

# Matthew J. Michalska-Smith

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## Education

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### 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

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### 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



### 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 (Spring 2016)  
- Introduction to Scientific Computing (Winter 2014, 2016)  
- Ecology & Evolution (Winter 2015)

2014-2017



#### Undergraduate Teaching Assistant

*U. Notre Dame, Dept. Biological Sciences*

- Mammalogy Laboratory course with focus on specimen identification and anatomy

Spring 2012



#### Single/Group Tutor

*U. Notre Dame, Academic Services for Student Athletes*

- Tutored Notre Dame students in Calculus through basic multivariate

2008-11



## Publications & Presentations

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### Publications.....

1. 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.
2. **Matthew J. Michalska-Smith** and Stefano Allesina. And, not or: Quality, quantity in scientific publishing. *PLOS ONE*, 12(6):1–12, 2017.
3. 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.
4. **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.
5. 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.
6. **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.
7. 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.
8. Stefano Allesina, Elizabeth Sander, **Matthew J. Smith**, and Si Tang. Superelliptical laws for complex networks. *arXiv preprint arXiv:1309.7275*, 2013.

### Papers in Progress.....

1. György Barabás, **Matthew J. Michalska-Smith**, and Stefano Allesina. Self-regulation and the stability of large ecological networks. 2017. Accepted (*Nature Ecology & Evolution*).
2. **Matthew J. Michalska-Smith\***, Elizabeth L. Sander\*, and Stefano Allesina. Understanding the role of parasites in food webs using the group model. 2017. In Review (*Journal of Animal Ecology*, fourth round).

### Posters & Presentations.....

#### NetSci International School and Conference on Network Science

Indianapolis, IN USA

20-24 July 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

#### ICTP-SAIR 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

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\* These authors have contributed equally to this publication.

**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**

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**2015-2018:** Department of Education Graduate Assistance in Areas of National Need (GAANN) Fellow

## **Honors & Awards**

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**2015:** NSF Graduate Research Fellowship Program Honorable Mention

## **Schools & Meetings**

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**NetSci International School and Conference on Network Science**

*Indianapolis, IN USA*

*20-24 July 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**

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- 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