

STEPHEN ISAAC WRIGHT

DEGREES

- 2000-2003 University of Edinburgh, Scotland UK
PhD in Evolutionary Genetics, Institute of Cell, Animal and Population Biology
Dissertation: 'Effects of recombination rate and mating system on genome evolution and diversity in *Arabidopsis*'
Advisor: Prof. Deborah Charlesworth
- 1998-2000 McGill University, Montreal, QC, Canada
M.Sc. in Molecular Evolution, Department of Biology
Dissertation: 'Transposon dynamics in self- and cross-fertilizing plant populations'
Advisors: Prof. Daniel Schoen and Prof. Thomas Bureau
- 1994-1998 University of Toronto, Toronto, ON Canada
B.Sc. Evolutionary Biology Specialist, Departments of Botany and Zoology
Thesis: 'Size-dependent gender modification in a hermaphroditic perennial herb'
Advisor: Prof. Spencer C.H. Barrett

EMPLOYMENT

- January 2019- Department Chair, Professor and Canada Research Chair in Population Genomics, Department of Ecology and Evolutionary Biology, University of Toronto
- July 2016- Professor and Canada Research Chair in Population Genomics, Department of Ecology and Evolutionary Biology, University of Toronto
- 2011-2016 Associate Professor
Department of Ecology and Evolutionary Biology, University of Toronto
- 2008-2011 Assistant Professor
Dept. of Ecology and Evolutionary Biology, University of Toronto
- 2005-2008 Assistant Professor
Department of Biology, York University, Toronto, ON
- 2003-2004 NSERC postdoctoral fellow
Department of Ecology and Evolutionary Biology
University of California, Irvine, Irvine, CA, USA
Advisor: Prof. Brandon S. Gaut

HONOURS and AWARDS

- 2017 Steacie Prize for Natural Sciences
- 2016 E.W.R. Steacie Fellowship
- 2016 Tier 1 Canada Research Chair
- 2016 Margaret Dayhoff Award for Research Excellence, Society for Molecular Biology and Evolution (SMBE)
- 2016 College of New Scholars, Artists and Scientists, Royal Society of Canada
- 2015 NSERC Accelerator Award
- 2010 NSERC Accelerator Award
- 2006 Alfred P. Sloan Research Fellowship

2003 NSERC postdoctoral Fellowship
 2000 Commonwealth Graduate fellowship
 2000 NSERC postgraduate fellowship B
 1998 NSERC postgraduate fellowship A

PROFESSIONAL SERVICE

2019 Guest Editor, *New Phytologist Special issue on Evolution of Plant Reproductive Systems*
 2016- Associate Editor, *Evolution Letters*
 2014-2017 Senior Editor, Population genetics and genomics section, *G3: Genes|Genomes|Genetics*
 2013- Associate Editor, *Molecular Biology and Evolution* (MBE)
 2012- Associate Editor, *Genetics*
 2011- Member of Faculty of 1000, Plant Genomes and Evolution

RESEARCH AWARDS

2016-2018 E.W.R. Steacie Fellowship (\$250,000 plus salary support over two years)
 2015-2022 Tier 1 Canada Research Chair (\$1,400,000, including salary support over seven years)
 2015-2018 NSERC Accelerator Award (\$120,000 over three years)
 2015-2020 NSERC Discovery Grant (\$370,000 over five years)
 2013-2016 Genome Canada Bioinformatics and Computational Biology Award (\$1,000,000 over three years)
 2010-2012 NSERC Accelerator Award (\$120,000 over three years)
 2010-2015 NSERC Discovery Grant (\$270,000 over five years)
 2009-2013 Genome Canada/Genome Quebec Competition in Applied Genomics Research Competition in Applied Genomics Research in Bioproducts or Crops (ABC) (\$4,700,000 over five years)
 Co-investigators: Thomas Bureau (McGill-project leader), Stephen Wright (University of Toronto group leader), Daniel Schoen (McGill), Anwar Naseem (McGill), Alan Moses (Toronto), Paul Harrison (McGill), John Stinchcombe (Toronto), Mathieu Blanchette (McGill), Ken Dewar (McGill)
 2008-2011 CFI/ORF Leaders Opportunity Fund (\$508,000 over three years)
 2009-2010 NSERC RTI (\$25,000)
 Co-investigators: RF Sage (project leader), Stephen Wright and 2 others
 2006-2008 Alfred P. Sloan Fellowship in Computational and Evolutionary Molecular Biology (\$40,000 US over 2 years)
 2005-2010 NSERC Discovery Grant (\$192,500 over five years)
 2005-2008 CFI/ORF New Opportunities Fund (\$462,268 over three years)

SCHOLARLY AND PROFESSIONAL WORK

PUBLICATIONS (underlining denotes Wright lab trainee, * indicates joint first or last authorship and/or joint corresponding authorship)

105. Uzunovic, J., Josephs E., Stinchcombe J., and Wright S.I. 2019. Transposable elements are important contributors to standing variation in gene expression in *Capsella grandiflora*. *Molecular Biology and Evolution in press*
104. Kryvokhyzha D., Miles P., Duan T., Orsucci M., **Wright, S.I.**, Glemin, S., Lascoux, M. 2019

