

J. ARVID ÅGREN, PhD

Wenner-Gren Fellow

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POSITIONS

2018 – present. Wenner-Gren Fellow, Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, MA, USA. Host: David Haig.

2015 – 2018. Postdoctoral Associate, Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY, USA. Supervisor: Andrew G. Clark.

EDUCATION

2010 – 2015. PhD, Department of Ecology and Evolutionary Biology, University of Toronto, Canada. Supervisor: Stephen I. Wright.

2007 – 2010. BSc Biological Sciences (Honours in Evolutionary Biology), University of Edinburgh, UK.

FELLOWSHIPS

2018 – 2021. Wenner-Gren Fellow, The Wenner-Gren Foundations

2017 – 2018. Postdoctoral Fellowship, The Sweden-America Foundation

2010 – 2015. Junior Fellow, Massey College, Toronto, Canada

2010 – 2015. University of Toronto Fellowship

PRIZES AND AWARDS

2017, 2018. Finalist, Life Science Research Foundation postdoctoral competition

2015. Finalist, iBiology Young Scientist Series

2014. National Academy of Sciences Keck Futures Initiative Fellow

2013. Outstanding Teaching Assistant Award, Dept. of EEB, University of Toronto

2013. The Alfred and Florence Aiken and Dorothy Woods Memorial Graduate Scholarship in Ecology and Evolutionary Biology

2013. Ramsay Wright Award, Dept. of EEB, University of Toronto

2013. AAAS/*Science* Program for Excellence in Science

2012. Best Student Talk (last day), PopGroup46, Glasgow, UK

2008. Gatsby Plants Scholar, The Gatsby Foundation Plant Science Summer School

2007. Direct entry to second year, University of Edinburgh

MINOR AND TRAVEL GRANTS

2013, 2018. Young Investigator Travel Award, Society for Molecular Biology and Evolution

2012. University of Toronto School of Graduate Studies Conference Grant

2011, 2012, 2013, 2015. Massey College Travel Grant

2011, 2012. Massey College Scholarship

2008 + 2009. Grants from the Gatsby Plants Foundation, the Student Fund of the University of Edinburgh, the James Rennie Bequest, and the British Association for summer research at the University of Oxford and the University of Toronto.

PUBLICATIONS

Total number of citations = 511, h-index = 9 ([Google Scholar](#), April 19, 2019)

‡Denotes equal contribution.

Accepted

19. Rubenstein DR, **JA Ågren**, L Carbone, HE Hoekstra, NC Elde, KM Kapheim, L Keller, CS Moreau, AL Toth, S Yeaman, and HA Hofmann. Coevolution of genome architecture and social behavior. *Trends in Ecology and Evolution*
18. **Ågren JA**‡, Davies NG‡, and KR Foster. Enforcement is central for the evolution of cooperation. *Nature Ecology & Evolution*
17. **Ågren JA**‡, Munasinghe M‡, and AG Clark. Sexual conflict through Mother's Curse and Father's Curse. *Theoretical Population Biology*

