**Lauren Michaela McIntyre**

**Education**

Douglass College, Rutgers University, Biomathematics, B.A., 1991

North Carolina State University, Statistics, M. Stat., 1994

North Carolina State University, Genetics/Statistics, Ph.D., 1996

**Professional Experience**

1996-1999 Director of Biostatistics, Institute for Clinical and Epidemiological Research, Health Services Research in Primary Care, VA Medical Center, Durham, NC

1996-2001 Research Assistant Professor, Division of Biometry, Duke University MC,

1999-2003 Assistant Professor, D. of Agronomy, Purdue University, West Lafayette, IN

2001-2013 Adjunct Assistant Professor, Division of Biometry, DUMC

2003-2006 Associate Professor D. of Agronomy, Purdue University, West Lafayette, IN

2006-2011 Associate Professor, Molecular Genetics and Microbiology, University of Florida, Gainesville, FL

2011- Professor, Molecular Genetics and Microbiology, University of Florida, Gainesville, FL

2013-2016 Board of Directors, Genetics Society of America (elected by membership)

**Editorships**

2006- 2012 Associate Editor Molecular Biology and Evolution

2006- 2019 Associate Editor BMC Genetics

2007- 2013 Associate Editor GENETICS

2007- 2008 Associate Editor Crop Science

2007- 2012 Associate Editor Statistical Applications in Genetics and Molecular Biology

2008- 2012 Senior Editor GENETICS (Complex Traits)

2012- 2013 Senior Editor GENETICS (Genome and Systems Biology)

2010- 2014 Associate Editor Journal of the Royal Statistical Society: Series B

2016- 2018 Series Editor GENETICS/G3

2019- present Senior Editor Molecular Biology and Evolution

**Honors**

1987-1991 Garden State Distinguished Scholar

1987-1991 Douglass College Scholar

1991-1994 Patricia Roberts Harris Fellow

1994 Outstanding Teaching Assistant Award, North Carolina State University

1994-1995 GAANN Fellow

1997 Performance Award, VAMC , Durham, NC

2012 Visiting Scholar Royal Dutch Academy of Arts and Sciences (KNAW)

2012 Visiting Scholar Netherlands Organization for Scientific Research (NWO)

2013-present F1000 Faculty

2014-2016 University of Florida Research Foundation Professor

2017-2020 College of Medicine Term Professor, University of Florida

**Memberships**

International Biometrics Society

Genetics Society of America

Genetics Society UK (nominated and accepted for membership 2006)

Society for Molecular Biology and Evolution

**Professional Service**

2003-2006 NIH SBIR-STTR panel member

2007-2009 Genome Canada

2007 NSF ad-hoc reviewer for CAREER, Foundation Biological Systems

2007 NIH Special Emphasis Panels the Cancer Genome Atlas, Data Analysis and Visualization

2008 NIH Special Emphasis Panel IDeA Networks of biomedical research Excellence

2008-2013 NIH ad-hoc panel member for NRSA awards in Evolution and Genomics

2008 US – Israel Bi-national Science foundation ad hoc member

2008 NSF ad hoc reviewer for Merit awards

2009 NIH special emphasis panel on shared instrumentation

2009 NIH Health First Challenge Round Reviewer

2009-2010 Austrian Science Fund panel

2010 NIH U54 panel National Centers for Biomedical computing

2011-2012 CNRS (French National Science Research Center) Atip-Avenir Young Investigator reviewer

2013-2016 Communications committee, Genetics Society of America

2013 AGAUR- evaluator Agency for Management of University and Research Grants Catalonia

2015 NIH P50 National Centers of Systems Biology

2015-2021 NIH Genetic Variation and Evolution (GVE) study section member

2019 NIH ESI MIRA panel review

**Teaching**

1994-1996 Teaching Assistant: Genetic Data Analysis 565; Statistical Concepts in Genetics 626; Introduction to Genetics 411; NCSU

1992-1996 Introduction to Statistics 311; NCSU

1998 Experimental Statistics For Biological Sciences II 512; NCSU

1999 Genetic Data Analysis; DUMC

2000-2005 Introduction to Genetics 320; Purdue University

2003-2005 Genetics: A Mathematical Approach 598 M; Purdue University

2004 Genomics: Computational Methods 598 A; Purdue University

2006 Microarray Data Analysis PhD course; Uppsala University, Sweden

2006 Microarray Data Analysis; University of Florida

2007-2012 Medical Genetics; University of Florida

2007-2014 Genomics and Bioinformatics; University of Florida

2008 Microarray Data Analysis: component of NIDA Short course on the Genetics and Epigenetics of Addiction

2008, 2010 Mouse Genetics; University of Florida

2008 Mixed Models for Biologists; University of Florida

2012 Writing and Reviewing for Scientific Journals, APA workshop

2014-2021 Big Data for the Biologist, University of Florida

**Publications** (114 peer reviewed h-index 50, i10 index 108)

1. McIntyre, L. M. 1994. Using Cigarette Data for An Introduction to Multiple Regression. Journal of Statistics Education v2 n1.