- Towards the new normal: Transcriptomic convergence and genomic legacy of the two subgenomes of an allopolyploid weed (*Capsella bursa-pastoris*). *PloS Genetics* in press.
103. Kryvokhyzha D, Salcedo A, Eriksson MC, Duan T, Tawari N, Chen J, Guerrina M, Kreiner JM, Kent TV, Lagercrantz U, Stinchcombe JR, Glémin S*, **Wright SI***, Lascoux M*. 2019. Parental legacy, demography, and admixture influenced the evolution of the two subgenomes of the tetraploid *Capsella bursa-pastoris* (Brassicaceae). *PLoS Genet.* 15;15(2):e1007949. doi: 10.1371/journal.pgen.1007949.
 102. Koenig D, Hagmann J, Li R, Bemm F, Slotte T, Neuffer B, **Wright SI**, Weigel D. 2019. Long-term balancing selection drives evolution of immunity genes in *Capsella*. *Elife*. 2019 Feb 26;8. pii: e43606. doi: 10.7554/eLife.43606.
 101. Huang HR, Liu JJ, Xu Y, Lascoux M, Ge XJ, **Wright SI**. 2018. Homeologue-specific expression divergence in the recently formed tetraploid *Capsella bursa-pastoris* (Brassicaceae). *New Phytologist* 220(2):624-635.
 100. Sandler G, Beaudry F.E.G., Barrett, S.C.H., and **Wright, S.I.** 2018. The effects of haploid selection on Y chromosome evolution in two closely related dioecious plants. *Evolution Letters* 2(4):368-377.
 99. Hartfield M, **Wright SI**, Agrawal AF. 2018. Coalescence and Linkage Disequilibrium in Facultatively Sexual Diploids. *Genetics* 210(2):683-701.
 98. Kreiner JM, and **Wright, S.I.** 2018. A less selfish view of genome size evolution in maize. (perspective article) *Plos Genetics* 4(5):e1007249.
 97. Kreiner J.M., Stinchcombe J.R., **Wright SI**. 2018. Population genomics of herbicide resistance: Adaptation via evolutionary rescue. *Annual Review of Plant Biology* 69 611-635.
 96. Mohammadin S., Wang, W., Liu T., Moazzeni H., Ertugrui K., Uysal T., Christodoulou C. S., Edgar P.P., Pires J.C., **Wright, S.I.**, Schranz M.E. 2018. Genome-wide nucleotide diversity and associations with geography, ploidy level and glucosinolate profiles in *Aethionema arabicum* (Brassicaceae). *Plant Systematics and Evolution* 304: 619-630.
 95. Beaudry, F.E.G., Barrett, S.C.H., and **Wright, S.I.** 2017. Genomic loss and silencing on the Y chromosomes of *Rumex*. *Genome Biology and Evolution* 9(12):3345-3355
 94. Hough, J., Barrett, S.C.H., and **Wright, S.I.** 2017. Hill-Robertson interference reduces genetic diversity on a young plant Y chromosome. *Genetics* 207(2):685-695.
 93. Crowson, D., Barrett, S.C.H., and **Wright, S.I.** 2017. Purifying and positive selection influence patterns of gene loss and gene expression in the evolution of a plant sex chromosome system. *Molecular Biology and Evolution* 34(5):1140-1154.
 92. Kent, T., Uzunovic, J., and **Wright, S.I.** 2017. Coevolution between transposable elements and recombination. *Philosophical Transactions of the Royal Society of London B.* 19;372(1736)
 91. Arunkumar, R., Wang, W., **Wright, SI**, and Barrett, SCH. 2017. The genetic architecture of tristylly and its breakdown to self-fertilization. *Molecular Ecology* 26(3):752-765.
 90. Lovell JT*, Williamson RJ*, **Wright SI**, McKay JK, Sharbel TF. 2017. Mutation Accumulation in an Asexual Relative of *Arabidopsis*. *PloS Genetics* 13(1):e1006550.
 89. Josephs EB, **Wright SI**, Stinchcombe JR, Schoen DJ. 2017. The relationship between selection, network connectivity, and regulatory variation within a population of *Capsella grandiflora*. *Genome Biology and Evolution* 9:1099-1109.
 88. Josephs, E., Stinchcombe, J.R.* and **Wright, S.I.*** 2017. What can genome-wide association studies tell us about the evolutionary forces maintaining variation for quantitative traits? *New Phytologist*. 214(1):21-33.

