

Matthew J. Michalska-Smith

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Education

University of Chicago, Chicago, IL

Ph.D., Ecology & Evolution

Adviser: Stefano Allesina

University of Notre Dame, Notre Dame, IN

B.S., Biological Sciences and Theology

Since 2013



2008-12



Work Experience

Research.....

Laboratory Technician

U. Chicago, Dept. Ecology & Evolution, Allesina Lab

- Theoretical ecology with an emphasis on networks

2012-13



Undergraduate Researcher

U. Notre Dame, Dept. Biological Sciences, Ridenhour Lab

- Ecology and evolution of infectious disease
- Independent research topic: Influenza dynamics at Notre Dame

2011-12



Practicum in Field Environmental Biology

U. Notre Dame, PI: Ashley Baldrige, PhD Candidate, Lodge Lab

- Modules on Herpetology, Ornithology/Mammalogy, Entomology, Aquatic- and Forest Ecology
- Independent research topic: Intraspecific shelter competition among crayfish

Summer 2010



Laboratory Assistant

U. Notre Dame, Dept. Biological Sciences

- Tank Lab: Stream Ecology and Biogeochemistry
- Pfrender Lab: Ecological Genomics, Adaptation in Natural Populations, Plasticity

Fall 2009, Summer 2011



Teaching.....


Instructor

U. Chicago, BSD-QBio

(Biological Sciences Division Quantitative Biology Boot-camp for incoming graduate students)

- Beginner/Advanced programming in the biological sciences
- Statistics for large datasets

2015-2017



Teaching Assistant

U. Chicago, Biological Sciences Division

- Theoretical Ecology (Winter 2017)
- Biodiversity (with laboratory component; Spring 2016)
- Introduction to Scientific Computing (Winter 2014, 2016)
- Ecology & Evolution (with laboratory component; Winter 2015)

2014-2017



Undergraduate Teaching Assistant

U. Notre Dame, Dept. Biological Sciences

- Mammalogy (with laboratory component; Spring 2012)

Spring 2012



Single/Group Tutor

U. Notre Dame, Academic Services for Student Athletes

- Science/Mathematics, especially Calculus through basic multivariate

2008-11



Publications & Presentations

Publications.....

1. **Matthew J. Michalska-Smith***, Elizabeth L. Sander*, Mercedes Pascual, and Stefano Allesina. Understanding the role of parasites in food webs using the group model. *Journal of Animal Ecology*, 87:790–800, 2018. <https://doi.org/10.1111/1365-2656.12782>.
2. György Barabás, **Matthew J. Michalska-Smith**, and Stefano Allesina. Self-regulation and the stability of large ecological networks. *Nature Ecology & Evolution*, 1(12):1870–1875, 2017. <https://doi.org/10.1038/s41559-017-0357-6>.
3. Jacopo Grilli, György Barabás, **Matthew J. Michalska-Smith**, and Stefano Allesina. Higher-order interactions stabilize dynamics in competitive network models. *Nature*, 548(7666):210–213, 2017. <https://doi.org/10.1038/nature23273>.
4. **Matthew J. Michalska-Smith** and Stefano Allesina. And, not or: Quality, quantity in scientific publishing. *PLOS ONE*, 12(6):1–12, 2017. <https://doi.org/10.1371/journal.pone.0178074>.
5. György Barabás*, **Matthew J. Michalska-Smith***, and Stefano Allesina. The effect of intra- and interspecific competition on coexistence in multispecies communities. *The American Naturalist*, 188(1):E1–E12, 2016. <https://doi.org/10.1086/686901>.
6. **Matthew J. Smith**, Elizabeth Sander, György Barabás, and Stefano Allesina. Stability and feedback levels in food web models. *Ecology Letters*, 18(6):593–595, 2015. <https://doi.org/10.1111/ele.12416>.
7. Phillip P. A. Staniczenko, **Matthew J. Smith**, and Stefano Allesina. Selecting food web models using normalized maximum likelihood. *Methods in Ecology and Evolution*, 5(6):551–562, 2014. <https://doi.org/10.1111/2041-210X.12192>.
8. **Matthew J. Smith**, Cody Weinberger, Emilio M. Bruna, and Stefano Allesina. The scientific impact of nations: Journal placement and citation performance. *PLOS ONE*, 9(10):e109195, 2014. <https://doi.org/10.1371/journal.pone.0109195>.
9. Kimbra G. Turner, **Matthew J. Smith**, and Benjamin J. Ridenhour. Whirling disease dynamics: An analysis of intervention strategies. *Preventive Veterinary Medicine*, 113(4):457–468, 2014. <https://doi.org/10.1016/j.prevetmed.2013.12.008>.
10. Stefano Allesina, Elizabeth Sander, **Matthew J. Smith**, and Si Tang. Superelliptical laws for complex networks. *arXiv preprint*, 2013. <https://arxiv.org/abs/1309.7275>.

Posters & Presentations.....

NetSci International School and Conference on Network Science

Indianapolis, IN USA

20 June 2017

- Presentation: Higher-order interactions stabilize dynamics in competitive network models

Ecological Society of America Annual Meetings: Species Interactions Session

Ft. Lauderdale, FL USA

9 August 2016

- Presentation: Identifying unique species roles by characterizing differences in ecological network structure

Dissertation Proposal Hearing

Chicago, IL USA

27 August 2015

- Presentation: Structure and Stability

Ecological Society of America Annual Meeting: Theoretical Ecology Session

Baltimore, MD USA

12 August 2015

- Presentation: Looking locally to see globally

ACS International Center Webinar Series

<https://global.acs.org/international-center-events/...>

25 February 2015

- Webinar: Global Scientific Collaboration: Key to Scientific Success

* These authors have contributed equally to this publication.

ICTP-SAIFR School on Pathogen Dynamics, Climate and Global Change

IFT-UNESP, São Paulo, Brazil

21 January 2015

- Presentation: The Scientific Impact of Nations: Journal Placement and Citation Performance

Undergraduate Scholars Conference, College of Science Joint Annual Meeting

Notre Dame, IN USA

4 May 2012

- Poster: Modeling Seasonal Influenza in Indiana with an Age-Stratified SEIR Model

Funding Awarded

2015-2017: Department of Education Graduate Assistance in Areas of National Need (GAANN) Fellow

Honors & Awards

2015: NSF Graduate Research Fellowship Program Honorable Mention

2018: Schmidt Science Fellowship Finalist

Schools & Meetings

NetSci International School and Conference on Network Science

Indianapolis, IN USA

20-24 June 2017

Ecological Society of America Annual Meeting

Fort Lauderdale, FL USA

7-12 August 2016

Ecological Society of America Annual Meeting

Baltimore, MD USA

9-14 August 2015

ICTP-SAIFR School on Pathogen Dynamics, Climate and Global Change

IFT-UNESP, São Paulo, Brazil

12-23 January 2015

Non-adaptive selection: explaining macroscopic laws in ecology and evolution

EPFL CIB, Lausanne, Switzerland

7-11 July 2014

Peer-Reviewing

- Oikos
- Ecology
- Journal of Theoretical Biology
- PLOS Computational Biology
- BioScience
- PLOS ONE
- Scientific Reports
- Journal of Forestry Research
- Frontiers in Genetics
- Scientometrics
- Environmental Modelling & Software
- Proceedings of the Royal Society of London B