2. Butterfield, M. I., Bastian, L. A., McIntyre, L. M., Koons, C., Vollmer, M., and Burns, B. 1996. Screening for mental disorder symptoms and a history of sexual trauma and battering among women using primary health care services. J. Clinical Outcomes Management 3:55-61.

3. McIntyre, L. M., and Weir, B. S. 1997. Hardy-Weinberg testing for continuous data. Genetics 147:1965-1975.

4. Butterfield, M. I., McIntyre, L. M., Stechuchak, K. M., Nanda, K., and Bastian, L. A. 1998. Mental Disorder Symptoms in Veteran Women: Impact of Physical and Sexual Assault. American Medical Women's Association 53:198-200.

5. Hoening, H., McIntyre, L. M., Sloane, R., Branch, L., Truncali, A., and Horner, R. D. 1998. The reliability of a self-reported measure of disease, impairment, and function in persons with spinal cord dysfunction. Archives of Physical Medicine and Rehabilitation 79:378-387.

6. Oddone, E. Z., Horner, R. D., Diers, T., Lipscomb, J., McIntyre, L. M., Coffman, C., Whittle, J., Passman, L., Kroupa, L., Heaney, R., and Matchar, D. 1998. Understanding racial variation in the use of carotid endarterectomy: the role of aversion to surgery. Journal of the National Medical Association 90:25-33.

7. Hoening, H., Branch, L., McIntyre, L. M., Hoff, J. A., and Horner, R. D. 1999. The validity in persons with spinal cord injury of a self-reported functional measure (SRFM) derived from the FIM. Spine 24:539-544.

8. Hoening, H., McIntyre, L. M., Hoff, J. A., and Bepler, G. 1999. Disability fingerprints: Patterns of disability in spinal cord injury and multiple sclerosis differ. J. Gerontology 54:M613-620.

9. Hulette, C. M., Welsh-Bohmer, K. A., Murray, M. G., Saunders, A. M., Mash, D. C., and McIntyre, L. M. 1999. Neuropathological changes in normal aging: Evidence for preclinical alzheimer disease in cognitively normal individuals. Journal of Neuropathology and Exp. Neurology 57:1168-1174.

10. Johnston, E. M., McIntyre, L. M., Hoff, J. A., and Bepler, G. 1999. The effect of orchiectomy on lung cancer survival. Anticancer Research 19:5567-5570.

11. McIntyre, L. M., Butterfield, M. I., Nanda, K., Parsey, K., Stechuchak, K. M., McChesney, A. W., Koons, C., and Bastian, L. A. 1999. Validation of a trauma questionnaire in veteran women. Journal of General Internal Medicine 14:186-189. PMID: 10203625

12. Oddone, E. Z., Horner, R. D., Sloane, R., McIntyre, L. M., Ward, J., Whittle, J., Passman, L., Kroupa, L., Heaney, R., Diem, S., and Matchar, D. 1999. Race, presenting signs and symptoms, use of carotid artery imaging, and appropriateness of carotid endarterectomy. Stroke 30:1350-1356. PMID: 10390306

13. Vermerris, W., and McIntyre, L. M. 1999. Time to flowering in brown midrib mutants of maize: an alternative approach to the analysis of developmental traits. Heredity 83:171-178. PMID: 10469205

14. Bosworth, H. B., Parsey, K. S., Butterfield, M. I., McIntyre, L. M., Oddone, E. Z., Stechuchak, K. M., and Bastian, L. A. 2000. Racial variation in wanting and obtaining mental health services among women veterans in a primary care clinic. Journal of the National Medical Association 92:231-236. PMID: 10881472

15. Denmark-Wahnefried, W., Schildkraut, J., Thompson, D., Lesko, S., McIntyre, L. M., Schwingl, P., Paulson, D., Robertson, C., Anderson, E., and Walther, P. 2000. Early onset baldness and prostate cancer risk. Cancer Epidemiology, Biomarkers and Prevention 9:325-328. PMID: 10750672

