

Curriculum Vitae  
**MANUS M. PATTEN**

Department of Biology  
Georgetown University  
37<sup>th</sup> and O Streets NW  
Washington, DC 20057

phone: 202-687-5731  
mmp64@georgetown.edu  
[www.pattenlab.com](http://www.pattenlab.com)  
@pattenlab

### Academic Appointments

2018- Teaching Professor, Georgetown University, Department of Biology  
2015–2018 Associate Teaching Professor, Georgetown University, Department of Biology  
2011–2015 Assistant Teaching Professor, Georgetown University, Department of Biology  
2008–2010 Preceptor, Harvard University, Department of Organismic and Evolutionary Biology

### Education

2002-2008 Harvard University, Ph.D. in Biology  
1998-2002 Syracuse University, B.S. in Biomathematics (*magna cum laude*, with honors)

### Peer-reviewed Publications

1. Patten, M. M. 2018. Selfish X chromosomes and speciation. *Molecular Ecology* in press
2. Rydzewski, W. T.\*, S. A. Carioscia\*, G. Liévano\*, V. D. Lynch\*, and M. M. Patten. 2016. Sexual antagonism and meiotic drive cause stable linkage disequilibrium and favour reduced recombination on the X chromosome. *Journal of Evolutionary Biology* 29: 1247–1256.
3. Patten, M. M., M. Cowley, R. Oakey, and R. Feil. 2016. Regulatory links between imprinted genes: evolutionary predictions and consequences. *Proceedings of the Royal Society B: Biological Sciences* 283: 20152760.
4. Patten, M. M., S. A. Carioscia\*, and C. R. Linnen. 2015. Biased introgression of mitochondrial and nuclear genes: a comparison of diploid and haplodiploid genetic systems. *Molecular Ecology* 24: 5200–5210.
5. Úbeda, F., M. M. Patten, and G. Wild. 2015. On the origin of sex chromosomes from meiotic drive. *Proceedings of the Royal Society B: Biological Sciences* 282: 20141932.
6. Patten, M. M. 2014. Meiotic drive influences the outcome of sexual antagonism at a linked locus. *Journal of Evolutionary Biology* 27: 2360–2370.
7. Patten M. M., L. Ross, J. P. Curley, D. C. Queller, R. Bonduriansky, J. B. Wolf. 2014. The evolution of genomic imprinting: theories, predictions, and empirical tests. *Heredity* 113: 119–128.
8. Patten, M. M., F. Úbeda, and D. Haig. 2013. Sexual and parental antagonism shape genomic architecture. *Proceedings of the Royal Society B: Biological Sciences* 280: 20131795.
9. Úbeda, F., D. Haig, and M. M. Patten. 2011. Stable linkage disequilibrium owing to sexual antagonism. *Proceedings of the Royal Society B: Biological Sciences* 278: 855–862.
10. Patten, M. M., D. Haig, and F. Úbeda. 2010. Fitness variation due to sexual antagonism and linkage disequilibrium. *Evolution* 64: 3638–3642.
11. Patten, M. M. and D. Haig. 2009. Maintenance or loss of genetic variation under sexual and parental antagonism at a sex-linked locus. *Evolution* 63: 2888–2895.
12. Patten, M. M. and D. Haig. 2009. Parental sex discrimination and intralocus sexual conflict. *Biology Letters* 5: 667–670.

13. Patten, M. M. and D. Haig. 2008. Reciprocally imprinted genes and the response to selection on one sex. *Genetics* 179: 1389-1394.
14. Quental, T. B., M. M. Patten, and N. E. Pierce. 2007. Host plant specialization by means of sexual selection. *American Naturalist* 169(6): 830-836.
15. Starmer, W. T., M. Patten, and M. Polak. 2002. The statistics of detecting positional fluctuating asymmetry. *Biological Journal of the Linnean Society* 77(4): 491-498.  
\*undergraduate co-author

### Other Publications

16. Patten, M. M. 2018. David Haig. *Encyclopedia of Evolutionary Psychological Science*.
17. Patten, M. M. 2017. Levels of selection. In *Reference Module in Life Sciences*. Elsevier ISBN: 978-0-12-809633-8, <http://dx.doi.org/10.1016/B978-0-12-809633-8.01140-7>
18. Patten, M. M. 2016. Imprinting evolution in *Arabidopsis*. *Nature Plants* 2:16152.
19. Haig, D., F. Úbeda, and M. M. Patten. 2014. Specialists and generalists: the sexual ecology of the genome. *Cold Spring Harbor Perspectives in Biology* 6(9): a017525.
20. Patten, M. M. 2010. Levels of selection. In Breed, M. and J. Moore (eds.), *Encyclopedia of Animal Behavior*. Academic Press, Oxford, UK.

