

## Mark S. Hibbins

Email: mark.hibbins@utoronto.ca

Website: <https://mhibbins.github.io>

### Current Appointment

#### EEB Postdoctoral Fellow

June 2022 - Present

Department of Ecology & Evolutionary Biology  
University of Toronto, Toronto, ON, CA

### Education

#### Doctor of Philosophy in Evolutionary Biology (Minor in Bioinformatics)

May 2022

Indiana University, Bloomington, IN, USA.

**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

### Peer-Reviewed Journal Articles

**Hibbins M.S.**, Hahn M.W. 2021. Phylogenomic approaches to detecting and characterizing introgression. *Genetics* 220(2): iyab173.

**Hibbins M.S.**, Hahn M.W. 2021. The effects of introgression across thousands of quantitative traits revealed by gene expression in wild tomatoes. *PLoS Genetics* 17(11): e1009892.

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

**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.

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

**Midwest Population Genetics.** Madison, WI. Poster. 2021

*The effects of introgression across thousands of quantitative traits revealed by gene expression in wild tomatoes*

Winner of best late-PhD student poster

**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.

- Mentorship in C++, R, and Bash scripting; planning and carrying out an independent research project; manuscript writing and publication

**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 – May 2022

- Developed methods for evolutionary inference in the presence of introgression

**Natural Heritage Educator**, Bon Echo Provincial Park, ON, CA Summers 2014 - 2016

**Classroom Tutor**, Admaston Township Public School, Renfrew, ON, CA May 2014

**Project Wilderness Instructor**, Camp Trillium, Bloomfield, ON, CA Summer 2013

## Grants & Fellowships

**EEB Postdoctoral Fellowship** 2022  
Departmental Fellowship  
Department of Ecology and Evolutionary Biology  
University of Toronto, Toronto, ON, CA  
\$110,000 CAD

## Awards & Recognitions

**Best late-PhD student poster** 2021  
Midwest Population Genetics, Madison, WI, USA

**Edwin J. Crossman Undergraduate Scholarship** 2017  
**in Ecology and Evolutionary Biology**  
University of Toronto, Toronto, ON, Canada

**New College Student Council In-Course Scholarship** 2016  
University of Toronto, Toronto, ON, Canada

**New College Raptors Foundation In-Course Scholarship** 2015  
University of Toronto, Toronto, ON, Canada

## Service

**Peer reviewer:** *Systematic Biology* (7x), *Molecular Biology and Evolution* (4x), *BMC Plant Biology* (3x), *Ecology & Evolution* (2x), *PLoS Genetics* (2x), *Insect Systematics and Diversity* (2x), *Genome Biology and Evolution*

**Faculty search committee**, Graduate student member. 2019  
Indiana University, Bloomington, IN

**Quantitative Methods in EEB Journal Club**, Organizer. 2019  
Indiana University, Bloomington, IN

**Graduate student host**, Graduate Recruitment Weekend. 2018, 2020, 2021  
Indiana University, Bloomington, IN

## 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)