16. Fowler, V. G., McIntyre, L. M., Yeaman, M. R., Peterson, G. E., Reller, L. B., Corey, G. R., Wray, D., and Bayer, A. S. 2000. In vitro resistance to thrombin-induced platelet microbicidal protein in isolates of *Staphylococcus aureus* from endocarditis patients correlates with an intravascular device source. Journal of Infectious Diseases 182:1251-1254. PMID: 10979928

17. McIntyre, L. M., Martin, E. R., Simonsen, K. L., and Kaplan, N. L. 2000. Circumventing multiple testing: A multilocus Monte Carlo approach to testing for association. Genetic Epidemiology 19:18-29. PMID: 10861894

18. Oberg, A. L., Ferguson, J. A., McIntyre, L. M., and Horner, R. D. 2000. Incidence of stroke and season of the year: Evidence of an association. American Journal of Epidemiology 152:558-564. PMID: 10997546

19. Steinhauser, K. E., Clipp, E. C., McNeilly, M., Christakis, N. A., McIntyre, L. M., and Tulsky, J. A. 2000. In search of a good death: Observations of patients, families, and providers. Annals of Internal Medicine 132:825-832. PMID: 10819707

20. McBride, C. M., Halabi, S., Bepler, G., Lyna, P., McIntyre, L. M., Lipkus, I., Albright, J., and O'Briant, K. C. 2001. Maximizing the motivational impact of feedback of lung cancer susceptibility on smokers desire to quit. Journal of Health Communication 5:229-241. PMID: 11185023

21. McIntyre, L. M., Coffman, C. J., and Doerge, R. W. 2001. Detection and localization of a single binary trait locus in experimental populations. Genetical Research 78:79-92. PMID: 11556139

22. McIntyre, L. M., O'Briant, K. C., McBride, C. M., and Bepler, G. 2001. Rater agreement and utility of the mutagen-induced chromosome damage assay. Anticancer Research 21:605-609. PMID: 11299813

23. Peck, B. M., Asch, D. A., Goold, S. D., Roter, D. L., Ubel, P. A., McIntyre, L. M., Abbott, K. H., Hoff, J. A., Koropchak, C. M., and Tulsky, J. A. 2001. Measuring patient expectations - Does the instrument affect satisfaction or expectations? Medical Care 39:100-108. PMID: 10469205

24. Bepler, G., Gautam, A., McIntyre, L. M., Beck, A. F., Chervinsky, D. S., Kim, Y. C., Pitterle, D. M., and Hyland, A. 2002. Prognostic significance of molecular genetic aberrations on chromosome segment 11p15.5 in non-small-cell lung cancer. Journal of Clinical Oncology 20:1353-1360. PMID: 11870179

25. Moody, D., Zou, Z., and McIntyre, L. M. 2002. Cross-species hybridisation of pig RNA to human nylon microarrays. BMC Genetics 3:27.

26. Oddone, E. Z., Horner, R. D., Ward, A., Steuchuchack, K., and McIntyre, L. M. 2002. Carotid endarterectomy and race: Do clinical indications and patient preferences account for differences? Stroke DNA Press:155-166. PMID: 12468794

27. Vermerris, W., Thompson, K. J., and McIntyre, L. M. 2002. The maize Brown midrib1 locus affects cell wall composition and plant development in a dose-dependent manner. Heredity 88:450-457.

28. Vermerris, W., Thompson, K. J., McIntyre, L. M., and Axtell, J. 2002. Evidence for an evolutionarily conserved interaction between cell wall biosynthesis and flowering in maize and sorghum. BMC Genetics Evolutionary Biology 2:2. PMID: 11835688

29. Wayne, M. L., and McIntyre, L. M. 2002. Combining mapping and arraying: An approach to candidate gene identification. Proceedings of the National Academy of Sciences of the United States of America 99:14903-14906. PMID: 12415114

30. Coffman, C. J., Doerge, R. W., Wayne, M. L., and McIntyre, L. M. 2003. Intersection tests for single marker QTL analysis can be more powerful than two marker QTL analysis. BMC Genetics 4:10. PMID: 12816551

31. Jin, T., Bokarenwa, M., McIntyre, L. M., Tarkowski, A., Corey, G. R., Reller, L. B., and Fowler, V. G. 2003. Fatal outcome of bacteraemic patients caused by infection with staphylokinase-deficient *Staphylococcus aureus* strains. Journal of Medical Microbiology 52:919-923. PMID: 12972589

32. Lahner, B., Gong, J., Mahmoudian, M., Smith, E., Abid, K., Rogers, E., Guerinot, M., Harper, J., Ward, J., McIntyre, L. M., Schroeder, J., and Salt, D. 2003. Genomic scale profiling of nutrient and trace elements in *Arabidopsis thaliana*. Nature Biotechnology 21:1215-1221. PMID: 12949535

