

## CURRICULUM VITAE

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### Academic Positions

- Canada Research Chair in Agricultural Genetic Diversity (July 2011 – present)
- Assistant Professor, Department of Plant and Animal Sciences, Faculty of Agriculture, Dalhousie University (July 2011 – present)
- Adjunct Professor, Department of Biology, Acadia University (2010 – present)
- Postdoctoral researcher, Department of Genetics, Stanford School of Medicine, Stanford University (August 2010 – June 2011; Advisor: Carlos D Bustamante)
- Postdoctoral researcher at the Institute for Genomic Diversity, Cornell University (Jan 2008 – July 2010; Advisor: Ed Buckler)

### Education

- PhD in Genetics, Department of Evolutionary Genetics, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany (Jan 2004 - Dec 2007; Advisor: Mark Stoneking)
- 1-year of graduate studies in Evolutionary Psychology, Department of Psychology, McMaster University, Canada (Sept 2002 – Aug 2003; Advisors: Martin Daly and Margo Wilson)
- Masters of Science in Human Biology, Institute of Biological Anthropology, University of Oxford, UK (Oct 2001 - Oct 2002; Advisor: Ryk Ward)
- Bachelor of Arts with distinction (Major in English), Saint Thomas University, Fredericton, Canada (May 2000)

### Grants & Awards

- DFA travel grant – Dalhousie Faculty of Agriculture (\$4,000) – PI (2015)
- NSERC Engage (\$20,000) – Breeding disease resistant hops for the craft beer industry – PI (2015)
- Strategic Research Initiative Fund – Dalhousie University (\$200,000) – Co-PI (2015-2017)
- Canada Foundation for Innovation – Infrastructure Operating Fund (\$18,208) – PI (2014–2019)
- NSERC Engage (\$25,000) - Exploiting next-generation genomics in aquaculture – PI (2014)
- Productivity and Innovation Voucher, Economic and Rural Development and Tourism Nova Scotia (\$15,000) – Optimization of grape seed germination protocols – PI (2014)
- Genome Canada (\$250,000) – Exploiting the full potential of next-generation DNA sequencing for crop improvement – PI (2013–2015)
- Agriculture and Agri-Food Canada (\$286,000) – Identification of control mechanisms and molecular markers for apple fruit storage disorders: an integrated “omics” approach (2013–2016) - Collaborator
- Genome British Columbia (\$585,638) - Sequencing and comparative genome mapping of Chardonnay grapevine clones (2011-2013) - Participant
- Canadian Agricultural Adaptation Program, Agriculture and Agri-Food Canada (\$47,000) - Genetic analysis of mink populations differing in response to infection by the Aleutian mink disease virus (2012-2013) – co-PI
- Technology and Development Grant, Nova Scotia Department of Agriculture (\$20,000) - Development of novel wine grapes through marker-assisted breeding (2012-2013) - PI
- NSERC Discovery Grant (\$165,000) – Genome to phenome mapping and marker-assisted breeding in apples (2012–2017) - PI

- Nova Scotia Department of the Environment (\$43,000) – Apple adaptation to climate change (2012-2013) – PI
- Agriculture Canada, Growing Canadian Agri-Innovations Program, Canadian AgriScience Cluster for Horticulture (\$243,700) - Identifying genetic markers to enhance apple breeding in Canada (2011-2013) - PI
- Technology and Development Grant, Nova Scotia Department of Agriculture (\$40,000) - Development of novel wine grapes through marker-assisted breeding (2011-2013) - PI
- Technology and Development Grant, Nova Scotia Department of Agriculture (\$40,000) - Marker-assisted breeding in apples (2011-2013) - PI
- Canada Research Chair in Agricultural Genetic Diversity (\$500,000) – Salary and research over 5 years (2011-2016) - PI
- Canada Foundation for Innovation Leaders Opportunity Fund (\$150,000) – Equipment grant (2011) - PI
- United States Department of Agriculture Specialty Crops Research Initiative (\$4,600,000) - Accelerating grape cultivar improvement via phenotyping centers and next generation markers (2011-2016) - Collaborator
- National Science Foundation (NSF) Grape Research Coordination Network Fellowship (\$10,000) - Detecting selective sweeps and novel genotype-phenotype relationships in *Vitis vinifera* (2010-2011)
- Center for Comparative and Population Genomics Postdoctoral Fellow (full salary & travel allowance), Cornell University, USA (2010) - offer declined for position at Stanford
- National Science Foundation (NSF) Grape Research Coordination Network Fellowship (\$7000) - Quantifying gene expression variation in different tissues of *Vitis vinifera* (2009-2010)
- Wenner-Gren Foundation for Anthropological Research Post-PhD Research Grant (\$10,550) - Uncovering the Genetic Basis of Blond Hair in Melanesia (2008)
- PhD Scholarship, Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany (2004 – 2007)
- DAAD (German Foreign Academic Exchange Service) 6-month graduate scholarship for study at the Max Planck Institute in Leipzig, Germany (Jan – July 2004)

#### **Publications** (lab members underlined)

- Migicovsky Z, Sawler J, Money D, Eibach R, Miller AJ, Luby JJ, Wührer W, Warner J, von Kintzel S, Schwaninger H, Zhong GY, Brown PJ, **Myles S** (in preparation) Genomic ancestry estimation in commercial grape cultivars
- Money D, Migicovsky Z, Gardner KM, **Myles S** (in preparation) LinkImputeR: a tool for maximizing the utility of genotype imputation
- Gardner KM, Migicovsky Z, Richards C, Chao T, Schwaninger H, Fazio G, Zhong GY, **Myles S** (in preparation) Genomic consequences of apple improvement
- Sawler J, Migicovsky Z, Gardner KM, Reisch B, Aradhya MK, Prins B, Zhong GY, Cadle-Davidson L, Owens CL, Schwaninger H, Simon C, Murch S, Shum C, Glover WB, Li L, Brown PJ, Bustamante CD, Buckler ES, **Myles S** (in preparation) Patterns of genomic and phenomic diversity in wine and table grapes
- McClure KA, Gardner KM, Toivonen PMA, Hampson CR, Song J, Forney CF, DeLong J, Rajcan I, **Myles S** (submitted) A QTL Analysis of Soft Scald in Two Apple (*Malus x domestica*) Populations. *G3: Genes, Genomes, Genetics*
- Migicovsky Z, Gardner KM, Sawler J, Money D, Bloom JS, Zhong GY, **Myles S** (submitted) Genome to phenome mapping in apple using historical data. *The Plant Genome*
- Goto-Yamamoto N, Sawler J, **Myles S** (2015) Genetic analysis of East Asian grape cultivars suggests hybridization with wild *Vitis*. *PLoS ONE* 10:e0140841
- Sawler J, Stout JM, Gardner KM, Hudson D, Vidmar J, Butler L, Page JE, **Myles S** (2015) The genetic structure of marijuana and hemp. *PLoS ONE* 10:e0133292

