Megan A. Greischar

CURRICULUM VITAE

Department of Ecology & Evolution, University of Toronto
25 Willcocks St, Toronto, ON M5S 3B2, Canada

megan.greischar@utoronto.ca
megangreischar.weebly.com

EDUCATION & TRAINING

Postdoctoral Fellow, University of Toronto — July 2014-present
with Nicole Mideo & (from Fall 2017) Njal Rollinson

Ph.D in Entomology — August 2009-June 2014
The Pennsylvania State University — Advisors: Ottar Bjørnstad & Andrew Read

B.S. Biology, B.A. Mathematics, Minor in Chemistry — August 2002-May 2007
Indiana University

FELLOWSHIPS & AWARDS

RCN IDEAS Workshop (PIs: Greischar & Mideo), Princeton University — June 2019
Evolutionary consequences of feedbacks between within-host competition & disease control

Ecology & Evolutionary Biology Department Postdoctoral Fellowship — Sept. 2017-Aug. 2019
University of Toronto

Society for the Study of Evolution R.A. Fisher Prize — 2017
For best Ph.D dissertation paper published in *Evolution*

National Science Foundation (NSF) Tuition & Travel Grant — 2010, 2011
Ecology & Evolution of Infectious Diseases Workshop

NSF Graduate Research Fellowship Honorable Mention — 2009, 2010, 2011

National Institute for Mathematical & Biological Synthesis Travel Grant — 2011
To fund participation in the Malaria Modeling and Control Workshop

Travel grant, Guarda Evolutionary Biology Workshop (Switzerland) — 2010
Department of Entomology, The Pennsylvania State University

University Graduate Fellowship, The Pennsylvania State University — 2009

Science, Technology & Research Scholars (STARS) Fellowship, Indiana University — 2006

PUBLICATIONS

13. **M.A. Greischar**, L. M. Beck-Johnson, & N. Mideo. Partitioning the influence of ecology across scales on parasite evolution. *Evolution*, 73(11): 2175-2188.

12. **M.A. Greischar**, S.E. Reece, N.J. Savill & N. Mideo. (2019). The challenge of quantifying synchrony in malaria parasites. *Trends in Parasitology*, 35(5): 341-355.

11. E.A. Francis, P.D. Moldowan, **M.A. Greischar**, & N. Rollinson. (2019). Anthropogenic nest sites provide warmer incubation environments than natural nest sites in a population of oviparous reptiles near their northern range limit. *Oecologia*, 190(3): 511-522. Media coverage in *Cottage Life*.

10. Schneider, P., **M.A. Greischar**, P.L.G. Birget, C. Repton, N. Mideo, & S.E. Reece. (2018). Adaptive plasticity in gametocyte conversion rate of malaria parasites. *PLoS Pathogens*, 14(11): e1007371. Media coverage at *Phys.org*.

9. Birget, P.L.G., **M.A. Greischar**, S.E. Reece, & N. Mideo. (2018). Altered life-history strategies protect malaria parasites against drugs. *Evolutionary Applications*, 11:442-455.

8. Kamiya, T., **M.A. Greischar**, & N. Mideo. (2017). Epidemiological consequences of immune sensitization by pre-exposure to vector saliva. *PLoS Neglected Tropical Diseases*, 11: e0005956.

7. **Greischar, M.A**., N. Mideo, A. F. Read, & O. N. Bjørnstad. (2016). Predicting optimal transmission investment in malaria parasites. *Evolution*, 70: 1542-58. **Awarded the R.A. Fisher Prize 2017.**

6. **Greischar, M.A.**, N. Mideo, A. F. Read, & O. N. Bjørnstad. (2016). Quantifying transmission investment in malaria parasites. *PLoS Computational Biology*, 12: e1004718.

5. **Greischar, M.A.**, S.E. Reece, & N. Mideo. (2016). The role of models in translating within-host dynamics to parasite evolution. *Parasitology*, 143: 905-14.

4. **Greischar, M.A.**, A.F. Read, & O.N. Bjørnstad. (2014). Synchrony in malaria infections: How intensifying within-host competition can be adaptive. *American Naturalist*, 183: E36-48.

3. **Greischar, M.A.** & C.M. Lively. (2011). Parasites can simplify host population dynamics & reduce the risk of extinction. *Evolutionary Ecology Research*, 13: 557-69.