33. Singh, A. K., McIntyre, L. M., and Sherman, L. A. 2003. Microarray analysis of the genome-wide response to iron deficiency and iron reconstitution in the cyanobacterium *Synechocystis sp* PCC 6803. Plant Physiology 132:1825-1839. PMID: 12913140

34. Fowler, V. G., Sakoulas, G., McIntyre, L. M., Meka, V. G., Arbeit, R. D., Cabell, C. H., Stryjewski, M. E., Eliopoulos, G. M., Reller, L. B., Corey, G. R., Jones, T., Lucindo, N., Yeaman, M. R., and Bayer, A. S. 2004. Persistent bacteremia due to methicillin-resistant *Staphylococcus aureus* infection is associated with agr dysfunction and low-level in vitro resistance to thrombin-induced platelet microbicidal protein. Journal of Infectious Diseases 190:1140-1149. PMID: 15319865

35. Li,H., Singh, A. K., McIntyre, L. M., and Sherman, L. A. 2004. Differential gene expression in response to hydrogen peroxide and the putative PerR regulon of *Synechocystis sp* strain PCC 6803. Journal of Bacteriology 186:3331-3345. PMID: 15150218

36. Nuzhdin, S. V., Wayne, M. L., Harmon, K. L., and McIntyre, L. M. 2004. Common pattern of evolution of gene expression level and protein sequence in *Drosophila*. Molecular Biology and Evolution 21:1308-1317. PMID: 15034135

37. Pedra, J. H. F., McIntyre, L. M., Scharf, M. E., and Pittendrigh, B. R. 2004. Genome-wide transcription profile of field- and laboratory-selected dichlorodiphenyltrichloroethane (DDT)-resistant *Drosophila*. Proceedings of the National Academy of Sciences of the United States of America 101:7034-7039. PMID: 15118106

38. Pirttila, A. M., McIntyre, L. M., Payne, G. A., and Woloshuk, C. P. 2004. Comparison of expression profiles associate gene tags with fumonisin biosynthesis in wild type and fcc1 mutant of *Fusarium verticillioides*. Fungal Genetics and Biology 41:647-656. PMID: 15121086

39. Simonsen, K. L., and McIntyre, L. M. 2004. Using alpha wisely: improving power to detect multiple QTL. Statistical Applications in Genetics and Molecular Biology 3. PMID: 16646787

40. Wayne, M. L., Pan, Y. J., Nuzhdin, S. V., and McIntyre, L. M. 2004. Additivity and trans-acting effects on gene expression in male *Drosophila simulans*. Genetics 168:1413-1420. PMID: 15579694

41. Barmina, O., Gonzalo, M., McIntyre, L. M., and Kopp, A. 2005. Sex- and segment-specific modulation of gene expression profiles in *Drosophila*. Developmental Biology 288:528-544. PMID: 16269142

42. Coffman, C. J., Doerge, R. W., Simonsen, K. L., Nichols, K. M., Duarte, C., Wolfinger, R. D., and McIntyre, L. M. 2005. Model selection in binary trait locus mapping. Genetics 170:1281-1297. PMID: 15834149

43. Coffman, C. J., Wayne, M. L., Nuzhdin, S. V., Higgins, L. A., and McIntyre, L. M. 2005. Identification of co-regulated transcripts affecting male body size in *Drosophila*. Genome Biology 6:R53 doi:10.1186/gb-2005-6-6-r53 PMID: 15960805

44. Hammes, U. Z., Schachtman, D. P., Berg, R. H., Nielsen, E., Koch, W., McIntyre, L. M., and Taylor, C. G. 2005. Nematode-induced changes of transporter gene expression in *Arabidopsis* roots. Molecular Plant-Microbe Interactions 18:1247-1257. PMID: 16478044

45. Telonis-Scott, M., McIntyre, L. M., and Wayne, M. L. 2005. Genetic architecture of two fitness-related traits in *Drosophila melanogaster*: ovariole number and thorax length. Genetica 125:211-222. PMID: 16247693

46. Verhoeven, K. J. F., Simonsen, K. L., and McIntyre, L. M. 2005. Implementing false discovery rate control: increasing your power. Oikos 108:643-647.

