

**Amanda Kyle Gibson, CV**

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**Education**

2010 – 2016    PhD    Evolution, Ecology and Behavior, Indiana University  
 2004 – 2008    B.A.    Biology, *summa cum laude*, Amherst College

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**Research Appointments**

2019 -            Assistant Professor of Biology, University of Virginia  
 Fall 2018        Evolutionsbiologie Fellow, Wissenschaftskolleg zu Berlin  
 2016 – 2018    Postdoctoral fellow: NIH FIRST program, Emory University  
 2009 – 2010    Intramural Research Trainee: National Institutes of Health  
 2008 – 2009    Fulbright Scholar: l'Université de Paris-Sud XI, France  
 Summer 2006   Research Intern: National Institutes of Health

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**Teaching Appointments**

2018            Teaching Fellow: SBIO 325 Evolution in Action, Spelman College  
 2015            Associate Instructor: L111 Evolution and Diversity, Indiana University  
 2014            Associate Instructor (volunteer): S318 Honors Evolution, Indiana University  
 2010            Associate Instructor: L111 Evolution and Diversity, Indiana University  
 2007-2008    Teaching Assistant: BIO 18 Adaptation and the Organism, Amherst College

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**Publications** (undergraduate mentees underlined; [Google Scholar](#))

2021    **AK Gibson** and AE Nguyen. Does genetic diversity protect host populations from parasites? A meta-analysis across natural and agricultural systems. *Evolution Letters*. 5(1): 16-32.

DM Hawley, **AK Gibson**, AK Townsend, ME Craft, and JF Stephenson. Bidirectional interactions between host social behaviour and parasites arise through ecological and evolutionary processes. *Parasitology*. 148(3): 274-288.

2020    KS Stoy, **AK Gibson**, NM Gerardo, and LT Morran. A need to consider the evolutionary genetics of host–symbiont mutualisms. *Journal of Evolutionary Biology*. 33(12): 1656-1668

**AK Gibson**, PS White, MJ Penley, JC de Roode, and LT Morran. An experimental test of parasite adaptation to common vs. rare host genotypes. *Biology Letters*. 16(7).

**AK Gibson**, H Baffoe Bonnie, MJ Penley, J Lin, R Owens, A Khalid, and LT Morran. The evolution of parasite host range in heterogeneous host populations. *Journal of Evolutionary Biology*. 33(6): 773-782

- PS White, A Choi, R Pandey, A Menezes, MJ Penley, **AK Gibson**, JC de Roode, and LT Morran. Host heterogeneity mitigates virulence evolution. *Biology Letters*. 16(1)
- 2019 **AK Gibson** and CM Lively. Genetic diversity and disease spread: epidemiological models and empirical studies of a natural snail-trematode system. *Wildlife Disease Ecology: Linking Theory to Data and Application*. Ed. K Wilson, A Fenton, D Tompkins. Ch.2, pg. 32-57. British Ecological Society, Cambridge University Press: Cambridge, UK)
- AK Gibson**. Asexual parasites and their extraordinary host ranges. *Integrative and Comparative Biology*. 59(6): 1463-1484.
- C Liu\*, **AK Gibson**\*, P Timper, LT Morran, and RS Tubbs. Rapid change in host specificity in a field population of the biological control organism *Pasteuria penetrans*. *Evolutionary Applications*. 12(4): 744-756. \*authors contributed equally
- 2018 **AK Gibson**, LF Delph, D Vergara, and CM Lively. Periodic, parasite-mediated selection for and against sex. *American Naturalist*. 192(5): 537-551. \*Honorable Mention for the 2018 Student Paper Award
- AK Gibson**, **KS Stoy**, and CM Lively. Bloody-minded parasites and sex: the effects of fluctuating virulence. *J Evol Biol*. 31(4): 611-620.
- 2017 **AK Gibson** and LT Morran. A model for evolutionary ecology of disease: the case for *Caenorhabditis* nematodes and their natural parasites. *J Nematol* 49(4): 357.
- AK Gibson**, LF Delph, and CM Lively. The two-fold cost of sex: experimental evidence from a natural system. *Evol Lett* 1(1): 6-15.
- 2016 **AK Gibson**, **JY Xu**, and CM Lively. Within-population covariation between sexual reproduction and susceptibility to local parasites. *Evolution* 70(9): 2049-2060.
- AK Gibson**, J Jokela, and CM Lively. Fine-scale spatial covariation between infection prevalence and susceptibility in a natural population. *Am Nat* 188(1): 1-14.
- MJ McKone, **AK Gibson**, ...M Neiman. Fine-scale association between parasites and sex in *Potamopyrgus antipodarum* within a New Zealand lake. *New Zeal J Ecol* 40(3).
- DM Castillo, **AK Gibson**, and LC Moyle. Assortative mating and self-fertilization differ in their contributions to reinforcement, cascade speciation, and diversification. *Curr Zool* 62(2): 169-181.
- 2015 **AK Gibson**, **KS Stoy**, **IA Gelarden**, **MJ Penley**, CM Lively, and LT Morran. The evolution of reduced antagonism - a role for host-parasite coevolution. *Evolution* 69(11): 2820-2830.
- AK Gibson**, DM Drown and CM Lively. The Red Queen's Race: an experimental card game to teach coevolution. *Evol Educ Outreach* 8: 10; \*Huxley Award for evolution education
- AK Gibson** and JA Fuentes. A phylogenetic test of the Red Queen Hypothesis: outcrossing and parasitism in the Nematode phylum. *Evolution* 69(2): 530-540.