- Money D, Gardner KM, Schwaninger H, Zhong GY, **Myles S** (2015) LinkImpute – fast and accurate genotype imputation for non-model organisms. *G3: Genes, Genomes, Genetics* 5:2383
- **Myles S**, Mahanil S, Harriman J, Gardner KM, Franklin JL, Reisch BI, Ramming DW, Owens CL, Li L, Buckler ES, Cadle-Davidson L (2015) Genetic mapping in grapevine using SNP microarray intensity values. *Molecular Breeding* 34:88
- McClure K, Sawler J, Gardner K, Money D, **Myles S** (2014) Genomics: a potential panacea for the perennial problem. *American Journal of Botany* 101:1597
- Gardner KM, Brown P, Cooke TF, Cann S, Costa F, Bustamante C, Velasco R, Troglio M, **Myles S** (2014) Fast and cost-effective genetic mapping in apple using next-generation sequencing. *G3: Genes, Genomes, Genetics* 4:1681-7
- Chitwood DH, Ranjan A, Martinez CC, Headland LR, Thiem T, Kumar R, Covington MF, Hatcher T, Naylor DT, Zimmerman S, Downs N, Raymundo N, Buckler ES, Maloof JN, Aradhya M, Prins B, Li L, **Myles S**, Sinha NR (2014) A modern ampelography: a genetic basis for leaf shape and venation patterning in *Vitis vinifera*. *Plant Physiology* 164:259
- Miller AJ, Matasci N, Aradhya MK, Prins B, Zhong GY, Schwaninger H, Simon C, Buckler ES, **Myles S** (2013) Vitis phylogenomics: hybridization intensities from a SNP array outperform genotype calls. *PLoS ONE* 8:e78680
- Sawler J, Reisch BI, Aradhya MK, Prins BH, Zhong GY, Schwaninger H, Simon C, Buckler ES, **Myles S** (2013) Genomics assisted ancestry deconvolution in grape. *PLoS ONE* 8:e80791
- McCouch S, Baute GJ, Bradeen J, Bramel P, Bretting PK, Buckler E, Burke JM, Charest D, Cloutier S, Cole G, Dempewolf H, Dingkuhn M, Feuillet C, Gepts P, Grattapaglia D, Guarino L, Jackson S, Knapp S, Langridge P, Lawton-Rauh A, Lijua Q, Lusty C, Michael T, **Myles S**, Naito K, Nelson RL, Pontarollo R, Richards CM, Rieseberg L, Ross-Ibarra J, Rounsley S, Hamilton RS, Schurr U, Stein N, Tomooka N, van der Knaap E, van Tassel D, Toll J, Valls J, Varshney RK, Ward J, Waugh R, Wenzl P, Zamir D (2013) Agriculture: Feeding the future. *Nature* 499:23
- Emanuelli F, Lorenzi S, Grzeskowiak L, Catalano V, Stefanini M, Troglio M, **Myles S**, Martinez-Zapater JM, Zyprian E, Moreira FM, Grando MS (2013) Genetic diversity and population structure assessed by SSR and SNP markers in a large germplasm collection of grape. *BMC Plant Biology* 13:39
- **Myles S** (2013) Improving fruit and wine: what does genomics have to offer? *Trends in Genetics* 29:190
- Kenny E, Timpson N, Sikora M, Yee MC, Moreno-Estrada A, Eng C, Huntsman S, Gonzalez Buchard E, Stoneking M, Bustamante CD, **Myles S** (2012) Melanesian Blond Hair Is Caused by an Amino Acid Change in TYRP1. *Science* 336:554
- Mahanil S, Ramming D, Cadle-Davidson M, Owens C, Garris A, **Myles S**, Cadle-Davidson L (2012) Development of marker sets useful in the early selection of *Ren4* powdery mildew penetration resistance and seedlessness for table and raisin grape breeding. *Theoretical and Applied Genetics* 124:23
- Delfin F\*, **Myles S\***, Hughes D, Illek R, Pakendorf B, Choi Y, van Oven M, Kayser M, Stoneking M (2012) Bridging Near and Remote Oceania: MtDNA and NRY Variation in the Solomon Islands. *Molecular Biology and Evolution* 29:545 \*contributed equally
- Brown PJ, Upadyayula N, Mahone G, Tian F, Bradbury PJ, **Myles S**, Holland JB, McMullen MD, Buckler ES, Rocheford TR (2011) Distinct Genetic Architectures for Male and Female Inflorescence Traits of Maize. *PLoS Genetics* 7:e1002383
- **Myles S**, Lea R, Ohashi J, Chambers G, Weiss J, Hardouin E, Engelken J, Macartney-Coxson D, Eccles D, Naka I, Kimura R, Inaoka T, Matsumura Y, Stoneking M (2011) Testing the thrifty gene hypothesis: the Gly482Ser variant in PPARGC1A is associated with BMI in Tongans. *BMC Medical Genetics* 12:10
- Gunnarsdóttir ED, Nandineni MR, Li M, **Myles S**, Gil D, Pakendorf B, Stoneking M (2011) Larger mtDNA than Y-chromosome differences between matrilineal and patrilineal groups from Sumatra. *Nature Communications* 2:228