47. Gonzalo, M., Vyn, T. J., Holland, J. B., and McIntyre, L. M. 2006. Mapping density response in maize: A direct approach for testing genotype and treatment interactions. Genetics 173:331-348. PMID: 16489238

48. McIntyre, L. M., Bono, L. M., Genissel, A., Westerman, R., Junk, D., Telonis-Scott, M., Harshman, L., Wayne, M. L., Kopp, A., and Nuzhdin, S. V. 2006. Sex-specific expression of alternative transcripts in *Drosophila*. Genome Biology 7:R79 doi:10.1186/gb-2006-7-8-r79. PMID: 16934145

49. Spurlock, D. M., McDaneld, T. G., and McIntyre, L. M. 2006. Changes in skeletal muscle gene expression following clenbuterol administration. BMC Genetics 7:320. PMID: 17181869

50. Verhoeven, K. J. F., Jannink, J. L., and McIntyre, L. M. 2006. Using mating designs to uncover QTL and the genetic architecture of complex traits. Heredity 96:139-149. PMID: 16304603

51. Fowler, V. G., Nelson, C. L., McIntyre, L. M., Kreiswirth, B. N., Monk, A., Archer, G. L., Federspiel, J., Naidich, S., Remortel, B., Rude, T., Brown, P., Reller, L. B., Corey, G. R., and Gill, S. R. 2007. Potential Associations between Hematogenous Complications and Bacterial Genotype in *Staphylococcus aureus*. Journal of Infectious Diseases 196:738-747. PMID: 17674317

52. Gonzalo, M., Vyn, T. J., Holland, J. B., and McIntyre, L. M. 2007. Mapping reciprocal effects and interactions with plant density stress in *Zea mays L*. Heredity 99:14-30. PMID: 17473872

53. Slotte, T., Holm, K., McIntyre, L. M., Lagercrantz, U., and Lascoux, M. 2007. Differential expression of genes important for adaptation in *Capsella bursa-pastoris*/ (Brassicaceae). Plant Physiology 145:160-173. PMID: 17631524

54. Wayne, M. L., Telonis-Scott, M., Bono, L. M., Harshman, L., Kopp, A., Nuzhdin, S. V., and McIntyre, L. M. 2007. Simpler mode of inheritance of transcriptional variation in male *Drosophila melanogaster*. Proceedings of the National Academy of Sciences of the United States of America 47:18577-18582. PMID: 18003923

55. Fung, R. W. M., Gonzalo, M., Fekete, C., Kovacs, L. G., He, Y., Marsh, E., McIntyre, L. M., Schachtman, D. P., and Qin, W. 2008. Powdery Mildew Induces Defense-Oriented Reprogramming of the Transcriptome in a Susceptible but not in a Resistant Grapevine Plant Physiology 146:236-249. PMID: 17993546

56. Genissel, A., McIntyre, L. M., Wayne, M. L., and Nuzhdin, S. V. 2008. Cis and trans regulatory effects contribute to natural variation in transcriptome of *Drosophila melanogaster*. Molecular Biology and Evolution 25:101-110. PMID: 17998255

57. Kopp, A., Barmina, O., Hamilton, A. M., Higgins, L. A., McIntyre, L. M., and Jones, C. 2008. Evolution of gene expression in the *Drosophila* olfactory system. Molecular Biology and Evolution 25:1081-1092. PMID: 18296696

58. Engelkes, T., Morrien, E., Verhoeven, K. J. F., Bezemer, T. M., Biere, A., Harvey, J. A., McIntyre, L. M., Tamis, W. L. M., and van der Putten, W. H. 2008. Successful range-expanding plants experience less above-ground and below-ground enemy impact. Nature 456:946-948. PMID: 19020504

59. Telonis-Scott, M., Kopp, A., Wayne, M. L., Nuzhdin, S. V., and McIntyre, L. M. 2009. Sex-specific Splicing in *Drosophila*: Widespread Occurrence, Tissue-specificity, and Evolutionary Conservation. Genetics 181:421-434. PMID: 19015538

60. Nuzhdin, S. V., Brisson, J. A., Pickering, A., Wayne, M. L., Harshman, L. G., and McIntyre, L. M. 2009. Natural genetic variation in transcriptome reflects network structure inferred with major effect mutations: insulin TOR and associated phenotypes in *Drosophila melanogaster*. BMC Genomics 10:124. PMID: 19317915

61. Graze, R. M., McIntyre, L. M., Main, B. J., Wayne, M. L., and Nuzhdin, S. V. 2009. Regulatory divergence in *Drosophila melanogaster* and *D. simulans*, a genome-wide analysis of allele-specific expression. Genetics 183:547-561. PMID: 19667135