87. **Wright, SI.** 2017. Evolution of Genome Size. (encyclopedia entry) In: *Encyclopedia of Life Sciences*. John Wiley & Sons, Ltd: Chichester.
86. Samarasin P, Shuter BJ, **Wright SI**, Rodd FH. 2017. The problem of estimating recent genetic connectivity in a changing world. *Conserv Biol.* 2017 Feb;31(1):126-135.
85. Arunkumar, R. Maddison, T., Barrett, S.C.H., and **Wright, S.I.** 2016. Recent mating system evolution in *Eichhornia* is accompanied by *cis*-regulatory divergence. *New Phytologist.* 211: 697-707.
84. Ågren, A, Huang, H, and **Wright, SI.** 2016. Transposable element evolution in the allotetraploid *Capsella bursa-pastoris*. *American Journal of Botany.* 103(7):1197-202.
83. Josephs, E, and **Wright, SI.** 2016. On the trail of linked selection (Perspectives article). *PloS Genetics.* 12(8): e1006240.
82. Sicard, A. Kappel, C., Lee, YW, Woźniak N.J., Marona C., Stinchcombe, JR, **Wright, SI**, Lenhard, M. 2016. Standing genetic variation in a tissue-specific enhancer underlies selfing-syndrome evolution in *Capsella*. *Proceedings of the National Academy of Sciences* 113(48):13911-13916.
81. Sas, C., Müller F., Kappel, C., Kent, TV, **Wright, SI**, Hilker M., Lenhard, M. 2016. Repeated inactivation of the first committed enzyme underlies the loss of benzaldehyde emission after the selfing transition in *Capsella*. *Current Biology* 26(24):3313-3319.
80. **Wright, S.I.** 2016. Charlesworth et al. on background selection and neutral diversity (*historical perspective*). *Genetics.* 2016 Nov;204(3):829-832.
79. Massouh A, Schubert J, Yaneva-Roder L, Ulbricht-Jones E.S., Zupok A, Johnson M.T.J., **Wright S.I.**, Pellizzer T., Sobanski J., Bock R, and Greiner S. 2016. Spontaneous chloroplast mutants mostly occur by replication slippage and 2 show a biased pattern in the plastome of *Oenothera*. *Plant Cell.* 28(4):911-29.
78. Brandvain, Y. and **Wright, S.I.** 2016. The limits of natural selection in a non-equilibrium world. *Trends in Ecol. Evol.* 32(4):201-10.
77. Kryvokhyzha D, Holm K, Chen J, Cornille A, Glémin S, **Wright, SI**, Lagercrantz U, and Lascoux M. 2016. The influence of population structure on gene expression and flowering time variation in the ubiquitous weed *Capsella bursa-pastoris* (Brassicaceae). *Mol. Ecol.* 25(5):1106-21.
76. Hartfield, M, **Wright, SI**, and Agrawal AF. 2016. Coalescent times and patterns of genetic diversity in species with facultative sex: effects of gene conversion, population structure, and heterogeneity. *Genetics.* 202(1):297-312.
75. Cornille A, Salcedo A, Kryvokhyzha D, Glémin S, Holm K, **Wright, SI**, and Lascoux, M. 2016. Genomic signature of successful colonization of Eurasia by the allopolyploid shepherd's purse (*Capsella bursa-pastoris*). *Mol Ecol.* 25(2):616-29.
74. Josephs, EB, Lee, YW, Stinchcombe, JR*, and **Wright, SI***. 2015. Association mapping reveals the role of purifying selection in the maintenance of genomic variation in gene expression. *Proceedings of the National Academy of Sciences USA.* 112(50):15390-5.
73. Douglas, GM*, Gos, G*, Steige, KA*, Salcedo, A, Holm, K, Josephs, EB, Arunkumar R, Ågren, JA, Hazzouri, KM, Wang, W, Platts, AE, Williamson, RJ, Neuffer, B, Lascoux, M*, Slotte, T*, **Wright, SI***. 2015. Hybrid origins and the earliest stages of diploidization in the highly successful recent polyploidy *Capsella bursa-pastoris*. *Proceedings of the National Academy of Sciences, USA* 112(9):2806-11.
72. Ågren JA, Greiner S, Johnson MTJ, **Wright SI.** 2015. No evidence that sex and transposable elements drive genome size variation in evening primroses. *Evolution*

- 69(4):1053-62.
71. Hollister JD, Greiner S, Wang W, Wang J, Zhang Y, Wong GK, **Wright SI***, and Johnson MT* (*, co-supervision). 2015. Recurrent loss of sex is associated with accumulation of deleterious mutations in *Oenothera*. *Molecular Biology and Evolution*. 32(4):896-905.
 70. Ågren, JA, and **Wright SI**. 2015. Selfish genetic elements and plant genome size evolution. *Trends in Plant Science* ('Spotlight' article). 20(4):195-6.
 69. Edger PP, Heidel-Fischer HM, Bekaerte M, Glöckner G, Platts AE, Heckfield DG, Derick J, Wafulaj E, Tanga M, Hofberger JA, Smithson A, Hall JC, Blanchette M, Bureau TE, **Wright SI**, dePamphilis CW, Schranz E, Barker MS, Conant GC, Wahlberg N, Vogel H, Pires JC, and Wheat CW. 2015. The butterfly plant arms-race escalated by gene and genome duplications. *Proceedings of the National Academy of Sciences USA*. 112:8362-8366.
 68. Sicard A, Kappel C, Josephs EB, Lee YW, Marona C, Stinchcombe JR, **Wright SI**, Lenhard M. 2015. Divergent sorting of a balanced ancestral polymorphism underlies the establishment of gene-flow barriers in *Capsella*. *Nature Communications* 6:7960.
 67. Arunkumar R, Ness RW, **Wright SI**, Barrett SC. 2015. The evolution of selfing is accompanied by reduced efficacy of selection and purging of deleterious mutations. *Genetics* 199(3):817-29
 66. Williamson RJ, Josephs EB, Platts AE, Hazzouri KM, Haudry A, Blanchette M, **Wright SI**. 2014. Evidence for widespread positive and negative selection in coding and conserved noncoding regions of *Capsella grandiflora*, *PloS Genetics* 10: e1004622.
 65. Hough J, Ågren JA, Barrett SC, **Wright SI**. Chromosomal distribution of cytonuclear genes in a dioecious plant with sex chromosomes. *Genome Biology and Evolution*. 6(9):2439-43.
 64. Hough J, Hollister JD, Wang W, Barrett SC, **Wright SI**, 2014. Genetic degeneration of old and young Y chromosomes in the flowering plant *Rumex hastatulus*., *Proceedings of the National Academy of Sciences USA*, 111(21), 7713-8
 63. Ågren JA, Wang W, Koenig D, Neuffer B, Weigel D, **Wright SI**, 2014. Mating system shifts and transposable element evolution in the plant genus *Capsella*., *BMC Genomics*, 15(1), 602
 62. Huang Y, **Wright SI**, Agrawal AF. 2014. Genome-Wide Patterns of Genetic Variation within and among Alternative Selective Regimes, *PloS Genetics*, 10(8), e1004527
 61. Sicard, A, Thamm, A, Marona C, Lee YW, Wahl V, Stinchcombe JR, **Wright SI**, Kappel C, Lenhard M. 2014. Repeated evolutionary changes of leaf morphology caused by mutations to a homeobox gene, *Current Biology*, 24(16), 1880-1886
 60. Salcedo, A., Kalisz, S. and **Wright, S.I.** 2014. Limited genomic consequences of mixed mating in the recently derived sister species pair, *Collinsia concolor* and *C. parryi*. *Journal of Evolutionary Biology* 27:1400-1412.
 59. Barrett, S.C.H., Arunkumar, R. and **Wright, S.I.** 2014. The demography and population genomics of evolutionary transitions to self-fertilization in plants. *Phil. Trans. Roy. Soc. B.* 369 (1648).
 58. Arunkumar, R. Josephs, E.B., Williamson, R. and **Wright, S.I.** 2013. Pollen-specific, but not sperm-specific genes show stronger purifying selection and higher rates of positive selection than sporophytic genes in *Capsella grandiflora*. *Mol. Biol. Evol.* 30: 2475-2486.
 57. Slotte, T. Hazzouri, K.M., Ågren, J.A., Koenig, D, Maumus, F, Guo, YL, Steige, K, Platts, AE, Escobar, JS, Newman, LK, Wang W, Mandáková, T, Vello, E, Smith, LM,