- **Myles S**, Boyko AR, Brown PJ, Grassi F, Owens CL, Aradhya M, Prins B, Reynolds A, Chia JM, Ware D, Bustamante CD, Buckler ES (2011) Genetic Structure and Domestication History of the Grape. *PNAS* 108:3530
- Delfin F, Salvador JM, Calacal GC, Perdigon HB, Tabbada KA, Villamor LP, Halos SC, Gunnarsdóttir E, **Myles S**, Hughes DA, Xu S, Jin L, Lao O, Kayser M, Hurles ME, Stoneking M, De Ungria MCA (2011) The Y-chromosome landscape of the Philippines: extensive heterogeneity and varying genetic affinities of Negrito and non-Negrito groups. *European Journal of Human Genetics* 19:224
- Brown PJ, **Myles S**, Kresovich S (2011) Genetic support for phenotype-based racial classification in sorghum. *Crop Science* 51:1-7
- **Myles S**, Chia J-M, Hurwitz B, Simon C, Zhong GY, Buckler E, Ware D (2010) Rapid Genomic Characterization of the Genus *Vitis*. *PLoS ONE* 5:e8219
- Laland K, Odling-Smee J, **Myles S** (2010) How culture shaped the human genome: bringing genetics and the human sciences together. *Nature Reviews Genetics* 11:137
- **Myles S**, Peiffer J, Brown PJ, Ersoz ES, Zhang Z, Costich DE, Buckler ES. (2009) Association Mapping: Critical Considerations Shift from Genotyping to Experimental Design. *Plant Cell* 21:2194
- **Myles S**, Stoneking M, Timpson N (2009) An assessment of the portability of ancestry informative markers between human populations. *BMC Medical Genomics* 2:45
- Silander K, Tang H, **Myles S**, Jakkula E, Timpson N, Cavalli-Sforza L, Peltonen L. (2009) Worldwide patterns of haplotype diversity at 9p21.3, a locus associated with type 2 diabetes and coronary heart disease. *Genome Medicine* 1:51
- Hillmer AM, Freudenberg J, **Myles S**, Herms S, Tang K, Brockschmidt FF, Ruan Y, Stoneking M, Nöthen MM. (2009) Signature of recent positive selection at the human androgen receptor locus and its relationship to the susceptibility variants for male pattern baldness. *Human Genetics* 126:255
- Bryk J, Harouin E, Pugach I, Hughes D, Strotmann R, Stoneking M, **Myles S**. (2008) Positive selection in East Asians for an EDAR allele that enhances NF-κB activation. *PLoS ONE* 3:e2209
- **Myles S**, Davison D, Barrett J, Stoneking M, Timpson N. (2008) Worldwide population differentiation at disease-associated SNPs. *BMC Medical Genomics* 1:22
- **Myles S**, Tang K, Somel M, Kelso J, Stoneking M. (2008) Identification and analysis of high Fst regions from genome-wide SNP data from three human populations. *Annals of Human Genetics* 72:99
- **Myles S**, Hughes D, Stoneking M. (2008) Detecting local selection in humans. In Santos C, Lima M (eds) Recent Advances in Molecular Biology and Evolution: Applications to Biological Anthropology
- Meyer M, Stenzel U, Pruefer K, **Myles S**, Hofreiter M. (2007) Targeted high-throughput sequencing of tagged nucleic acid samples. *Nucleic Acids Research* 35:e97
- **Myles S**, Hradetzky E, Engelken J, Lao O, Nürnberg P, Trent R, Kayser M, Stoneking M. (2007) Identification of a candidate genetic variant for the high prevalence of type II diabetes in Polynesians. *European Journal of Human Genetics* 15:584-589
- **Myles S**, Somel M, Tang K, Kelso J, Stoneking M. (2007) Identifying genes underlying skin pigmentation differences among human populations. *Human Genetics* 120:613
- **Myles S**, Bouzekri N, Haverfield E, Cherkaoui M, Dugoujon JM, Ward R (2005) Genetic evidence in support of a shared European-North African dairying origin. *Human Genetics* 117:34
- Dukas R, Morse DH, and **Myles S**. (2005) Experience levels of individuals in natural bee populations and their ecological implications. *Canadian Journal of Zoology* 83:492

#### Invited Talks

- Canadian Horticultural Council Annual General Meeting, Ottawa, Canada (2016) *A unified plan for a genomics-assisted Canadian apple breeding programme*
- Genomics on the Hill, Genome Canada, Ottawa, Canada (2016) *Accelerating grape improvement in Nova Scotia*