62. Main, B. J., Bickel, R. D., McIntyre, L. M., Graze, R. M., Calabrase, P. P., and Nuzhdin, S. V. 2009. Allele-specific expression assays using Solexa. BMC Genomics 10:422. PMID: 19740431

63. Gonzalo, M., Holland, J. B., Vyn, T. J., and McIntyre, L. M. 2009. Direct Mapping Of Density Response In a Population of B73 x Mo17 Recombinant Inbred Lines of Maize (*Zea Mays L*.). Heredity:1-17. PMID: 19888291

64. Xu, P., McIntyre, L. M., Scardina, J., Wheeler, P. A., Thorgaard, G. H., and Nichols, K. M. 2010. Transcriptome profiling of embryonic development rate in rainbow trout advanced backcross introgression lines. Marine Biotechnology PMID: 20352270

65. Vermerris, W., Sherman, D. M., and McIntyre, L. M. 2010. Phenotypic plasticity in cell walls of maize brown midrib mutants is limited by lignin composition. Journal of Experimental Botany 61(9):2479-2490. PMID: 20410320

66. Morse A.M., Carballo V., Baldwin D., Taylor C. and McIntyre, L.M. 2010 Comparison between NuGEN's WT-Ovation Pico and One-Direct Amplification Systems Journal of Biomolecular Techniques Sep;21(3):141-7 PMID: 20808643

67. Verhoeven K.J.F., Casella G., and McIntyre L.M., 2010 Epistasis: Obstacle or Advantage PLOS ONE 5(8): e12264. doi:10.1371/journal.pone.0012264 PMID: 20865037

68. Gulig, P.A., de Creasy-Lagard V., Wright, A., Walts B.M., Telonis-Scott, M. L., McIntyre L.M. 2010 SOLiD sequencing of four *Vibrio vulnificus* genomes enables comparative genomic analysis and identification of candidate clade-specific virulence genes BMC Genomics 11:512 PMID:20863407

69. Wayne, M. L., Pienaar J., Telonis-Scott M. L., Sylvestre L.-S., Nuzhdin S. V. and McIntyre, L. M. . 2010 Relaxed selection is consistent with expression evolution for many defense genes in *Drosophila*. Evolution 65:4 1068–1078 PMID: 21108635

70. Gill, SR, McIntyre L.M., Nelson, C.L., Remortel, B., Rude, T., Reller, B. and Fowler V.F. 2011 Potential Associations between Severity of Infection and the Presence of Virulence-Associated Genes in Clinical Strains of *Staphylococcus aureus* PLOS ONE 6(4): e18673 PMID: 21541311

71. McIntyre, L.M. Lopiano, K.K., Morse A.M., Amin V, Oberg A.L., Young L.J., and Nuzhdin S.V. 2011 RNA-seq: technical variability and sampling BMC Genomics, 12:293 PMID: 21645359

72. Yang, Y Graze R.M., Walts B.M., Lopez C.M., Baker H.V., Wayne ML, Nuzhdin S.V. and McIntyre L.M. 2011 Partitioning Transcript Variation in *Drosophila*: Abundance, Isoforms and Alleles G3: Genes, Genomes and Genetics 1:427-436 PMID: 22384353

73. Yang, J, Casella G, and LM McIntyre 2011 Generalized Shrinkage F-like Statistics for Testing an Interaction Term in Gene Expression Analysis in the Presence of Heteroscedasticity BMC Bioinformatics 12:427 PMID: 22044602

74. Lower, S.K. , Lamlerthon, S., Casillas-Ituarte,N.N. , Lins,R.D., Yongsunthon,R., Taylor, E.S., DiBartola, A.C. Edmonson, C, McIntyre, L.M., Reller, L.B., Quee, Y.-A., Ros, R., Lower, B.H. and Fowler, V.G. 2011 Polymorphisms in fibronectin binding protein A of *Staphylococcus aureus* are associated with infection of cardiovascular devices Proceedings of the National Academy of Sciences of the United States of America 108 (45) 18372-18377 PMID: 22025727

75. Kopp, A. and McIntyre L.M. Transcriptional network structure has little effect on the rate of regulatory evolution in yeast. 2011 Molecular Biology and Evolution PMID: 20966117

76. Graze, R.M., Novelo, L.L., Amin V., Fear, J.M., Casella, G., Nuzhdin S.V., and McIntyre, L.M. 2012 Allelic Imbalance in *Drosophila* hybrid heads: exons, isoforms and evolution MBE 29(6):1521–153278. PMID: 22319150

77. Tarone A., McIntyre L.M., Harshman L., and Nuzhdin, S.V. Genetic variation in the Yolk protein expression network of *Drosophila melanogaster*: Sex-biased negative correlations with longevity 2012 Heredity Oct;109(4):226-34 PMID: 22760232

78. Wu K, Li S, Bodhinathan K, Craig M, Weijun C, Campbell-Thompson M; McIntyre LM, Foster TC, and Muzyczka N 2012 Enhanced Expression of Pctk1, Tcf12 and Ccnd1 in Hippocampus of Rats: Impact on Cognitive Function, Synaptic Plasticity and Pathology. Neurobiology of learning and memory Jan;97(1):69-80 PMID: 21982980 74.