- Henz, SR, 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, Prochnik, S, Shu, S, Rokhsar, D, Schmutz, J, Weigel, D* & **Wright, S.I.*** 2013. The *Capsella rubella* genome and the genomic consequences of rapid mating system evolution. *Nature Genetics*. 45(7):831-5. (* co-corresponding authors)
56. Brandvain, Y., T. Slotte, K. M. Hazzouri, **S. I. Wright** and G. Coop. 2013. Genomic identification of founding haplotypes reveals the history of the selfing species *Capsella rubella*. *PloS Genetics* 9: e003754.
 55. Haudry A, Platts AE, Vello E, Hoen DR, Leclercq M, Williamson RJ, Forczek E, Joly-Lopez Z, Steffen JG, Hazzouri KM, Dewar K, Stinchcombe JR, Schoen DJ, Wang X, Schmutz J, Town CD, Edger PP, Pires JC, Schumaker KS, Jarvis DE, Mandáková T, Lysak MA, van den Bergh E, Schranz ME, Harrison PM, Moses AM*, Bureau TE*, **Wright SI***, Blanchette M*. (*co-corresponding authors). 2013. An atlas of over 90,000 conserved noncoding sequences provides insight into crucifer regulatory regions. *Nature Genetics* 45(8):891-8.
 54. Hough, J., Williamson, R.J., and **Wright, S.I.** 2013. Patterns of selection in plant genomes. *Annual Review of Ecology, Evolution and Systematics*. 44:31-49.
 53. **Wright, S.I.** Kalisz, S., and Slotte, T. 2013. Evolutionary consequences of self-fertilization in plants. *Proc. Roy. Soc. London B* 280:1471-2954.
 52. Hazzouri, KM*, Escobar, J*, Ness, RW*, Newman, LK, Randle, A, Kalisz, S, and **Wright, S.I.** 2013. Comparative population genomics in *Collinsia* sister species reveals evidence for reduced effective population size, relaxed selection and evolution of biased gene conversion with an ongoing mating system shift. *Evolution* 67: 1263-1278.
 51. Indriolo, E., Tharmapalan, P., **Wright, S.I.** and Goring, D.R. 2012. The ARC1 E3 ligase gene is frequently deleted in self-compatible Brassicaceae species and has a conserved role in *Arabidopsis lyrata* self-pollen rejection. *Plant Cell* 24:4607-4620.
 50. Gos, G., Slotte, T., **Wright, S.I.** 2012. Signatures of balancing selection are maintained at disease resistance loci following mating system evolution and a population bottleneck in the genus *Capsella*. *BMC Evol Biol*. 12:152.
 49. St. Onge K*, Foxe, JP*, Junrui, L., Haipeng, L., Holm, K., Corcoran, P., Slotte, T. Lascoux, M. and **Wright, S.I.** 2012. Coalescent-based analysis distinguishes between allo- and autopolyploid origin in shepherd's purse (*Capsella bursa-pastoris*). *Mol. Biol. Evol.* 29(7):1721-1733.
 48. Slotte T*, Hazzouri KM*, Stern D, Andolfatto P, and **Wright, SI.** 2012. Genetic architecture and adaptive significance of the selfing syndrome in *Capsella*. *Evolution* 66(5):1360-1374.
 47. St. Onge, K., Palmé A.E., **Wright, S.I.** and Lascoux, M. 2012. The impact of sampling schemes on demographic inference: an empirical study in two species with different mating systems and demographic histories. *G3: Genes, Genomes, Genetics*. 2(7):803-14.
 46. Slotte T, Bataillon T, Hansen TT, St Onge K, **Wright SI**, Schierup MH. 2011. Genomic determinants of protein evolution and polymorphism in *Arabidopsis*. *Genome Biol. Evol.* 3: 1210-1219.
 45. Ågren JA, **Wright SI.** 2011. Co-evolution between transposable elements and their hosts: a major factor in genome size evolution? *Chromosome Research* 19:777-786.
 44. Ågren JA, **Wright SI.** 2011. Sizing up *Arabidopsis* genome evolution. *Heredity* 107:509-510.