- FarmTech, Edmonton, Canada (2016) *The modern breeders toolkit*
- Science Atlantic Conference, Moncton, Canada (2015) *Accelerating food improvement with genomics*
- GrowCanada Conference, Ottawa, Canada (2014) *Genomics in Agriculture*
- Wolfville Rotary Club, Wolfville, Canada (2014) *Improving apples with genomics*
- Genome Canada Board of Directors Annual Meeting, Halifax, Canada (2014) *How to invest in genomics: the view from a young geneticist*
- Data Analytics for the Wine & Fruit Growing Industries, Acadia University, Wolfville, Canada (2014) *Data-driven apple breeding in the Annapolis Valley*
- Nova Scotia Fruit Growers' Annual Convention, Kentville, Canada (2014) *Breeding without a breeder: a model for generating novel apples for the next generation*
- Springboard Atlantic research-industry connector, Charlottetown, Canada (2013) *Genomics: the hidden gem in the food production toolkit*
- Julius Kühn Institute for grape breeding, Geilweilerhof, Germany (2013) *Genomic ancestry estimation in Vitis hybrids and grape breeding in Nova Scotia*
- Atlantic Food and Horticulture Research Centre, Kentville, Canada (2013) *Sex-deprived fruit: How a Lack of Breeding Threatens our Food's Future And How Genomics Can Help Fix the Problem*
- Department of Plant Agriculture, University of Guelph, Canada (2013) *Improving fruit and wine: how genomics can help*
- Nova Scotia Institute of Science, Halifax, Canada (2013) *Sex-deprived fruit: How a Lack of Breeding Threatens our Food's Future And How Genomics Can Help Fix the Problem*
- Genome Atlantic, Dalhousie University, Halifax, Canada (2013) *Improving fruit and wine: how genomics can help*
- Dalhousie Faculty of Medicine, Halifax, Canada (2013) *More harm than good? How human genomics research threatens to increase health care disparities between rich and poor nations*
- Genome Quebec, McGill University, Montreal, Canada (2012) *Improving fruit and wine: what does genomics have to offer*
- Sixth Rosaceous Genomics Conference, Trento, Italy (2012) *Genotyping-by-sequencing in apple: enormous potential and significant challenges*
- Centre Sève, Université de Sherbrooke, Quebec, Canada (2012) *Genomics reveals a lack of sex among grape varieties*
- Department of Biochemistry and Molecular Biology, Dalhousie University, Halifax, Canada (2012) *Improving nutrition with genomics*
- Canadian Horticultural Council, Annual General Meeting, Ottawa, Canada (2012) *Genomics promises to dramatically increase the efficiency of apple breeding*
- Department of Biology, Saint Francis Xavier University, Antigonish, Canada (2012) *Genomics in medicine and agriculture: how to make the most of nature's diversity*
- Nova Scotia Fruit Growers' Association, Annual Convention, Kentville, Canada (2012) *Increasing the efficiency of breeding using genetic data*
- Centre for Comparative Genomics and Evolutionary Bioinformatics, Dalhousie University, Halifax, Canada (2012) *Genomics in medicine and agriculture: how to make the most of nature's diversity*
- Michael Smith Laboratories, University of British Columbia, Vancouver, Canada (2011) *Genome-wide genetic mapping in medicine and agriculture: how to exploit genetic diversity*
- Konrad Lorenz Institute for Evolution and Cognition Research, Altenberg, Austria (2011) *The past and the future of human-mediated genetic change*
- Canadian Plant Genomics Workshop, Niagara Falls, Canada (2011) *Marker-assisted breeding in apples and grapes*
- Grape Research Coordination Network Annual Meeting, Lake Tahoe, CA, USA (2011) *Genomics accelerates marker-assisted breeding in the grapevine*

- E&J Gallo Winery, Modesto, CA , USA (2011) *Genomics reveals the history and informs the future of grape breeding*
- National Research Council Plant Biotechnology Institute, Saskatoon, Saskatchewan, Canada (2011) *Genomics reveals the history and informs the future of grape breeding*
- Nova Scotia Fruit Growers' Convention, Wolfville, NS, Canada (2011) *Maintaining, measuring and exploiting tree fruit genetic diversity*
- Agriculture and Agri-Food Canada Research Station, Kentville, NS, Canada (2010) *Genomics reveals the history and informs the future of grape breeding*
- Grape Research Coordination Network for Grape Functional Genomics, Geneva, NY, USA (2010) *High-Throughput Phenotyping in Vitis: Barcodes and Databases*
- Istituto di Genomica Applicata, Udine, Italy (2010) *Genetic structure and domestication history of the grape*
- Department of Biotechnology, University of Verona, Italy (2010) *Genetic structure and domestication history of the grape*
- Istituto Agrario San Michele all'Adige, Trento, Italy (2010) *Genetic structure and domestication history of the grape*
- The Plant and Animal Genomes Conference, San Diego, USA (2010) *Genome-wide SNP data refine relationships in the grapevine.*
- European Viticulture (COST 858) meeting, Bordeaux, France (2009) *Sequencing and SNP genotyping in the USDA grape germplasm collection*
- The Plant and Animal Genomes Conference, San Diego, USA (2009) *The 10K Vitis SNP chip: A first step towards genome-wide association studies in the grapevine.*
- Subtropical Horticulture Research Station, National Germplasm Repository, US Department of Agriculture, Miami, USA (2009) *Genome-wide genetic characterization of a germplasm collection: lessons from the grapevine*
- Grape Research Coordination Network for Grape Functional Genomics, Lake Tahoe, USA (2009) *Genome-wide SNP data in Vitis: one step closer to genome-wide association studies*
- Department of Food Science, New York State Agricultural Experiment Station, Geneva, NY, USA (2008) *Genome-wide SNP discovery and genotyping in the genus Vitis*
- Department of Viticulture and Enology, University of California Davis, USA (2008) *Genome-wide genetic characterization of the grapevine*
- Department of Statistics, University of Oxford, UK (2007) *Worldwide population differentiation at disease-associated SNPs*
- Institute for Biochemistry, Leipzig, Germany (2006) *Identifying candidate genes for large phenotypic differences between human populations*
- Department of Integrative Biology, University of California at Berkeley, USA (2006) *Detecting local selection and genotype-phenotype associations using Fst*
- Departments of Anthropology and Genetics, Stanford University, USA (2006) *Detecting local selection and genotype-phenotype associations using Fst*
- Department of Statistics, University of Oxford, UK (2005) *Detecting the signature of local positive selection using genome-wide SNP data from 3 human populations*
- Volvox, a European network for bioscience education, Munich, Germany (2005) *Demonstrating recent positive selection in humans - lessons from lactose tolerance.*

### Media Coverage

- The Aquinian – St. Thomas University Magazine (October 2015) *STU alumni recognized for scientific twitter* <http://theaquinian.net/former-studnet-recognized-scientific-twitter/>
- Discovery Magazine (September 2015) *We Have No Idea What Kind Of Cannabis We're Buying* <http://news.discovery.com/earth/plants/we-have-no-idea-what-kind-of-cannabis-were-buying-150905.htm>
- Chronicle Herald (September 2015) *You can't tell a pot from the label* <http://thechronicleherald.ca/metro/1308503-you-can%E2%80%99t-tell-a-pot-from-the-label>