79. Tieman D., BlissP., McIntyre L.M., Blandon-Ubeda A., BiesB., OdabasiA.Z., RodríguezG.R., van der KnaapE., Taylor M.G., GouletC., Mageroy M.H., SnyderD.J., ColquhounT., MoskowitzH., ClarkD.G., SimsC., BartoshukL., KleeH.J. 2012 The chemical Interactions Underlying Tomato Flavor Preferences Current Biology v22:11 1035-1039 PMID: 22633806

80. Haecker, I, Gay L.A., Yang Y., Hu J., Morse A.M., McIntyre L.M., Renne R. Ago-HITS-CLIP Expands Understanding of Kaposi's Sarcoma-associated Herpesvirus miRNA Function in Primary Effusion Lymphomas. 2012 PLoS Pathogens, 8(8): e1002884 PMID: 22927820

81. Jensen K., Sanchez-Garcia J., Williams C., Khare S., Mathur K., Graze R.M., Hahn D.A., McIntyre L.M., Rincon-Limas D.E. and Fernandez-Funez P. 2013 Purification of transcripts and metabolites from Drosophila heads JOVE , e50245-e50245 PMID: 23524378

82. Tytgat, T.O., Verhoeven K.J.F., Jansen J.J., Raaijmakers C.E., Bakx-Schotman T. , McIntyre, L.M. , van der Putten W.H.; Biere A; van Dam N.M. Plants Know where it Hurts. Root and Shoot Jasmonic Acid Induction Elicits Differential Responses in *Brassica oleracea*. 2013 PLoS ONE 8(6): e65502. doi:10.1371/journal.pone.0065502 PMID: 23776489

83. van Gurp, T McIntyre L.M., Verhoeven, K.J.F. Consistent errors in First Strand cDNA Due to Random Hexamer Mispriming. 2013 PLoS ONE DOI: 10.1371/journal.pone.0085583. PMID: 24386481

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113. de la Fuente,L, Arzalluz-Luque,A Tardáguila M, del Risco H,Martí C,Tarazona S,Salguero P,Scott R,Alastrue-Agudo A P,Newman JRB,McIntyre LM,Moreno-Manzano V,Conesa A tappAS: a comprehensive computational framework for the analysis of the functional impact of differential splicing Genome Biology 2020 21:119 https://doi.org/10.1186/s13059-020-02028-w

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115. Miller B, Morse AM, Borgert JE, Liu Z, Sinclair K, Gamble G, Zou F, Newman JRB, León-Novelo L, Marroni F, McIntyre LM Testcrosses are an efficient strategy for identifying cis regulatory variation: Bayesian analysis of allele specific expression (BayesASE) G3 01 May 2021, 11(5) DOI: 10.1093/g3journal/jkab096

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116. Gouveia GJ, Shaver AO, Garcia BM, Morse AM, Andersen EC, Edison AS, McIntyre LM Long-Term Metabolomics Reference Material Anal. Chem. 2021, 93, 26, 9193–9199 PMID: 34156835 DOI: 10.1021/acs.analchem.1c01294

**Reviews and Opinion**

1. Jansen, R. C., Tesson, B. M., Fu, J., Yang, Y. and McIntyre, L. M. 2009. Defining Gene and QTL networks. Current Opinion in Plant Biology. 12:1-6. PMID: 19196544
2. Nuzhdin, S.V. Friesen M.L., and McIntyre, L.M. 2012 Genotype-phenotype mapping in a post GWAS world Trends in Genetics Volume 28 Issue 9 pages 421-426 PMID: 22818580

**Editorials**

1. McIntyre, L.M. (2010) Data: The Foundation of Science. Genetics, 184: 1. PMID: 20061563

2. McIntyre, L.M. de Koning D.J. (2012) Genetics, Facilitating discovery: the role of the society journals in collaborative science PMID: 22384392; PMID: 22345602

3. de Koning D.J., McIntyre L.M. (2012) Setting the Standard: A Special Focus on Genomic Selection in GENETICS and G3

