

## Mark S. Hibbins

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## Education

### PhD Candidate in Evolutionary Biology (Bioinformatics Minor)

August 2017 – Present

Indiana University, Bloomington, IN, USA.  
Expected graduation in Spring of 2022  
**Advisor:** Matthew Hahn

### Honours Bachelor of Science with High Distinction

June 2017

Specialist in Ecology & Evolutionary Biology  
University of Toronto, Toronto, ON, Canada.  
**Senior thesis advisor:** Aneil Agrawal

## Preprints

**Hibbins M.S.**, Hahn M.W. 2021. The effects of introgression across thousands of quantitative traits revealed by gene expression in wild tomatoes. *BioRxiv*.  
<https://doi.org/10.1101/2021.07.01.450726>

**Hibbins M.S.**, Hahn M.W. 2021. Phylogenomic approaches to detecting and characterizing introgression. *EcoEvoRxiv*. <https://doi.org/10.32942/osf.io/uahd8>

## Peer-Reviewed Journal Articles

**Hibbins M.S.**, Gibson M.J.S, Hahn M.W. 2020. Determining the probability of hemiplasy in the presence of incomplete lineage sorting and introgression. *eLife* 9: e63753.

Vanderpool D., Minh B.Q., Lanfear R., Hughes D., Murali S., Harris R.A., Raveendran M., Muzny D.M., **Hibbins M.S.**, Williamson R.J., Gibbs R.A., Worley K.C., Rogers J., Hahn M.W. 2020. Primate phylogenomics uncovers multiple rapid radiations and ancient interspecific introgression. *PLoS Biology* 18(12): e3000954

Hamlin J.A.P., **Hibbins M.S.**, Moyle L.C. 2020. Assessing biological factors affecting post-speciation introgression. *Evolution Letters* 4(2): 137-154.

Hahn M.W. & **Hibbins M.S.** 2019. A three-sample test for introgression. *Molecular Biology and Evolution*, 36(12): 2878-2882.

**Hibbins M.S.** & Hahn M.W. 2019. The timing and direction of introgression under the multispecies network coalescent. *Genetics* 211(3): 1059 – 1073.

Rouard M., Droc G., Martin G., Sardos J., Hueber Y., Guignon V., Cenci A., Geigle B., **Hibbins M.S.**, Yahiaoui N., Baurens F.C, Berry V., Hahn M., D'Hont A., Roux N. 2018. Three new genome assemblies support a rapid radiation in *Musa acuminata* (wild banana). *Genome Biology and Evolution* 10(12): 3129 – 3140.

## Presentations

- Society for Molecular Biology and Evolution.** Virtual poster and Q&A session. 2021  
*The effects of introgression across thousands of quantitative traits revealed by gene expression in wild tomatoes*
- The Allied Genetics Conference.** Virtual poster and Q&A session. 2020  
*Determining the risk of hemiplasy in the presence of incomplete lineage sorting and introgression*
- IU EEB Brown Bag Seminar,** Bloomington, IN. Talk. 2020  
*Introgression, genealogical discordance, and the evolution of traits*
- Evolution Meeting,** Providence, RI. Poster. 2019  
*Introgression substantially increases the risk of hemiplasy in phylogenetic inference*
- Population, Evolutionary, and Quantitative Genetics Conference,** Madison, WI. Talk. 2018  
*Population genetic tests for the direction and relative timing of introgression*
- EEB Undergraduate Research Fair,** Toronto, ON, CA. Poster. 2017  
*Mother knows best: parental effects on fitness in *D. melanogaster**

## Teaching & Mentorship Experience

- Undergraduate Mentor** 2021  
Mentee: Lara Breithaupt  
Indiana University, Bloomington.
- Writing a C++ program which implements Felsenstein's pruning algorithm over a set of gene trees
- Teaching Assistant,** INFO-I590 SNP Discovery & Population Genetics Fall 2020  
Luddy School of Informatics, Computing, & Engineering  
Indiana University, Bloomington.
- Delivered a one-hour introduction to basic command line and Python for bioinformatics
  - Assisted students with technical issues relating to class assignments
  - Aided in coordination of group projects
- Assistant Instructor,** BIOL-L113 Biology Laboratory Fall 2017  
Department of Biology, Indiana University, Bloomington.
- Assisted in the instruction of basic biology laboratory practices, concepts, and principles of experimental design.

## Employment History

- Research Assistant,** Hahn Lab, Indiana University, Bloomington IN. August 2018 – Present
- Developing methods for evolutionary inference in the presence of gene tree discordance

<b>Natural Heritage Educator</b> , Bon Echo Provincial Park, ON, CA	Summers 2014 - 2016
<b>Classroom Tutor</b> , Admaston Township Public School, Renfrew, ON, CA	May 2014
<b>Project Wilderness Instructor</b> , Camp Trillium, Bloomfield, ON, CA	Summer 2013

## Awards & Recognitions

<b>Edwin J. Crossman Undergraduate Scholarship in Ecology and Evolutionary Biology</b> University of Toronto, Toronto, ON, Canada	2017
<b>New College Student Council In-Course Scholarship</b> University of Toronto, Toronto, ON, Canada	2016
<b>New College Raptors Foundation In-Course Scholarship</b> University of Toronto, Toronto, ON, Canada	2015

## Service

<b>Peer reviewer:</b> <i>Systematic Biology</i> (5x), <i>Molecular Biology and Evolution</i> (3x), <i>Ecology &amp; Evolution</i> (2x), <i>Genome Biology and Evolution</i> , <i>PLoS Genetics</i>	
<b>Faculty search committee</b> , Graduate student member. Indiana University, Bloomington, IN	2019
<b>Quantitative Methods in EEB Journal Club</b> , Organizer. Indiana University, Bloomington, IN	2019
<b>Graduate student host</b> , Graduate Recruitment Weekend. Indiana University, Bloomington, IN	2018, 2020, 2021

## Software

**HeIST:** Hemiplasy Inference Simulation Tool. Co-author with Matthew J.S. Gibson.  
<https://github.com/mhibbins/HeIST>

**D-statistics:** Various scripts implementing a suite of *D*-statistics developed for introgression analysis in Hahn & Hibbins 2019, Hibbins & Hahn 2019. [https://github.com/mhibbins/D1\\_D2\\_scripts](https://github.com/mhibbins/D1_D2_scripts)  
[https://github.com/mhibbins/D3\\_introgression](https://github.com/mhibbins/D3_introgression)