- L Barbosa, CK Johnson, DM Lambourn, **AK Gibson**, ...ME Grigg. A novel *Sarcocystis neurona* genotype XIII is associated with severe encephalitis in an unexpectedly broad range of marine mammals from the northeastern Pacific Ocean. *Int J Parasitol* 45(9-10): 595-603.
- 2014 **AK Gibson**, G Refrégier, ME Hood, and T. Giraud. Performance of a hybrid fungal pathogen on pure species and hybrid plant hosts. *Int J Plant Sci* 175(6): 724-730.
- 2013 **AK Gibson**, Z Smith, C Fuqua, K Clay, and JK Colbourne. Why so many unknown genes? Partitioning orphans from a representative transcriptome of the lone star tick *Amblyomma americanum*. *BMC Genomics* 15: 135.
- AK Gibson**, E Petit, J Mena-Ali, B Oxelman, and ME Hood. Life-history strategy defends against disease and may select against physiological resistance. *Ecol Evol*: 1741-1750.
- 2012 AG Rothfuchs, E Roffe, **AK Gibson**, ...A Bafica. Mannose-binding lectin regulates host resistance and pathology during experimental infection with *Trypanosoma cruzi*. *PLoS One* 7(11): e47835.
- AK Gibson**, ME Hood, T Giraud. Sibling competition arena: selfing and a competition arena can combine to constitute a barrier to gene flow in sympatry. *Evolution* 66: 1917-1930.
- 2011 JM Wendte, **AK Gibson**, ME Grigg. Population genetics of *Toxoplasma gondii*: new perspectives from parasite genotypes in wildlife. *Vet Parasitol* 182: 96-111.
- AK Gibson**, S Raverty, DM. Lambourn, ...ME Grigg. Polyparasitism is associated with increased disease severity in *Toxoplasma gondii*-infected marine sentinel species. *PLoS Negl Trop Dis* 5(5): e114.
- M López-Villavicencio, F Courjol, **AK Gibson**, ...T Giraud. Competition, cooperation among kin, and virulence in multiple infections. *Evolution* 65: 1357-1366.
- 2010 **AK Gibson**, J Mena-Ali, ME Hood. Loss of pathogens in threatened plant species. *Oikos* 119: 1919-1928.
- ME Hood, J Mena-Ali, **AK Gibson**, ...J Antonovics. Distribution of the anther-smut pathogen *Microbotryum* on species of the Caryophyllaceae. *New Phytol* 187: 217-229.

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### Research Grants

2020	<b>Current:</b> R35 MIRA, NIGMS, NIH <i>A general test of the genetic basis of parasite resistance across genetic and environmental contexts</i>	
2020	<b>Current:</b> Award in Interdisciplinary Research, Jeffress Memorial Trust <i>Modeling the evolution of disease resistance in a variable world</i>	
2020	EVO Workshop Grant, Society for the Study of Evolution	\$3000
2019	EVO Workshop Grant, Society for the Study of Evolution	\$3000
2016	Louise Constable Hoover Fellowship, IU	\$1000
2015	Common Themes in Reproductive Diversity, IU	\$900
2015	College of Arts and Sciences Graduate Student Travel Award, IU	\$500

2015	Provost's Travel Award, IU	\$1,700
2014	Senior Research Grant, Indiana Academy of Sciences	\$1,431
2014	<u>Doctoral Dissertation Improvement Award</u> , NSF	\$13,000
2013	Travel Award, Graduate and Professional Student Organization, IU	\$500
2013	<u>Student Research Award</u> , American Society of Naturalists	\$2,000
2012	<u>Rosemary Grant Award</u> , Society for the Study of Evolution	\$2,000
2012	Common Themes in Reproductive Diversity, IU and NIH	\$2,000
2011	Women in Science Travel Grant, IU	\$400
2011	Grant-in-Aid of Research, Sigma Xi	\$400

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### Fellowships and Awards

2018	Student Paper Award, Honorable Mention, American Society of Naturalists
2018	Theodosius Dobzhansky Prize, Society for the Study of Evolution
2017	John Maynard Smith Prize, European Society for Evolutionary Biology
2016 – 2018	Fellowships in Research and Teaching (FIRST; IRACDA), Emory University and NIH
2016	Thomas Henry Huxley Award for education, Society for the Study of Evolution
2016	Honorable Mention for the WD Hamilton Award, Society for the Study of Evolution
2015 – 2016	Common Themes in Reproductive Diversity Traineeship, IU
2015	Ruesink Outstanding Associate Instructor Teaching Award in Biology, IU
2010 – 2015	Graduate Research Fellowship, National Science Foundation
2012 – 2013	Common Themes in Reproductive Diversity Traineeship, IU and NIH
2013	Ruth Patrick Award for best poster at Evolution, American Society of Naturalists
2013	Lloyd I. Rosenblum Memorial Fellowship for graduate studies, Amherst College
2012	John Woodruff Simpson Fellowship for graduate studies, Amherst College
2011	Memorial Fellowship for graduate studies, Amherst College
2008-2009	Fulbright Fellowship for research at l'Université de Paris-Sud XI, France
2009	Young Investigator Award for best talk; FEBS Course, Cell Host and Microbe/Eukaryotic Cell
2008	Oscar E. Schotté Award for the best senior thesis in Biology, Amherst College

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### Service

#### Peer Review

Reviewer for	Evolution, American Naturalist, Infection Genetics and Evolution, BMC Evolutionary Biology, PLoS One, Journal of Biological Education, Proceedings of the Royal Society: B, Philosophical Transactions of the Royal Society, Ecology and Evolution, PCI Ecology, Ecology, Molecular Biology and Evolution, Molecular Ecology, Scientific Reports
Grant review	Swiss National Science Foundation, SPARK Funding Scheme; Society for the Study of Evolution, Graduate Research Excellence Grants; National Science Foundation, panelist and ad-hoc reviewer