Published

16. **Ågren JA** and AG Clark. 2018. Selfish genetic elements. *PLoS Genetics*. 14: e1007700
15. **Ågren JA**. 2018. The Hamiltonian view of social evolution. *Studies in History and Philosophy of Biological and Biomedical Science*. 68–69: 88–93.
14. **Ågren JA** and GDD Hurst. 2017. Selfish Genes. In *Oxford Bibliographies in Evolutionary Biology* (K. Pfennig ed.). Oxford University Press: New York.
13. **Ågren JA**‡, Williamson RJ‡, Campitelli BE, and J Wheeler. 2017. Greenbeards in yeast: An undergraduate laboratory exercise to teach the genetics of cooperation. *Journal of Biological Education*. 51: 228–236.
12. **Ågren JA**. 2016. Selfish genetic elements and the gene's-eye view of evolution. *Current Zoology*. 62: 659–665
11. **Ågren JA**, Huang H, and SI Wright. 2016. Transposable element evolution in the allotetraploid *Capsella bursa-pastoris*. *American Journal of Botany*. 103: 1197–1202
10. **Ågren JA**, S Greiner, MTJ Johnson, and SI Wright. 2015. No evidence that sex and transposable elements drive genome size variation in evening primroses. *Evolution* 69: 1053–1062
9. Douglas G, G Gos, K Steige, A Salcedo, K Holm, **JA Ågren**, K Hazzouri, W Wang, AE Platts, EB Josephs, RJ Williamson, B Neuffer, M Lascoux, T Slotte, SI Wright. 2015. Hybrid origins and the earliest stages of diploidization in the highly successful recent polyploid *Capsella bursa-pastoris*. *Proceedings of the National Academy of Sciences USA* 112: 2806–2811
8. Hough J‡, **JA Ågren**‡, SCH Barrett, and SI Wright. 2014. Chromosomal distribution of cyto-nuclear genes in a dioecious plant with sex chromosomes. *Genome Biology and Evolution* 6: 2439–2443
7. **Ågren JA**, Wang W, Koenig D, Neuffer B, Weigel D, SI Wright. 2014. Mating system shifts and transposable element evolution in the plant genus *Capsella*. *BMC Genomics* 15: 602
6. **Ågren JA**. 2014. Evolutionary transitions in individuality: insights from transposable elements. *Trends in Ecology and Evolution* 29: 90–96
5. Slotte T, Hazzouri KM, **Ågren JA**, Koenig D, Maumus F, Guo Y, Steige K, Platts AE, Escobar JS, Newman LK, Wang W, Mandáková T, Vello E, Smith LM, Steffen J, Takuno S, Brandvain Y, Coop G, Andolfatto P, Hu TT, Blanchette M, Clark RM, Quesneville H, Nordborg M, Gaut BS, Lysak MA, Jenkins J, Grimwood J, Chapman J, Prochnick S, Shu S, Rokhsar D, Schmutz J, Weigel D, Wright SI. 2013. The *Capsella rubella* genome and the genomic consequences of rapid mating system evolution. *Nature Genetics* 45: 831–835

4. **Ågren JA**. 2013. Selfish genes and plant speciation. *Evolutionary Biology* 40: 439–449
3. Ross RI, **Ågren JA**, and JR Pannell. 2012. Exogenous selection shapes germination behaviour and seedling trait of populations at different altitudes in a *Senecio* hybrid zone. *Annals of Botany* 110: 1439–1447
2. **Ågren JA** and Wright SI. 2011. Co-evolution between transposable elements and their host: a major factor in genome size evolution? *Chromosome Research* 19: 777–786
1. Charlesworth D, Qiu S, Bergero R, **Ågren JA** and SI Wright. 2010. Using DNA sequence diversity to test for selection in *Silene*. *International Journal of Plant Science* 171: 1072–1082

Perspectives, Commentaries, and Short Book Reviews

7. Elliott TE and **JA Ågren**. 2016. A naturalist's guide to mobile genetic elements. *Evolution: Education and Outreach*. 9: 1–3
6. **Ågren JA**. 2016. The social life of the genome. *Trends in Ecology and Evolution*. 31: 494–495
5. **Ågren JA** and SI Wright. 2015. Selfish genetic elements and plant genome size evolution. *Trends in Plant Science* 20: 195–196
4. **Ågren JA**. 2015. Bortom det acceptablas gränser. Bengt Lidforss och lundaradikalismen [Beyond the limits of acceptability. Bengt Lidforss and the Lund radicalism]. *History and Philosophy of the Life Sciences* 37: 126–128
3. **Ågren JA**. 2013. Plant Transposable Elements: Impact on Genome Structure and Function. *Quarterly Review of Biology* 88: 252
2. **Ågren JA**. 2013. Sex, spite, and selfish genes – Nature's Oracle: The Life and Work of W. D. Hamilton. *Journal of Genetics* 92: 341–343
1. Wright SI and **JA Ågren**. 2011. Sizing up *Arabidopsis* genome evolution. *Heredity* 107: 509–510

Teaching Material

2. **Ågren JA**, Williamson RJ and J Wheeler. 2013. Greenbeards and the evolution of cooperation in yeast. In Wheeler, J. *BIO220: From genomes to ecosystem in a changing world. Laboratory Manual Winter 2013*. Department of Ecology and Evolutionary Biology, University of Toronto. (Re-published annually since.)
1. **Ågren JA**, Hay D, and L Swafe-Gonzales. 2011. Biology Higher and Standard Level. *Lanterna Education International Baccalaureate Online Revision Courses*