- Financial Times (September 2015) *The Double Life of Cannabis* <http://www.ft.com/cms/s/0/9ea6367e-50fb-11e5-b029-b9d50a74fd14.html>
- High Times Magazine (September 2015) *Indica vs. Sativa: The Small But Significant Difference in Cannabis Genes* <http://www.hightimes.com/read/indica-vs-sativa-small-significant-difference-cannabis-genes>
- CBC News (September 2015) *UBC study exposes labelling of marijuana strains* <http://www.cbc.ca/news/canada/british-columbia/ubc-study-exposes-labelling-of-marijuana-strains-1.3212140>
- Popular Science (August 2015) *Dank Indica? Your drug dealer might be ripping you off* <http://www.popsci.com/all-strains-marijuana-are-same-species>
- WIRED magazine (August 2015) *Sorry, but the names for weed strains are kinda meaningless* <http://www.wired.com/2015/08/sorry-names-weed-strains-kind-meaningless/>
- Vancouver Sun (August 2015) *Marijuana classification muddled and confused* <http://www.vancouversun.com/health/Marijuana+classification+muddled+confused+says+expert/11318993/story.html>
- Phys.org (August 2015) *Botanists conduct first large-scale genetic study of marijuana, hemp* <http://phys.org/news/2015-08-botanists-large-scale-genetic-marijuana-hemp.html>
- CBC News (August 2015) *Wired names Dalhousie University researcher on best online science list* <http://www.cbc.ca/news/canada/nova-scotia/wired-names-dalhousie-university-researcher-on-best-online-science-list-1.3203142>
- Progress Magazine (August 2015) *Good breeding: A Dalhousie University scientist is getting some help in his genomic apple quest* <http://www.progressmedia.ca/article/2015/08/good-breeding>
- WIRED magazine (August 2015) Named one of “The 27 best feeds to follow in the world of science” <http://www.wired.com/2015/08/the-new-cultural-literacy-science-feeds/>
- Nova Scotia Federation of Agriculture Newsletter (August 2015) *Aiming for Perfection* – feature article on Myles lab research
- WIRED magazine (August 2015) *Scientists and brewers are on a quest to breed a better hop for your beer* <http://www.wired.com/2015/08/mmm-beer-brewers-quest-breed-better-hop/>
- News 957 Halifax (July 24, 2015) Radio interview on the Sheldon MacLeod Show about hop breeding project
- CBC News (July 23, 2015) *Tatamagouche Brewing Company and Dalhousie seek better hops* <http://www.cbc.ca/news/canada/nova-scotia/tatamagouche-brewing-company-and-dalhousie-look-better-hops-1.3165401>
- CTV News (July 9, 2015) *Feature story on MITACS student intern* <http://atlantic.ctvnews.ca/video#653574>
- CBC TV, radio and online (July 9, 2015) *Nova Scotia apple growing goes high-tech with bar code data collection* <http://tinyurl.com/okzjc5v>
- Chronicle Herald (July 9, 2015) *Data seeds apple research* <http://thechronicleherald.ca/business/1298094-data-seeds-apple-research>
- Talking Biotech Podcast (June 20, 2015) *Grape Domestication and Improvement* <http://www.talkingbiotechpodcast.com/?p=62>
- Radio Canada TV (February 1, 2014) *La Semaine Verte* [www.tou.tv/la-semaine-verte/S2013E20](http://www.tou.tv/la-semaine-verte/S2013E20)
- Chronicle Herald (January 22, 2014) *From your phone to the table* [tinyurl.com/o48a64k](http://tinyurl.com/o48a64k)
- Canadian Geographic (November 6, 2013) *Nova Scotia genetics researcher revolutionizing apple agriculture* [www.canadiangeographic.ca/blog/posting.asp?ID=940](http://www.canadiangeographic.ca/blog/posting.asp?ID=940)
- University Affairs Magazine (October 23, 2013) *Dalhousie’s Johnny Appleseed of the Annapolis Valley* <http://www.universityaffairs.ca/news/news-article/dalhousie-researcher-orchard-apple-varieties/>
- Dal News (October 10, 2013) *How’d ya like them apples? Dal Researcher helps generate superior crops* [www.dal.ca/news/2013/10/10/how-d-ya-like-them-apples-.html](http://www.dal.ca/news/2013/10/10/how-d-ya-like-them-apples-.html)
- Canada Foundation for Innovation, online (Sept. 10, 2013) *Apples to apples: Fruit breeding gets a boost from genomics* [www.innovation.ca/en/ResearchInAction/ImpactStory/Applesapples](http://www.innovation.ca/en/ResearchInAction/ImpactStory/Applesapples)

