

Mark S. Hibbins

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Education

PhD Candidate in Evolutionary Biology (Bioinformatics Minor) August 2017 – Present
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

Preprints & Manuscripts in Press

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

Publications

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

- The Allied Genetics Conference**¹. 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 Experience

- 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
 - Assisting students with technical issues relating to class assignments
 - Aiding 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
 - Assisted in the mentorship of a summer undergraduate working on a project to call *de novo* mutations in squirrel monkeys

¹ Conference moved online due to 2020 COVID-19 pandemic.

- Studied signatures of positive selection in the coding regions of the genome of Nancy Ma's Night Monkey, *Aotus nancymae*.

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

Awards & Recognitions

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* (4x), *Ecology & Evolution* (2x), *Genome Biology and Evolution*, *Molecular Biology and Evolution*, *PLoS Genetics*

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
 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/D3_introgression