2. Acharya, S., A.M. Many, A. Schroeder, F. Kennedy, O.P. Savytskyy, J. Grubb, J. Vincent, E. Friedle, M. Celerin, D. Maillet, H.J. Palmerini, **M.A. Greischar**, G. Moncalian, R.S. Williams, J.A. Tainer, & M.E. Zolan. (2008). *Coprinus cinereus rad50* mutants reveal an essential structural role for Rad50 in axial element & synaptonemal complex formation, homolog pairing & meiotic recombination. *Genetics*, 180: 1889-07.

1. **Greischar, M.A.** & B. Koskella. (2007). A synthesis of experimental work on parasite local adaptation. *Ecology Letters*, 10: 418-34.

TEACHING EXPERIENCE

Guest Lecturer on the evolution of cancer
University of Toronto, *Evolutionary Medicine* (Spring 2015-2018)
Evolution & Adaptation (Summer & Fall 2016, Spring & Summer 2017)

Graduate Teaching Assistant, Dept. of Entomology, Penn State (Fall 2010-2013)
Intro to Population Dynamics, Intro to Entomology, The Insect Connection

Assistant English Teacher Japan Exchange & Teaching (JET) Programme
Inagakuen & Hasuda High Schools, Saitama-ken, Japan (August 2007-August 2008)

Undergraduate Teaching Assistant, Indiana University (Fall 2004-Spring 2006)
In Honors College & Departments of Biology, Mathematics (grader), Chemistry (tutor)

INVITED SEMINARS

Ecology & Evolution of Infectious Diseases Conference, Princeton, 2019

Computational & Mathematical Population Dynamics 5, Fort Lauderdale, 2019

Center for Evolution & Medicine, University of Arizona, 2019

Department of Ecology & Evolutionary Biology, Cornell University, 2019

Departments of Mathematics and Biology, University of Pittsburgh, 2019

Canadian Applied & Industrial Mathematics Society, Ryerson University, Canada, 2018.

Ecology & Evolutionary Biology Department, University of Toronto, Canada, 2013 & 2017.

National Evolutionary Synthesis Center (NESCent) Catalysis Meeting: Ecological Immunology Applied to Vector Biology & Vector-Borne Disease, Durham, NC, 2015.

NSF Research Coordination Network: Infectious Disease Evolution Across Scales Workshop, Immunoparasitology Meeting, Wood's Hole, MA, 2015

Penn State Mathematical Biology Seminar Series. University Park, PA, 2012 & 2014.

Penn State Center for Infectious Disease Dynamics, University Park, PA, 2014.

Penn State Millennium Cafe, University Park, PA, 2014

Penn State Center for Malaria Research, University Park, PA, 2014.

SERVICE

Undergraduate research mentor, University of Toronto — Fall 2014-2017
Ecology & Evolutionary Biology (EEB) Department
Alexander Sapp (Fall 2017), *Jonathan Holland* (Spring 2016-Fall 2017),
Kiran Wadhawan (Summer 2016-Summer 2017),
Lauren Malatesta & *Alanna Leale* (Fall 2014-Spring 2015)

Lead organizer, Broadening Representation & Equity With Science, — Oct. 2016-present
a data-driven discussion series for the EEB Department, University of Toronto, **brews.eeb.utoronto.ca**

Member, NSF Research Coordination Network — 2014-present
Infectious Disease Evolution Across Scales (IDEAS), a network of scientists promoting collaborations between empiricists and theoreticians

Guest Panelist, Disaster Stories: How to embrace failure in science — January 2017
Workshop for EEB Department, University of Toronto

Guest Judge, Ontario Ecology, Ethology, & Evolution Colloquium — May 2016
University of Toronto

Guest Panelist, "How to select and apply to a graduate program" — 2015
University of Toronto, Careers & Research in Ecology & Evolution Workshop

President & Co-founder, Center for Infectious Disease Dynamics Graduate Student Association (CGSA) — 2011-2012
The Pennsylvania State University

Reviewer for *American Naturalist, Bulletin of Mathematical Biology, Ecology Letters, Evolution Letters, Evolution, Infection & Immunity, Interface Focus, Journal of Animal Ecology, Journal of Helminthology, Journal of Mathematical Biology, Journal of the Royal Society Interface, Journal of Theoretical Biology, Nature Communications, Parasites & Vectors, Parasitology, PLoS Biology, PLoS Computational Biology, PLoS ONE*