43. Roux C, Castric V, Pauwels M, **Wright SI**, Saumitou-Laprade P, Vekemans X. 2011. Does Speciation between *Arabidopsis halleri* and *Arabidopsis lyrata* Coincide with Major Changes in a Molecular Target of Adaptation? *PloS One* 6:e26872.
42. Qiu S*, Zeng K*, Slotte T*, **Wright S**, Charlesworth D. 2011. Reduced efficacy of natural selection on codon usage bias in selfing *Arabidopsis* and *Capsella* species. *Genome Biol Evol.* 868-880. * joint first authors
41. **Wright, S.I.** and S.C.H. Barrett. 2010. The long-term benefits of self-rejection. *Science* 330: 459-460. (Perspectives)
40. Charlesworth D, Qiu S, Bergero R, Agren JA, and **S.I. Wright**. 2010 Using DNA sequence diversity to test for selection in *Silene*. *International Journal of Plant Sciences.* 171:1072-1082.
39. Siol M., **Wright S.I.**, and S.C. Barrett. 2010. The population genomics of plant adaptation. *New Phytologist.* 188: 313-332.
38. Foxe J.P., Stift M., Tedder A., Haudry A., **Wright S.I.**, and B.K. Mable.. 2010. Reconstructing origins of loss of self-incompatibility and selfing in North American *Arabidopsis lyrata*: A population genetic context. *Evolution* 64:3495-3510.
37. Slotte T., Foxe J.P., Hazzouri K.M., and **S.I. Wright**. 2010. Genome-wide evidence for efficient positive and purifying selection in *Capsella grandiflora*, a plant species with a large effective population size. *Molecular Biology and Evolution* 27:1813-1821.
36. Evans B.J., Pin L., Melnick D.J., and **S.I. Wright**. 2010. Sex-linked inheritance in macaque monkeys: Implications for effective population size and dispersal to Sulawesi. *Genetics.* 185:923-937.
35. Ness, R.W., **Wright S.I.**, and S.C.H. Barrett. 2010. Mating-system variation, demographic history and patterns of nucleotide diversity in the tristylous plant *Eichhornia paniculata*. *Genetics* 184:381-392.
34. Foxe, J.P. and **S.I. Wright**. 2009. Signature of diversifying selection on members of the pentatricopeptide repeat protein family in *Arabidopsis lyrata*. *Genetics* 183:663-672.
33. Bagherie-Lachidan M., **Wright S.I.**, and S.P. Kelly. 2009. Claudin-8 and -27 tight junction proteins in puffer fish *Tetraodon nigroviridis* acclimated to freshwater and seawater. *J. Comp. Physiol. B* 2009 179:419-31.
32. Foxe J.P.*, Slotte T.*, Stahl E.A., Neuffer B., Hurka H., and **S.I. Wright**. 2009. Recent speciation associated with the evolution of selfing in *Capsella*. *Proc Natl Acad Sci USA.* 106(13):5241-5. *highlighted in Faculty of 1000; featured in Nature research highlights, Nature* 457:938-938; *featured in a 'Dispatch' in Current Biology, Curr. Biol.* 12:R369-70.
31. Morton B.R., Dar V.U., and **S.I. Wright**. 2009. Analysis of site frequency spectra from *Arabidopsis* with context-dependent corrections for ancestral misinference. *Plant Physiol.* 149(2):616-24.
30. Gos, G. and **S.I. Wright**. 2008. Conditional neutrality at two adjacent NBS-LRR disease resistance loci in natural populations of *Arabidopsis lyrata*. *Molecular Ecology* 17:4953-4962.
29. Kawabe, A. Forrest, A., **Wright, S.I.** and D. Charlesworth. 2008. High DNA sequence diversity in pericentromeric genes in *Arabidopsis lyrata*. *Genetics* 179: 985-995.
28. Ross-Ibarra, J.*, **Wright, S.I.***, Foxe, J.P., Kawabe, A., DeRosa Wilson, L., Gos, G., Charlesworth, D., and B.S. Gaut. 2008. Patterns of Polymorphism and Demographic History in Natural Populations of *Arabidopsis lyrata*. *Plos One* 3:e2411. * joint first authors *highlighted in Faculty of 1000*
27. Foxe, J.P., Dar, N., Zheng, H., Nordborg, M., Gaut, B.S., and **S.I. Wright**. 2008.

