

Hidetoshi Inamine

Pennsylvania State University
415 Mueller Laboratory
University Park, PA 16801

hinamine@psu.edu
<http://www.hinamine.com>

Research Interests

Theoretical ecology and evolution, population dynamics, host-microbe interaction, speciation, eco-evolutionary dynamics

Education

Cornell University 2011 – 2017

Ph.D. in Ecology and Evolutionary Biology with Minor in Applied Mathematics
Dissertation: “Population processes and patterns across scales”
Committee: Stephen P. Ellner (Chair), Kerry L. Shaw, John M. Guckenheimer

Santa Fe Institute 2012

Complex Systems Summer School

The University of Chicago 2005 – 2009

A.B. in Biological Sciences with specialization in Neuroscience
General and Thesis Honors, Dean’s List 2006 – 2009
Thesis: “Signaling pathways underlying CaMKII-mediated alterations in behavioral responding to amphetamine”

Employment

2017 – present Postdoctoral scholar, Katriona Shea, Pennsylvania State U.
2018 – present Affiliate, Institute for CyberScience, Pennsylvania State U.
2009 – 2011 Lab Technician, Joy Bergelson, U. Chicago
2009 – 2011 Research Volunteer, Greg Dwyer, U. Chicago
2006 – 2009 Undergraduate Research Assistant, Paul Vezina, U. Chicago

Manuscript

1. **Inamine H**, Ellner SP, Shaw K. Speciation by reinforcement: dynamics of choosiness evolution under asymmetric population sizes.

Publications

1. Agrawal AA, **Inamine H** (2018). Mechanisms behind the monarch’s decline. *Science* 360: 1294-1296. doi:10.1126/science.aat5066.
 - [Press Coverage](#): The Washington Post.
2. **Inamine H**, Ellner SP, Newell PD, Luo Y, Buchon N, Douglas AE (2018). Spatiotemporally heterogeneous population dynamics of gut bacteria inferred from fecal time series data. *mBio* 9: e01453-17. doi:10.1128/mBio.01453-17.
3. **Inamine H**, Ellner SP, Springer JP, Agrawal AA (2016). Linking the continental migratory cycle of the monarch butterfly to understand its population decline. *Oikos* 125: 1081-1091. doi:10.1111/oik.03196.

- **Press Coverage:** NPR, PRI's Living on Earth, USA Today, Science Daily, Mother Nature Network, Cornell Chronicle, ESA's Entomology Today, etc.
 - Cover Article
 - Altmetric score: 465.
4. Loweth J, Singer B, Baker L, Wilke G, **Inamine H**, Bubula N, Alexander J, Carlezon WA, Neve RL, Vezina P (2010). Transient overexpression of α -Ca²⁺/calmodulin-dependent protein kinase II in the nucleus accumbens shell enhances behavioral responding to amphetamine. *The Journal of Neuroscience* 30(3): 939-949. doi:10.1523/JNEUROSCI.4383-09.2010.

Honours and Awards

2017	Ecology and Evolutionary Biology Outstanding Teaching Award, Cornell U.
2017	College of Agriculture and Life Sciences Outstanding Teaching Award, Cornell U.
2016	Conference Travel Grant, Cornell U.
2016	Colman Leadership Program Certificate, Cornell U.
2015	Conference Travel Grant, Cornell U.
2012	Orenstein Fund, Cornell U.
2012	Santa Fe Institute Scholarship, Santa Fe Institute
2011 – 2012	Presidential Life Sciences Fellowship, Cornell U.
2007	Foreign Language Acquisition Grant for Paris, FR, U. Chicago

Teaching Experience

Cornell U. (Teaching assistant)

		Evaluation (out of 5)
Spring 2017	Dynamic Models in Biology	4.44
Fall 2016	Advanced Ecology	4.50
Spring 2016	Ecology and the Environment, Head TA	4.34
Fall 2015	Advanced Ecology	4.80
Spring 2015	Dynamic Models in Biology	4.70
Spring 2014	Ecology and the Environment	4.89
Fall 2013	Advanced Ecology	4.88
Spring 2013	Evolutionary Biology and Diversity	4.58
Fall 2012	Evolution	4.92

Presentations and Abstracts

2018	Ecological Society of America, New Orleans, LA
2018	Theoretical Biology Seminar, Pennsylvania State U.
2016	Ecological Society of America, Fort Lauderdale, FL
2016	Evolution, Austin, TX
2015	Ecology and Evolutionary Biology GSA Symposium, Cornell U.
2015	Ecological Society of America, Baltimore, MD
2014	Ecology and Evolutionary Biology GSA Symposium, Cornell U.
2012	Complex Systems Summer School, Santa Fe Institute
2011	Ecology and Evolutionary Biology GSA Symposium, Cornell U.
2009	Undergraduate Honors Symposium, U. Chicago
2009	Society for Neuroscience Abstracts
2007	Society for Neuroscience Abstracts

Service and Outreach

- July 2018 Volunteer in Higher Achievement Program, Pennsylvania State U.
- 2016 – 2017 Executive board member of Out in STEM, Cornell U.
- 2013 – 2017 Faculty meeting representative to Dept. of Ecology and Evolutionary Biology, Cornell U.
- 2012 Member of Ad-hoc Olin Speaker Selection Committee, Cornell U.
- 2011 – 2013 Field representative to Graduate and Professional Student Assembly, Cornell U.

Media interview

- June 2018 **Washington Post**, “Monarch butterflies’ migration is part relay race, part obstacle course – and full of danger.”
- May 2016 **NPR**, “Can Planting More Milkweed Save Monarch Butterflies? It’s Complicated.”

Referee

Ecography (1), Scientific Reports (1), Functional Ecology (1), Biological Conservation (1)

Mentoring

- 2018 – present John Seifarth. Research Experiences for Undergraduates, Pennsylvania State U.
- 2010–2011 Kaeya Majmundar. Research in the Biological Sciences, U. Chicago

Relevant Coursework

Current topics in ecology and evolutionary biology, Graduate field course in ecology, Linear algebra with applications, Honors intro to analysis, Measure theory and Lebesgue integration, Applied functional analysis, Differential equations and dynamical systems, Nonlinear dynamics and chaos, Probability models and inference, Stochastic processes, Applied stochastic processes, Theory of statistics, Bayesian statistics and data analysis,

Skills

Programming Languages: R, Linux shell scripting, \LaTeX 2_ε.

Languages: Japanese (native), English (fluent), French (intermediate)

Professional Memberships

Ecological Society of America, American Society of Naturalists