AM** and Calcott BC. (developer - <https://github.com/brettc/partitionfinder>)

## Invited Talks

### 2019

**Wright AM**. Estimating phylogenetic trees from discrete morphological data: Modeling evolution to understand the past. Louisiana State University Computational Biology Seminar Series.

**Wright AM**. Modeling deep-time evolutionary processes from heterogeneous data sources. Louisiana Biomedical Research Network Annual Meeting.

## 2018

**Wright AM.** Applying a flexible model of discrete trait evolution to estimate a phylogeny of the Formicidae. Entomological Society Annual Meetings.

## 2017

**Wright AM.** Flexible Modeling of Morphology for Phylogenetic Inference. Louisiana State University Museum of Natural History.

**Wright AM.** How did I get here: Lessons from the first in my family to go to college. BEACON Center Undergraduate Diversity Event, Evolution Meetings. Portland, OR.

## 2016

**Wright AM.** Using Phylogenetic Trees to Study Evolutionary History. Texas Women's University. Denton, TX.

**Wright AM.** Model Misspecification: Lessons From Empirical Data. Iowa State University. Ames, IA. February 2016.

## 2014

**Wright AM,** Lyons KM, Hillis DM and Brandley M. Estimating models of character evolution with phylogenetic uncertainty. Evolution Meetings. Raleigh, NC.

## 2013

**Wright, AM** and Hillis, DM. Utilizing model-based methods for estimating phylogenetic trees from discrete morphological data with rate heterogeneity. University of Texas at Tyler.

## Presentations at Scientific Meetings

### 2017

**Wright AM,** Pett WC, Heath TA. Flexible Modeling of Morphological Characters for Phylogenetic Inference . Evolution Meetings. Portland, OR.

### 2016

**Wright AM** and Heath, TA. Innappropriate parameterization causes inaccurate estimation of node ages. Geological Society of America Meetings. Denver, CO.

**Wright AM** and Heath, TA. Innappropriate parameterization causes inaccurate estimation of node ages. Evolution Meetings. Austin, TX.

### 2014

**Wright AM,** Lloyd GT, Matzke NJ, and Bapst DW. Fossils-only tip-dating of deinonychosaurian theropods: a comparison of methods and models. Society of Vertebrate Paleontology Annual Meeting. Berlin, Germany.

## 2013

**Wright AM** and Hillis DM. Utilizing model-based methods for estimating phylogenetic trees from discrete morphological data with rate heterogeneity. Evolution Meetings. Snowbird, UT.

## 2012

**Wright AM**, Brown JP, Slater GJ, and Hillis DM. On the utility of likelihood-based methods for phylogenetic estimation from binary data. Society of Vertebrate Paleontologists Annual Meeting. Raleigh, NC.

## 2011

**Wright AM**, Brown JP, Harmon LJ, and Hillis, DM. Model-based methods for paleontological phylogenetics. Annual BEACON Meeting. East Lansing, Michigan. Poster Presentation.

**Wright AM** and Hillis DM. Effects of gene conversion on phylogenetic reconstruction. Evolution Meetings. Norman, Oklahoma. Poster presentation.

## 2010

**Wright AM** and Hillis, DM. Effects of gene conversion on phylogenetic reconstruction. Annual BEACON Meeting. East Lansing, Michigan. August 2010. Poster presentation.

## Symposia Organized

### 2016

New Approaches to Phylogenetic Paleobiology. Geological Society of America Annual Meetings. Moderators: Bapst DW, Hopkins M, **Wright AM**, and Wright DF

### 2014

Putting Fossils in Trees. Society of Vertebrate Paleontology Annual Meeting. Berlin, Germany. November 2014. Moderators: **Wright AM**, Matzke NJ, Lloyd GT and Bapst, DW.

## Professional Service

SciPy 2015 Conference Diversity Committee: Committee Member, SciPy Conference 2015

Software Carpentry Diversity Committee: Committee Member, 2014-

NESCent Phylotastic! Hackathon: Participant, 2013

Macroevolution Journal Club: Contributor and Organizer, 2012 - 2015

**Journal reviewer for:** *American Naturalist*, *BMC Evolutionary Biology*, *Ecology Letters*, *Molecular Biology & Evolution*, *Systematic Biology*, *Botany*, *Biology Letters*, *Proceedings of the Royal Society B*.

**Award reviewer for:** Systematic Biology Mini-ARTS Awards; SciPy Conference (2015) Diversity Travel Awards.

**Society Membership:** Society of Systematic Biologists, Entomological Society of America

## **Outreach**

Girls In STEM at Abby Sawyer Elementary School: Activity Leader, 2016

Girl Scouts TechGirls: Activity Leader, 2012

GirlStart Girl Congress, Activity Leader, 2011

Travis County High School Science Fair: Judge, 2010

Blog Owner: <http://wrightaprilm.github.io/>, Paleontology