- Selection on amino acid substitutions in *Arabidopsis*. *Molecular Biology and Evolution* 25:1375-1383.
26. Hazzouri, K.M., Mohajer, A., Dejak, S.I., Otto, S.P., and **S.I. Wright**. 2008. Contrasting patterns of transposable element insertion polymorphism and nucleotide diversity in autotetraploid and allotetraploid *Arabidopsis* species. *Genetics* 179:581-592.
 25. Bagherie-Lachidan, M., **Wright, S.I.** and S.P. Kelly. 2008. Claudin-3 tight junction proteins in *Tetraodon nigroviridis*: Cloning, tissue specific expression and a role in hydromineral balance. *American Journal of Physiology-Regulatory, Integrative, and Comparative* 294:R1638-1647.
 24. **Wright, S.I.**, and Andolfatto, P. 2008. The impact of natural selection on the genome: emerging patterns from *Drosophila* and *Arabidopsis*. *Annual Review of Ecology Evolution and Systematics* 39:193-213.
 23. **Wright, S.I.**, Nano, N., Foxe, J.P., and N. Dar. 2008. Effective population size and tests of neutrality at cytoplasmic genes in *Arabidopsis*. *Genetics Research* 90: 119-128.
 22. **Wright, S.I.**, Ness, R.W., Foxe, J.P., and S.C.H. Barrett. 2008. Genomic consequences of outcrossing and selfing in plants. *International Journal of Plant Sciences* 169:105–118.
 21. Yamasaki, M., **Wright, S.I.**, and M. McMullen. 2007. Genomic screening for artificial selection during domestication and improvement in maize. *Annals of Botany*. 100:967-973.
 20. **Wright, S.I.**, Iorgovan, G., Misra, M., and M. Mokhtari. 2007. Neutral evolution of synonymous base composition in the Brassicaceae. *Journal of Molecular Evolution* 64: 136-141.
 19. Gaut, B.S., **Wright, S.I.**, Rizzon, C., Dvorak, J. and L.K. Anderson. 2007. Recombination: an underappreciated factor in the evolution of plant genomes. *Nature Reviews Genetics*. 8, 77-84.
 18. Morton, B. and **S.I. Wright**. 2007. Selective constraints on codon usage of nuclear genes from *Arabidopsis thaliana*. *Molecular Biology and Evolution* 24:122-129.
 17. **Wright S.I.**, Foxe, J.P., DeRose Wilson, L., Kawabe, A., Looseley, M., Gaut, B., and D. Charlesworth. 2006. Testing for effects of recombination rate on nucleotide diversity in natural populations of *Arabidopsis lyrata*. *Genetics* 174:1421-1430.
 16. **Wright S.I.**, Bi I.V., Schroeder S.G., Yamasaki M., Doebley J.F., McMullen M.D., and B.S. Gaut. 2005. The effects of artificial selection on the maize genome. *Science* 308:1310-4. *highlighted as 'must read' in Faculty of 1000*
 15. International Rice Genome Sequencing Project (S Wright coauthor in Annotation and Analysis), 2005. The map-based sequence of the rice genome. *Nature* 436:793-800.
 14. **Wright, S.I.** and B.S. Gaut. 2005. Molecular population genetics and the search for adaptive evolution in plants. *Molecular Biology and Evolution* 22:506-519.
 13. **Wright, S.I.**, and B. Charlesworth. 2004. The HKA test revisited: A maximum likelihood ratio test of the standard neutral model. *Genetics* 168:1071-1076.
 12. Marais, G., Charlesworth B. and **S. Wright**. 2004. Recombination and base composition: the case of the highly self-fertilizing plant *Arabidopsis thaliana*. *Genome Biology*. 5:R45. *highlighted in Faculty of 1000*
 11. **Wright, S.I.**, Yau, C.B.K., Looseley, M. and B. Meyers. 2004. Effects of gene expression on molecular evolution in *Arabidopsis thaliana* and *Arabidopsis lyrata*. *Molecular Biology and Evolution* 21:1719-1726.

10. **Wright, S.I.**, Agrawal, N., and T.E. Bureau. 2003. Effects of recombination rate and gene density on transposable element distributions in *Arabidopsis thaliana*. *Genome Research* 13: 1897-1903.
9. **Wright, S.I.**, Lauga, B. and D. Charlesworth 2003. Subdivision and haplotype structure in natural populations of *Arabidopsis lyrata*. *Molecular Ecology* 12:1247-1263. *highlighted in Faculty of 1000*
8. **Wright, S.I.**, Lauga, B. and D. Charlesworth. 2002. Rates and patterns of molecular evolution in inbred and outbred *Arabidopsis*. *Molecular Biology and Evolution* 19:1399-1406. *highlighted in Faculty of 1000*
7. Charlesworth, D. and **S.I. Wright** 2001. Breeding systems and genome evolution. *Current Opinion in Genetics and Development* 11:685-690.
6. **Wright, S.I.** and D. Finnegan. 2001. Genome evolution: Sex and the transposable element. *Current Biology* 11:R296-R299. (Dispatch)
5. **Wright, S.I.**, Le, Q.H., Schoen, D.J., and T.E. Bureau. 2001. Population dynamics of an Ac-like transposable element in self- and cross-pollinating *Arabidopsis*. *Genetics* 158:1279-1288.
4. Yu, Z., **Wright, S.I.**, and T.E. Bureau. 2000. Mutator-like elements in *Arabidopsis thaliana*: structure, diversity and evolution. *Genetics* 156:2019-2031.
3. Le, Q.H.* , **Wright, S.I.***, Yu, Z., and T.E. Bureau. 2000. Transposon diversity in *Arabidopsis thaliana*. *Proceedings of the National Academy of Sciences, USA* 97: 7376-7381. *-joint first authorship.
2. **Wright, S.I.** and D.J. Schoen 1999. Transposon dynamics and the breeding system. *Genetica* 107:139-148.
1. **Wright, S.I.** and S.C.H. Barrett 1999. Size-dependent gender modification in a hermaphroditic perennial herb. *Proceedings of the Royal Society of London B* 266: 225-232.