- ABC Australia (August 7, 2013) *Seeding the future: tapping gene banks to secure our food future* [www.abc.net.au/radionational/programs/rnfirstbite/4853118](http://www.abc.net.au/radionational/programs/rnfirstbite/4853118)
- CTV News Atlantic, TV (May 28, 2013) *Planting the Apple Biodiversity Collection*
- CBC News Nova Scotia, TV (May 28, 2013) *Planting the Apple Biodiversity Collection*
- Global TV, Halifax (May 28, 2013) *Researchers work to create genetically perfected apples in Annapolis Valley* [globalnews.ca/news/596055/researching-apple-diversity/](http://globalnews.ca/news/596055/researching-apple-diversity/)
- Progress Magazine (May, 2013) *Profile: Better together* [digital.progressmedia.ca?shareKey=Lkr5gr](http://digital.progressmedia.ca?shareKey=Lkr5gr)
- Global TV, Halifax (May 7, 2013) Live television interview [globalnews.ca/video/541101/protecting-fruit-diversity](http://globalnews.ca/video/541101/protecting-fruit-diversity)
- CBC Radio's Information Morning, Halifax (May 6, 2013) Live radio interview
- Toronto Star (May 8, 2012) Canadian geneticist discovers secret behind the blond-haired Solomon Islanders. [www.thestar.com/news/world/article/1175054--canadian-geneticist-discovers-secret-behind-the-blond-haired-solomon-islanders](http://www.thestar.com/news/world/article/1175054--canadian-geneticist-discovers-secret-behind-the-blond-haired-solomon-islanders)
- CBC Radio's Quirks and Quarks (May 5, 2012) Evolution Goes Blonde
- Vancouver Sun (May 4, 2012) Blond hair in Solomons not a gift from Europeans. [www.vancouversun.com/technology/Blond+hair+Solomons+gift+Europeans/6565526/story.html](http://www.vancouversun.com/technology/Blond+hair+Solomons+gift+Europeans/6565526/story.html)
- Discover Magazine (May 4, 2012) Case closed: blonde Melanesians understood. [blogs.discovermagazine.com/gnxp/2012/05/case-closed-blonde-melanesians-understood/](http://blogs.discovermagazine.com/gnxp/2012/05/case-closed-blonde-melanesians-understood/)
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- New York Times (May 3, 2012) Another genetic quirk of the Solomon Islands: blond hair. [www.nytimes.com/2012/05/08/science/another-genetic-quirk-of-the-solomon-islands-blond-hair.html](http://www.nytimes.com/2012/05/08/science/another-genetic-quirk-of-the-solomon-islands-blond-hair.html)
- New Scientist (May 3, 2012) Blond hair evolved independently in Pacific islands. [www.newscientist.com/article/dn21779-blond-hair-evolved-independently-in-pacific-islands.html](http://www.newscientist.com/article/dn21779-blond-hair-evolved-independently-in-pacific-islands.html)
- Spektrum (May 3, 2012) Natürlich blond. [www.spektrum.de/alias/bilder-der-woche/natuerlich-blond/1150318](http://www.spektrum.de/alias/bilder-der-woche/natuerlich-blond/1150318)
- Mendelspod.com (April 10, 2012) The future of winemaking with Sean Myles. [mendelspod.com/podcast/sean-myles](http://mendelspod.com/podcast/sean-myles)
- NPR radio (August 15, 2011) The Heat is On For California Wines. [science.kqed.org/quest/audio/heat-is-on-for-california-wines/](http://science.kqed.org/quest/audio/heat-is-on-for-california-wines/)
- Wine Spectator (March 22, 2011) Your Great-Grandchildren's Grapes? [www.winespectator.com/webfeature/show/id/44666](http://www.winespectator.com/webfeature/show/id/44666)
- The Toronto Star (February 26, 2011) *The oenophile's guide to grape sex*. [www.thestar.com/news/insight/article/945258--the-oenophile-s-guide-to-grape-sex](http://www.thestar.com/news/insight/article/945258--the-oenophile-s-guide-to-grape-sex)
- The Telegraph Journal (January 28, 2011) *N.B. Scientist at forefront of Grape Genetics Research*. [telegraphjournal.canadaeast.com/magazine/article/1374899](http://telegraphjournal.canadaeast.com/magazine/article/1374899)
- The Chronicle Herald (January 26, 2011) *Wine grapes starved for sex: Geneticist discovers vintner's product needs reproductive variety*. [thechronicleherald.ca/Business/1224120.html](http://thechronicleherald.ca/Business/1224120.html)
- New York Times (January 25, 2011) *Lack of sex among grapes tangles family vine*. [www.nytimes.com/2011/01/25/science/25wine.html](http://www.nytimes.com/2011/01/25/science/25wine.html)
- New Scientist (January 23, 2011) *Wine family tree revealed*. [www.newscientist.com/article/mg20927964.000-wine-family-tree-revealed.html](http://www.newscientist.com/article/mg20927964.000-wine-family-tree-revealed.html)
- CBC Radio (January 22, 2011) Interviewed on CBC's national science radio show "Quirks and Quarks"



- GenomeWeb Daily News (January 21, 2011) *Genotyping study provides clues to domestic grape history, diversity*. [www.genomeweb.com/arrays/genotyping-study-provides-clues-domestic-grape-history-diversity](http://www.genomeweb.com/arrays/genotyping-study-provides-clues-domestic-grape-history-diversity)
- USA Today (January 19, 2011) *Grapes domesticated 8,000 years ago*. [content.usatoday.com/communities/sciencefair/post/2011/01/domestics-grape-genome-sequenced/1](http://content.usatoday.com/communities/sciencefair/post/2011/01/domestics-grape-genome-sequenced/1)
- USDA-ARS News and Events. (January 18, 2011) *USDA Scientists and Collaborators Complete More Comprehensive Genetic Analysis of Domesticated Grape*. [www.ars.usda.gov/is/pr/2011/110118.2.htm](http://www.ars.usda.gov/is/pr/2011/110118.2.htm)
- BBC Radio Scotland (January 20, 2011) Interviewed on “Newsdrive”
- BBC News (January 17, 2011) *New grapes needed to keep wine flowing*. [www.bbc.co.uk/news/science-environment-12209801](http://www.bbc.co.uk/news/science-environment-12209801)
- BBC Radio World Service (January 17, 2011) Interviewed on “World Today”
- ScienceDaily. (April 13, 2010) *Bringing better grapes a step closer to reality*. [www.sciencedaily.com/releases/2010/03/100323105954.htm](http://www.sciencedaily.com/releases/2010/03/100323105954.htm)
- New York Times (March 2, 2010) *Human Culture, an Evolutionary Force*. [www.nytimes.com/2010/03/02/science/02evo.html](http://www.nytimes.com/2010/03/02/science/02evo.html)

### Teaching

- Instructor – Population and Quantitative Genetics (GENE3001), Dalhousie University, Canada (2014 – present)
- Instructor – Principles of Heredity, Acadia University, Canada (Fall 2009)
- Teaching Assistant - Human Learning and Cognition, McMaster University, Canada (2002)
- Teaching Assistant - Animal Behaviour Laboratory, McMaster University, Canada (2003)