Popular Science

9. **Ågren JA**. 2014. Are aggressive sperm a barrier to cross species sex? *Seeds of Science*
8. **Ågren JA**. 2013. A book that changed me: *The Selfish Gene*. *GuardianWitness*
7. **Ågren JA**. 2012. An ambitious take on human nature, a review of EO Wilson's *The Social Conquest of Earth*. *Chirograph: Toronto Review of Books*
6. **Ågren JA**. 2012. Sci-lenced: A PEN Canada evening on scientists' freedom of expression. *Chirograph, The Toronto Review of Books*
5. **Ågren JA**. 2011. Genomics helps us all. *The Varsity*
4. **Ågren JA**. 2011. Play Nice, a review of Martin Nowak and Roger Highfield's *SuperCooperators*. *The Varsity*
3. **Ågren JA** and C White. 2011. What's in a name? *EUSci*
2. **Ågren JA**. 2010. Själviska gener. *Bi-lagan*
1. **Ågren JA**. 2010. Ännu ett kapitel i evolutionens historiebok. *evolutionsteori.se*

PRESENTATIONS

Invited Seminars

- 2019. Department of Biology, Lund University, Sweden (forthcoming)
- 2019. Museum of Comparative Zoology, Harvard University, USA
- 2018. Department of Biology, Syracuse University, USA
- 2018. Department of Biology, University of Kentucky, USA
- 2018. Gregor Mendel Institute, Vienna, Austria
- 2018. Petrov Group, Department of Biology, Stanford University, USA
- 2018. Department of Evolution and Ecology, University of California, Davis, USA
- 2017. Department of Biology, University of Rochester, USA
- 2017. Behaviour and Genetics of Social Insects Lab, University of Sydney, Australia
- 2017. New Directions in the Emergence and Maintenance of Individuality Conference, Sydney, Australia
- 2017. Social Evolution and Genome Complexity Symposium, Columbia University, USA
- 2016. Department of Biology, University of Maryland, USA
- 2015. Evolutionary Biology Centre, Uppsala University, Sweden
- 2015. Institute of Population Genetics, University of Veterinary Medicine, Vienna, Austria
- 2015. Magdalen College, Oxford, UK
- 2013. Department of Integrative Biology, University of Guelph, Canada
- 2013. Graduate Student Seminar Series, Institute of Integrative Biology, University of Liverpool, UK
- 2013. Foster Group, Department of Zoology, University of Oxford, UK

Conference Contributions

- 2019. Society for the Study of Evolution. Providence, RI, USA (talk; forthcoming)
- 2019. The Evolution of Cooperation and Conflict: From Theory to Experimental Evaluation, Uppsala, Sweden (talk; forthcoming)
- 2018. 2nd Joint Congress on Evolutionary Biology. Montpellier, France (talk)
- 2018. Society for Molecular Biology and Evolution. Yokohama, Japan (poster)
- 2018. American Society of Naturalists symposium on “150 Years Of *The American Naturalist*”. Asilomar, CA, USA (talk)
- 2017. European Society for Evolutionary Biology. Groningen, Netherlands (talk)
- 2016. The Allied Genetics Conference. Orlando, FL, USA (poster)
- 2015. European Society for Evolutionary Biology. Lausanne, Switzerland (talk)
- 2014. National Academies Keck Futures Initiative (NAKFI) Conference on Collective Behavior: From Cells to Societies. Irvine, CA, USA (poster)
- 2014. Society for the Study of Evolution. Raleigh, NC, USA (talk)
- 2013. Society for Molecular Biology and Evolution. Chicago, IL, USA (talk)
- 2012. Population Genetics Group 46. Glasgow, UK (talk)
- 2012. 1st Joint Congress on Evolutionary Biology. Ottawa, Canada (talk)
- 2011. European Society for Evolutionary Biology. Tübingen, Germany (poster)
- 2011. Canadian Society for Ecology and Evolution, Banff, Canada (poster)

Popular Science

2018. Mitochondria, sex, and the mother's curse. Harvard Postdoc Science Café, Cambridge
2017. [Skype a Scientist](#). Paired with a school in New Jersey, USA.
2015. Transposable elements and the evolution of conflict and cooperation. *iBiology Young Scientist Series*
2014. Jumping genes and other Mendelian outlaws. *Treehouse Lecture Series*, Toronto
2013. The Society of Genes. *Massey College Junior Fellow Lecture Series*, Toronto
2012. Genetic conflicts: a persistent hangover from sex? *Massey WIDEN*, Toronto
2012. Internal conflicts: The biology of selfish genetic elements. *Nerdmite*, Toronto
2010. Did selfish genes drive salamanders stupid? *Massey College Junior Fellow Lecture Series*, Toronto
2010. Why hasn't natural selection made us immortal? *Workshops for Interdisciplinary Exchange and Novelty*, Toronto
2009. A war within us – Selfish genes and intragenomic conflict. *EUSci Seminar Series*, Edinburgh, UK