GOOGLE SCHOLAR CITATION METRICS:

h-index: 47

Number of citations: 8030 (4134 since 2013)

ISI CITATION METRICS:

h-index: 40

Number of citations 7105

INVITED SEMINARS

Wright S.I. 2019 Haploid expression, pollen competition, and sex chromosome evolution in plants. Plant Biology Initiative Symposium, Harvard University

Wright S.I. 2018 Evolution of plant sex chromosomes: Y degenerate? Symposium on Evolution of Plant Reproductive Systems, University of Toronto

Wright S.I. 2018 Population genomics of polyploid genome evolution. Second joint Evolution conference, Montpellier, France

Wright, S.I. 2018 Evolution of plant sex chromosomes: Y degenerate? Departmental Seminar, University of Veterinary Medicine, Vienna, Austria

Wright, S.I. 2017

Population genomics of plant reproductive transitions.

Evolution of sex chromosomes: Y go backwards?

Plenary talks, Symposium on Evolution of Plant reproductive systems, Campo Grande, Brazil

- Wright, S.I. 2017
Population genomics of Y chromosome degeneration. International Botanic Congress, Shenzhen, China
- Wright, S.I. 2016 Population genomics of degenerative genome evolution. Duke University Durham, North Carolina. Departmental 'super speaker' program
- Wright, S.I. 2016 Population genomics of degenerative genome evolution. Max Planck Institute for Plant Breeding. Cologne, Germany
- Wright, S.I. 2016 Big questions in Evolution. Kyushu University, Fukuoka, Japan.
- Wright, S.I. 2016 Population genomics of the maintenance of genetic variation. University of California, Davis Department Seminar
- Wright, S.I. 2016 Population genomics of plant mating system evolution. University of Michigan Departmental Seminar
- Wright, S.I. 2015 When history repeats itself: population genomics of degenerative genome evolution. Plenary Speaker. Canadian Plant Genomics Workshop, Victoria, BC.
- Wright, S.I. 2015 Population genomics of degenerative genome evolution. Plants and People Conference, Max Planck Institute for Molecular Plant Physiology. Potsdam, Germany.
- Wright, S.I. 2015 Polyploid origins and early genome evolution in *Capsella bursa-pastoris*. Joint Genome Institute User Meeting, Department of Energy, Walnut Creek, CA
- Wright S.I. 2015 Population genomics of mating system evolution. Seminar, Hudson Alpha Institute for Biotechnology, Huntsville Alabama
- Wright, S.I. 2015 Genomics of adaptation. Lausanne Genomics days, University of Lausanne, Switzerland.
- Wright, S.I. 2015 Rapid polyploid adaptation in the highly successful worldwide weed *Capsella bursa-pastoris*. Plant and Animal Genome Conference, Workshop on Weed Genomics. San Diego, CA
- Wright, S.I. 2014 Polyploid origins and selective consequences in *Capsella bursa-pastoris*. International Adaptomics symposium on Genome-enabled approaches towards molecular functions in ecology and evolution. Bad Neuenahr, Germany.
- Wright, S.I. 2013 Population genomics of plant mating systems. University of Minnesota, Plant Biology Graduate Student Symposium Seminar
- Wright, S.I. 2012 Population genomics of mating system evolution. Missouri University, Interdisciplinary program in Plant Biology Seminar
- Wright, S.I. 2012 Comparative and population genomics in the Brassicaceae. International Plant Molecular Biology (IPMB) Conference, Jeju, Korea, Invited speaker
- Wright, S.I. 2012 How much selection is acting on plant genomes? University of Southern California, departmental seminar
- Wright S.I. 2012 Genome-wide quantification of positive and negative selection in the Brassicaceae. Seminar, Gregor Mendel Institute, Vienna Austria
- Wright, S.I. 2012 Comparative and population genomics in the Brassicaceae. Plant and Animal Genome Conference, San Diego, Invited speaker
- Wright, S.I. 2012. Population genomics of plant mating system evolution. IGERT symposium, invited by graduate student committee, University of Arizona
- Wright, S.I. 2012. How much selection is acting on plant genomes? Department of Plant Science, University of Arizona, invited seminar.
- Wright, S.I. 2011. Population genomics of plant adaptation. UC Davis, Department of Plant genetics.
- Wright, S.I. 2011. How much selection is acting on plant genomes? McMaster University, Department of Biology.