### Conference & Workshop Presentations (lab members underlined)

- Migicovsky Z, Gardner KM, Money D, Sawler J, Bloom JS, Moffett P, Chao CT, Richard CM, Schwaninger H, Fazio G, Zhong GY, **Myles S** (2016) Genomics reveals the past and informs the future of apple improvement. Oral presentation at the Plant And Animal Genomes Conference, San Diego, USA
- Migicovsky Z, **Myles S** (2016) Genomic Ancestry Estimation in Grapes. Poster presentation at the Plant And Animal Genomes Conference, San Diego, USA
- Money D, Gardner K, **Myles S** (2015) LinkImpute – genotype imputation for non-model organisms. Poster presentation at the Conference for the Society of Molecular Biology and Evolution, Vienna, Austria
- McClure KA, Gardner KM, Toivonen PMA, Hampson CR, Lannard B, Rajcan I, Song J, **Myles S** (2015) Genetic mapping using next-generation DNA sequencing in apple. Oral presentation at the 10th Canadian Plant Genomics Workshop, Victoria, British Columbia, Canada.
- **Myles S**, Migicovsky Z, Sawler J, Gardner KM, Brown PJ, Aradhya MK, Buckler ES, Zhong GY (2015) Genome to phenome mapping in highly diverse perennial crops: examples from apples and grapes. Poster presentation at Gordon Research Conference: Quantitative Genetics and Genomics, Lucca, Italy
- Troggio M, Bianco L, Cestaro A, Di Guardo M, Micheletti D, Banchi E, Costa F, Gardner K, Sargent DJ, **Myles S**, Van de Weg E, Velasco R (2014) *SNP discovery and high-throughput genotyping in heterozygous fruit crops*. Oral presentation at 58<sup>th</sup> annual congress of the Italian Society of Agricultural Genetics, Alghero, Italy.
- Money D, Gardner K, **Myles S** (2014) *Exploiting the full potential of next-generation DNA sequencing through genotype imputation*. Poster presentation at the Evolution Conference 2014, Raleigh, NC, USA
- Money D, Gardner K, **Myles S** (2014) *LD-kNNi - a new, fast and accurate imputation method for non-model organisms*. Poster presentation at the Plant Genomics Congress, St Louis, MO, USA

- Farid AH, Gardner K, Butler L, Rupasinghe PP, **Myles S** (2014) *Genome-wide association mapping of response to infection by the Aleutian mink disease virus*. Oral presentation at the 10<sup>th</sup> World Congress on Genetics Applied to Livestock Production
- Sawler J, **Myles S** (2013) *Genome-wide association and genomic selection in grape*. Oral presentation at Plant Genomes and Biotechnology conference, Cold Spring Harbor, New York, USA
- Goto-Yamamoto N, Kono H, Numata M, Joyo M, Sawler J, **Myles S** (2013) *Taxonomic Analysis of 'Koshu' with SNPs and Chloroplast DNA*. Oral presentation at Japanese Society of Enology and Viticulture Annual Meeting, Japan.
- Gardner K, Brown PJ, Cooke T, Cann S, Bustamante CD, Velasco R, Troglio M, **Myles S** (2013) *Creating a saturated genetic linkage map on a budget: capturing genomewide polymorphisms in an apple (Malus x domestica) mapping population using genotyping by sequencing (GBS)*. Oral presentation at the Canadian Plant Genomics Workshop, Halifax, Canada.
- Sawler J, **Myles S** (2013) *Genomic Ancestry Estimation in Interspecific Grape Hybrids*. Oral presentation at the Canadian Plant Genomics Workshop, Halifax, Canada.
- Sauerteig K, Rajcan I, **Myles S** (2013) *Genome to phenome mapping in the Apple Biodiversity Collection*. Poster presentation at the Canadian Plant Genomics Workshop, Halifax, Canada
- Goto-Yamamoto N, Kono H, Numata M, Joyo M, Sawler J, **Myles S** (2013) *Taxonomic Analysis of 'Koshu' with SNPs and Chloroplast DNA*. Oral Presentation at the Japanese Society for Enology and Viticulture annual meeting, Yamanashi, Japan.
- Gardner K, Schwaninger H, Cann S, Baldo A, Chao T, Fazio G, Volk G, Richards C, Zhong G-Y, **Myles S** (2013) *Genome-wide Survey of Genetic Diversity in Apple using Genotyping-by-Sequencing*. Oral presentation at Plant and Animal Genomes Conference, San Diego, USA
- Sawler J, **Myles S** (2012) *Enhancing traditional grape breeding through genomic ancestry selection: a preliminary method*. Oral presentation at the 8th Canadian Plant Biotechnology Conference, Guelph, Ontario, Canada
- Cooke T, Cornejo O, **Myles S**, Motamayor JC, Bustamante CD (2012) *Mapping the self-incompatibility locus in T. cacao through genotyping-by-sequencing*. Poster presentation at the Plant and Animal Genomes Conference, San Diego, USA
- **Myles S**, Brown PJ, Cooke TF, di Gaspero G, Bustamante CD (2011) *Genome-wide scan for selection and introgressions from the wild in V. vinifera*. Poster presentation and poster prize winner at the Grape Research Coordination Network Conference, Lake Tahoe, CA, USA
- Cornejo OE, **Myles S**, Mockaitis K, Royaert S, Livingstone D, Kuhn DN, Schnell RJ, Bustamante CD, Motamayor JC (2011) *Building a next generation platform for association studies in cacao*. Oral presentation at the Plant and Animal Genomes Conference, San Diego, USA
- **Myles S**, Buckler E (2010) *Genetic characterization of the USDA grape germplasm collection: Challenges and lessons learned*. Oral presentation at the 10<sup>th</sup> International Conference on Grapevine Breeding and Genetics, Geneva, NY, USA
- **Myles S**, Boyko AR, Bustamante CD, Buckler E (2010) *Genome-wide SNP data refine relationships in the grapevine*. Oral presentation at the Molecular Biology and Evolution Conference, Lyon, France
- **Myles S**, Chia JM, Hurwitz B, Simon C, Zhang GY, Ware D, Buckler E (2009) *Genome-wide genetic characterization of the grape*. Poster presentation at the Plant and Animal Genomes Conference, San Diego, USA
- Chia JM, Hurwitz B, **Myles S**, Gore M, Wei S, Buckler E, Ware D (2009) *A Pipeline For SNP Discovery and Genotyping Based on Short-Read Plant Libraries*. Poster presentation at the Plant and Animal Genomes Conference, San Diego, USA
- **Myles S**, Buckler E (2008) *Genome-wide genetic variation in Vitis*. Oral presentation at the Conference of the American Society for Enology and Viticulture – Eastern Section, Saint Catharines, Canada
- **Myles S**, Bryk J, Hardouin E, Stoneking M (2007) *Positive selection in East Asians: Identification and functional characterization of a putatively adaptive variant in the EDAR gene*. Oral presentation at the Molecular Biology and Evolution Conference, Halifax, Canada