WORKING GROUPS

2017. *Social Evolution and Genome Complexity*. Columbia University and the National Science Foundation Sociogenomics Research Coordination Network. New York, NY, USA (Invited participant)
2014. *Evaluate the degree to which cooperation and conflict need to be balanced in order to facilitate the evolution, expansion, optimal performance, and maintenance of collective behaviors*. National Academies Keck Futures Initiative (NAKFI) Conference on Collective Behavior: From Cells to Societies. Irvine, CA, USA

TEACHING

Full Teaching Dossier available upon request.

Qualifications

2012 – 2014. Advanced University Teaching Preparation Certificate, Centre for Teaching Support and Innovation, University of Toronto

Experience

Solo Instructor

2018. Mendelian Outlaws: The Biology of Selfish Genetic Elements. 1st year seminar course. Cornell University

Guest Lecturer (Cornell University)

2015, 2016, 2017. Human Genomics (3rd/4th year undergraduate/1st year grad)

Teaching Assistant (University of Toronto)

2015. Tutorial Teaching Assistant, Evolutionary Medicine (3rd year undergraduate)

2014. Lecture Teaching Assistant, Adaptation and Biodiversity (1st year)

2012 – 2014. Lab Teaching Assistant, From Genomes to Ecosystem (2nd year)

2011. Lab Teaching Assistant, Molecular and Cell Biology (1st year)

2010 – 2014. Lab Teaching Assistant, Adaptation and Biodiversity (1st year)

Other

2010. Tutor. Sweden Biology Olympics team, Swedish Centre for School Biology and Biotechnology

2008 – 2010. Tutor in biology and mathematics. Lanterna Education International Baccalaureate Revision Courses, London, UK and Stockholm, Sweden

UNDERGRADUATE SUPERVISION

2016 – 2017. Yang Lu, Undergraduate research student, Cornell University

2014. Jasmina Uzonovic, Undergraduate research student, University of Toronto

2014. Yannay Khaikin, Undergraduate NSERC summer project, University of Toronto

PROFESSIONAL SERVICE

Symposia organized

2018. *Mode of inheritance and genomic conflicts*. 2nd Joint Congress on Evolutionary Biology. Montpellier, France. Co-organized with Hanna Johannesson, Uppsala University.

2015. *Cooperation without kinship: from genomes to mutualisms*. 15th Congress of the European Society for Evolutionary Biology. Lausanne, Switzerland. Co-organized with Kevin Foster, University of Oxford.

Other

2018. Poster judge, Cornell Undergrad Research Forum

2016. Poster judge, The Allied Genetics Conference, Orlando, FL, USA

2014 – 2015. Member, Network of Experts, Evidence for Democracy, Canada

2010 – 2015. Co-President and several other positions in the Ecology and Evolution Graduate Student Association, University of Toronto, including Ombudsperson, Organizer of Graduate Student Seminar Series, Darwin Day, and Summer Book Clubs

2013. Brunch with Scientists, Cafe Scientifique, Toronto Science Festival

2013 – 2015. Student Representative, Academic Appeals Committee, Department of Ecology and Evolutionary Biology, University of Toronto

2012 – 2014. Judge, Toronto Science Fair

2010 – 2012. Tutor, Massey College High School Tutor and Mentorship Programme

2010, 2013. Atwood Lecture Selection Committee, Department of Ecology and Evolutionary Biology, University of Toronto

2010 – 2012. Treasurer and President, Massey College Junior Fellow Lecture Series

REVIEWING

Journals

Trends in Ecology and Evolution; Journal of Evolutionary Biology; Evolution; Molecular Biology and Evolution; eLife; G3: Genes, Genomes, Genetics; Proceedings of the Royal Society B; Genome Biology and Evolution; Plant Science; Current Zoology; Journal of Molecular Evolution; New Phytologist; Peer J; Nature Communications; Integrative and Comparative Biology

Publishing Houses

World Scientific Publishing

Funding bodies

European Research Council (ERC); French National Research Agency (ARN); Sigma Xi.

PROFESSIONAL MEMBERSHIPS

Society for the Study of Evolution,

European Society for Evolutionary Biology

Society for Molecular Biology and Evolution

Friends of the Stanford Encyclopedia of Philosophy