- Wright, S.I. 2010. Selection with demography: Population genetics of the evolution of selfing in *Capsella*. Symposium on selection and demography in a metapopulation, Society for Molecular Biology and Evolution (SMBE) Conference, Lyon, France
- Wright, S.I. 2009. Population genomics of plant adaptation: Case studies in *Arabidopsis* And *Capsella*. Department of Botany and Plant Pathology, Purdue University, West Lafayette, IN, USA
- Wright, S.I. 2008. The population genomics of plant adaptation. Department of Botany, University of British Columbia, Vancouver, BC
- Wright, S.I. 2008. Population genomics of plant adaptation in *Arabidopsis* and *Capsella*. Annual Symposium in Plant Biology, University of Massachusetts, Amherst: "Ecological Genomics: the Genetic Basis of Plant Adaptation" Amherst, MA USA
- Wright, S.I. 2008. Population genomics of plant adaptation. Institute of Arctic Biology, Fairbanks Alaska
- Wright S.I. 2007. Extent of selection on the maize genome. Banbury Center Workshop on Genetics of Domestication, Cold Spring Harbor, NY
- Wright, S.I. 2007. The extent of selection acting on plant genomes. Department of Biology, University of Toronto, Scarborough
- Wright, S.I. 2007. The extent of selection acting on plant genomes. Department of Biology, University of Rochester, NY
- Wright, S.I. 2007. Polymorphism and divergence in *Arabidopsis*: Does inbreeding matter? Department of Evolutionary Functional Genomics, University of Uppsala Sweden
- Wright, S.I. 2007. Signatures of demographic history and selection in plant genomes. Department of Plant Biology, University of Minnesota
- Wright, S.I. 2007. Demographic history and natural selection in *Arabidopsis*. Department of Integrative Biology, University of Guelph
- Wright, S.I. 2006. Demographic history and selection in plant genomes. Department of Biology, McMaster University.
- Wright, S.I. 2006. Demographic history and natural selection in *Arabidopsis lyrata*. Department of Computational Biology, University of Southern California
- Wright, S.I. 2006. The extent of selection acting on the maize genome. Gordon Research Conference on Molecular Evolution, Ventura, California
- Wright, S.I. 2006. Demographic history and selection in plant genomes. Departments of Botany and Zoology, Evolution seminar, University of Toronto
- Wright, S.I. 2006. Demographic history and selection in plant genomes. Department of Biology, McGill University
- Wright, S.I. 2004. Demographic history and selection during maize domestication. Department of Ecology and Evolution, University of San Diego
- Wright, S.I. 2003. Mating systems and genome evolution. Max Planck Institute for Chemical Ecology, Jena, Germany

GRADUATE THESES SUPERVISED

John Paul Foxe, M. Sc. Differential gene expression and the effects on molecular evolution and diversity. Completed 2007. Sole supervision.

Khaled Hazzouri, M.Sc. Contrasting patterns of transposable element insertion polymorphism

- in autotetraploid and allotetraploid *Arabidopsis* species. Completed 2007. Sole supervision.
- Gessecia Gos, M.Sc. Natural selection on disease resistance genes in *Arabidopsis lyrata*. Completed 2007. Sole supervision.
- Vauqaar-un-Nisa Dar. M.Sc. Effect of natural selection on the frequency of single nucleotide polymorphisms in *Arabidopsis thaliana*. Completed 2008. Sole supervision.
- John Paul Foxe, PhD. Population genetics of mating system transitions in the Brassicaceae. Completed 2010. Sole supervision.
- Gessecia Gos, PhD. Phenotypic evolution and molecular population genomics of weedy polyploid species. Completed 2012. Sole supervision.
- Khaled Hazzouri, PhD. QTL mapping and population genetics of floral evolution in *Capsella*. Completed 2012. Sole supervision.
- Arvid Agren, PhD. Evolution of transposable element activity in *Capsella*. Completed 2015. Sole supervision.
- Adriana Salcedo, M.Sc. completed. Population genomics of adaptation in *Capsella bursa-Pastoris*. Completed 2015. Co-supervision
- Emily Joesphs, PhD. Genetic basis of gene expression variation in *Capsella*. Completed 2016. Co-supervision.
- Josh Hough, PhD. Evolution of sex chromosomes in *Rumex*. Initiated May 2011. Completed 2016. Co-supervision.
- Ramesh Arunkumar, PhD. Evolutionary genomics of mating system evolution in *Eichhornia*. Completed 2016. Co-supervision.
- Daisy Crowson, M.Sc. Population genomics of sex chromosomes in *Rumex*. Completed 2016. Co-supervision
- Robert Williamson, PhD in progress. Selection on noncoding DNA in *Capsella*. Initiated Sept. 2010. Sole supervision.
- Felix Beaudry, PhD in progress. Genome assembly and analysis of sex chromosomes in *Rumex*. Initiated January 2015. Sole supervision
- Julia Kreiner, PhD in progress. Comparative population genomics of herbicide resistance in the Brassicaceae. Initiated September 2015. Co-supervision
- Tyler Kent, PhD. In progress. The role of linked selection in structuring genome-wide diversity. Initiated September 2015. Sole supervision.
- Jasmina Uzunovic, M.Sc. The effects of transposable elements on gene expression variation in *Capsella*. Completed 2017. Sole supervision
- Zoë Humphries, PhD. Evolution of DNA methylation on the sex chromosomes of *Rumex*. Co-supervision with Spencer Barrett
- Bianca Sacci, M.Sc. Testing the enhancer runaway model using population genomics.
- Meaghan Lucky, M.Sc. Population genomics of short-term evolution in wild carrot. Co-supervision with Aneil Agrawal
- Georgy Sandler, PhD. Evolution of sexual reproduction in the wild. Co-Supervision with Aneil Agrawal

POSTDOCTORAL SUPERVISION

- Tanja Slotte, completed 2010, current associate professor, University of Stockholm. sole supervision
- Juan Escobar, EEB Postdoctoral fellow, Completed 2012, currently research associate at Vidarium Research Centre. sole supervision
- Jesse Hollister, completed 2014, currently Assistant Professor, State University of New York (SUNY) Stony Brook. co-supervision
- Young Wha Lee, complete 2014, currently Research Scientist at Monsanto. co-supervision
- Magdalena Bartkowska, completed 2015, currently Postdoctoral Fellow, Queen's University.

co-supervision

Stuart Campbell, Banting Postdoctoral fellow in progress. co-supervision, Completed 2016

Kim Gilbert, co-supervision Completed 2016

Joanna Rifkin, co-supervision, in progress