- **Myles S**, Blass T, Oerlecke I, Kayser M, Stoneking M (2006) *Genetic relationships between Papuan and Austronesian-speaking groups in Island Melanesia: insights from mtDNA*. Oral presentation at the OMLL workshop Language and Genes in East Asia/Pacific, Uppsala, Sweden
- **Myles S**, Blass T, Oerlecke I, Kayser M, Stoneking M (2006) *Human population history in the Solomon Islands: insights from mtDNA*. Poster presentation at the EMBO workshop Human Evolution and Disease, Hyderabad, India
- Gunnarsdottir E, **Myles S**, Mark Stoneking (2006) *Genetic ancestry and population history of three groups in the Philippines*. Poster presentation at the EMBO workshop Human Evolution and Disease, Hyderabad, India
- **Myles S**, Hradetzky E, Lao O, Nürnberg P, Kayser M, Stoneking M (2006) *Searching for the signature of positive selection on diabetes-associated alleles in Polynesians*. Oral presentation at the Molecular Biology and Evolution Conference, Tempe, Arizona, USA
- **Myles S**, Hradetzky E, Lao O, Nürnberg P, Kayser M, Stoneking M (2005) *Positive selection at diabetes-associated SNPs in Polynesians*. Poster presentation at the National Genome Research Network meeting in Bonn, Germany
- Workshop on Languages and Genes in Aussois, France (2005) - Invited participant
- **Myles S**, Tang K, Stoneking M (2005) *Detecting the signature of local positive selection using genome-wide SNP data from 3 human populations*. Oral presentation at the Molecular Biology and Evolution Conference, Auckland, New Zealand
- **Myles S**, Bouzekri N, Dugoujon JM, Ward R (2003) *The Evolution of Lactose Tolerance*. Poster presentation at the Human Behaviour and Evolution Society Conference, University of Nebraska, USA
- **Myles S**, Bouzekri N, Dugoujon JM, Ward R (2003) *The Evolution of Lactose Tolerance in the Berber*. Oral presentation at the Ontario Ecology and Ethology Colloquium, McMaster University, Canada

### Noteworthy Meetings

- Scotia Horticultural Congress, Wolfville, Canada (Jan 2014) – Regional agriculture conference - Participant
- F5://Food (Refresh Food), Wolfville, Canada (Jan 2014) – Regional agriculture conference - Participant
- Plant And Animal Genomes, San Diego, USA (Jan 2014) – International conference – Genome Atlantic sponsored invited participant
- SeedSeq and the Digital Seed Bank, San Diego, USA (Jan 2014) – Meeting for strategy development of the international SeedSeq initiative – Genome Canada sponsored invited participant
- Vino Summit, UBC Okanagan, Canada (July 2013) – NSERC-sponsored meeting to identify national research needs, collaborative opportunities, and research priorities for the Canadian wine and grape industries – Invited participant
- Brock University, Canada (June 2013) – Development of application for National Centres of Excellence funding for Canadian grape and wine research – Invited participant
- Innovation Summit, Halifax, Nova Scotia (April 2013) – Strategy development for enhancing innovation in Nova Scotia – Invited panel member
- Crop Wild Relative Genomics, Asilomar, USA (Dec 2012) – Crop Diversity Trust sponsored meeting leading to development of international SeedSeq initiative – Invited participant

### Field Work

- Solomon Islands, Melanesia (July 2009) – 4 weeks of collecting DNA samples and phenotype data from human populations
- Davis, California, USA (May 2008) – 2 weeks of data collection on grape berry size and colour at the USDA grape germplasm repository.

- Davis, California, USA (May 2008) – 2 weeks of collecting grape leaf tissue samples for DNA extraction from the USDA grape germplasm repository.
- Solomon Islands, Melanesia (August 2004) - 6 weeks of collecting DNA samples (using cheek swabs) from human populations
- Walpole, Maine, USA (June 2003) - 2 weeks of data collection on foraging behaviour of bumblebees (*Bombus ternarius* and *Bombus vegans*) and honeybees (*Apis mellifera*) on common milkweed (*Asclepias syriaca*).
- Yellowstone National Park, Wyoming, USA (July 2003) - 3 weeks of data collection on the effects of predation of bumblebee wolves (*Philanthus bicinctus*) on bumblebees (*Bombus ternarius* and *Bombus vegans*).

#### **Organization Membership and Service**

- Partner in DivSeek ([www.divseek.org](http://www.divseek.org)) (2014 – present)
- Member of the United States Department of Agriculture’s Apple Crop Germplasm Committee (2013 - present)
- Associate of the Centre for Comparative Genomics & Evolutionary Bioinformatics (CGEB), Dalhousie University (2013 - present)
- Member of Research Sub-Committee, Senate Academic Programs and Research Committee, Dalhousie University (2013 – present)
- Member of Research Committee, Grape Growers’ Association of Nova Scotia (2012 – present)
- Associate Member of the Wine Research Centre, University of British Columbia (2012 – present)
- Member of Scientific Advisory Board, Genome BC (2011 – 2013)
- Member of Faculty of Graduate Studies, University of Guelph (2013 – present)
- Member of Nova Scotia Institute of Science (2011 – present)
- External reviewer, Polish Science Foundation (2011)

#### **Languages**

- English (mother tongue)
- Fluent in German and French
- Adequate Swiss-German

#### **Skills and Interests**

- Music: guitar, voice
- Cycling and hiking
- Food and wine

#### **Reviewing assignments**

- Annals of Human Genetics, BMC Evolutionary Biology, BMC Genetics, BMC Genomics, BMC Plant Biology, European Journal of Human Genetics, Human Heredity, Molecular Biology and Evolution, PLoS ONE, PLoS Genetics, The Plant Journal, Proceedings of the Royal Society B