### Manuscripts in prep

- McMahon, K. M.\* and M. M. Patten. The difficulty with detecting species selection from phylogenies.  
\*undergraduate co-author

### Honors and Awards

- |            |   |
|------------|---|
| 2011–2016  | Georgetown College Academic Council Honors (Guest of Honor in 2014)     |
| 2012, 2016 | Finalist for the Dorothy Brown Award for teaching                       |
| 2011, 2013 | Georgetown University competitive grant-in-aid for research             |
| 2004–2007  | NSF Graduate Research Fellowship  |
| 2004–2005  | Three Certificates of Distinction in Teaching from the Derek Bok Center |
| 2001–2002  | Goldwater Scholarship   |
| 2002       | Lundgren Award for outstanding senior (Syracuse Biology department)     |
| 2001       | American Physiological Society Summer Research fellowship               |
| 2000       | Ruth Meyer fellowship for summer research at Syracuse University        |
| 1998–2002  | Chancellor's Scholarship to Syracuse University                         |

### Teaching Experience

1. As member of the teaching faculty, Georgetown University, Department of Biology  
*Biology 075 Explorations: Biological Chemistry, Biology 103/113 Foundations in Biology I; Biology 104/114 Foundations in Biology II; Biology 152 Genetics; Biology 185/251 Evolutionary Processes; Biology 203 Seminar: Inquiry into the Foundations of Biology; Biology 300 Research Tutorial; Biology 341-342 Research-Intensive Senior Experience; Biology 360 Molecular Evolution; Biology 387/420 Genetic Conflicts; Biology 431 Introduction to Computer Programming for Biologists; Biology 501 Graduate Foundations in Ecology, Evolution, and Behavior; IDST 030 Bridge to Genetics*
2. As Preceptor, Harvard University, Department of Organismic and Evolutionary Biology

*OEB 10 Foundations of Biological Diversity; OEB 55 Ecology*

3. As Graduate Teaching Fellow, Harvard University, Department of Organismic and Evolutionary Biology

*OEB 53 Evolution; BS91r Memes and cultural evolution (tutorial); BS 57 Animal Behavior; OEB 114 Vertebrate Viviparity; BS 50 Genetics and Genomics*

### **Academic Service**

- 2016– Program Coordinator for REU Site Program: Environmental Science and Policy in the Nation's Capital
- 2012– Committee on undergraduate students and studies (CUSS)
- 2014–2015 Director of the Biology major at Georgetown University
- 2006–2008 Co-chair Mind/Brain/Behavior graduate committee
- 2004–2008 Departmental Mind/Brain/Behavior graduate student representative
- 2004–2005 Departmental graduate student council representative
- 2003 Departmental representative at Annual Biomedical Research Conference for Minority Students
- ad hoc* Reviewer for American Naturalist, Behavioral Ecology, Biology Letters, Biological Theory, BMC Evolutionary Biology, Current Zoology, European Journal of Medical Genetics, Evolution, Evolution Medicine and Public Health, Evolutionary Applications, G3: Genes|Genomes|Genetics, Heredity, Journal of Theoretical Biology, Journal of Zoological Systematics and Evolutionary Research, Molecular Biology and Evolution, Nature Plants, PLoS One, Proceedings of the Royal Society B: Biological Sciences, Scientific Reports, textbooks for Roberts & Company and National Geographic.

### **Seminars, Talks, and Posters**

- 2015 "The long reach of genetic conflicts" Georgetown University Department of Biology
- 2015 "Biased introgression of mitochondrial and nuclear genes: a comparison of diploid and haplodiploid genetic systems" Nomifest, Museum of Comparative Zoology, Harvard University, Cambridge, MA
- 2013 "Intralocus sexual antagonism and fitness variance" (co-authored with M. C. Cassidy\*) Evolution meeting – Snowbird, UT
- 2012 "Conflicting selection pressure: evolution of genes and evolution of genetics" University of Kentucky Biology Department
- 2012 "Meiotic drive and sexual antagonism" Evolution meeting – Ottawa, ON
- 2010 "Linkage disequilibrium and fitness variation in a two-locus model of sexual antagonism" Evolution meeting – Portland, OR.
- 2008 "Sexual and parental antagonism on the X chromosome" University of Tennessee, Knoxville, theory group.
- 2008 "Evolutionary theories of sexual and parental antagonism." Syracuse University Biology Department.
- 2008 "Sexual and parental antagonism." Evolution meeting – Minneapolis, MN.
- 2007 "Imprinted genes and the response to sex-limited selection." Poster given at NEMEB - New York, NY.
- 2007 "Memes and the levels of selection." Evolution Group talk - Harvard.
- 2005 "A view of two conflicts from a single gene." Accepted talk, Harvard Mind/Brain/Behavior graduate student symposium – Cambridge, MA.

2001 “Time-course for upregulation of Na-H Exchange by Human Cytomegalovirus.” Poster presented at Experimental Biology – Orlando, FL.  
\*denotes undergraduate co-author

**Affiliations and Memberships**

Society for the Study of Evolution (SSE)