4. McIntyre L.M and de Koning D.J. (2014) GENETICS and G3: Community Driven Science, Community Driven Journals G3: Genes| Genomes| Genetics 4 (9), 1567-1568

5. de Koning DJ, McIntyre LM. Back to the Future: Multiparent Populations Provide the Key to Unlocking the Genetic Basis of Complex Traits. G3 (Bethesda). 2017 Jun 7;7(6):1617-1618. doi: 10.1534/g3.117.042846. PMID: 28592643 Genetics. 2017 Jun;206(2):527-529. doi: 10.1534/genetics.117.203265. PMID: 28592493

**Book Chapters**

1. Moody, D., B. Fadlia, A. K. Singh, S. Shah, and McIntyre, L.M. 2002. Quantitative Comparison of Image Analysis Software. DNA Press. p.155-166.

**Invited Talks 2012-2021**

1. Variability in RNA-seq: design and modeling April 2012 Verona, Italy 4th International Statseq workshop
2. Tips and Tools for assaying allele specific expression genome-wide June 2012 University of Louisville
3. Allele Specific Expression June 2012 8th International Symposium on Statistics June 2012 Purdue University
4. Tips and Tools for assaying Allele Specific Expression June 2012 University of Nebraska, Lincoln Nebraska
5. Genotype to Phenotype Mapping in a Post-GWAS World September 2012 Wageningen Agricultural University, the Netherlands
6. Gene network Reconstruction: Connecting the Dots November 2012 Veterinary Medical Center Vienna, Austria
7. Allele Specific Expression November 2013 Impact of Large scale Omic Data on Statistical and Quantitative Genetics (SQG13), Seattle Washington
8. Allele Specific Expression December 2013 Monash University, Melbourne Australia
9. Experimental Design in large scale omics studies December 2013 CSIRO Canberra Australia
10. Allele Specific Expression December 2013 University of Queensland, Brisbane Australia
11. Allele Specific Expression October 2014 Michigan State University, East Lansing Michigan
12. Using Path Analysis to Reveal Novel Components of the Sex Determination Hierarchy in Drosophila melanogaster Plant and Animal Genome XXIII January 2015
13. Allele Specific Expression: Drosophila to Tragopogon October 2015 Clemson University, South Carolina
14. Allele Specific Expression: Drosophila to Tragopogon November 2015 Texas A&M University, College Station Texas *Invited by students*
15. Allele Specific Expression: Drosophila to Tragopogon November 2015 Uppsala University, Uppsala Sweden
16. The Wright stuff: reinventing path analysis December 2015 University of Utah Salt Lake City Utah
17. Regulation of Gene Expression in Drosophila February 2016 University of Wisconsin Madison Wisconsin
18. The Wright stuff: reimagining path analysis reveals novel components of the sex determination hierarchy in drosophila melanogaster March 2016 The University of Missouri
19. Systems Genetics in Maize: A multilevel analysis of Maize response to Ozone July 2016 TAGC Orlando, FL
20. Allele Specific expression in Tragopogon and Maize September 2016 the 4th annual Plant Genomics Congress Philadelphia, PA
21. Importance of rigorous analytic and experimental design approaches in metabolomics studies. Conference in measurement Trondheim, Norway June 2017
22. Leveraging Natural Genetic Variation to Expand our Knowledge of Gene Regulatory Networks February 2018 University of Virginia
23. Sex specific regulation of gene expression in *D. melanogaster* and *D. simulans* University of Florida Genetics Symposium October 2018
24. Quantitative Genetics, Genetical Genomics and Systems Genetics: Why technology matters less than biologyUdine, Italy 2019
25. RNA splicing: identifiability and importance, University of North Carolina-Charlotte 2019
26. Testing for allelic imbalance between environments SMBE 2021

**Undergraduate Students from UFL**

Carter Johnson BS expected 2022 Data Science

Brando Mora BS Expected 2022 Computer Science Image segmentation in D. melanogaster

Brecca Miller BS 2019 (Honors Thesis Biomedical Engineering: Algorithm enhancement in allele specific expression currently PhD student data science NYU)

Jacqueline Elyse Borgert BS 2018 (Honors Thesis Mathematics: Random Numbers currently PhD student statistics UNC)

Gavin Olmeda Gamble (Aerospace Engineering: High throughput sequence analysis in Galaxy currently Senior working with Aerospace design team)

Chelsea Tymms (Computer Science: PhD Computer Science New York University, Postdoctoral Associate Facebook)

Alexi Runnels (Biology: PhD Molecular Biology Princeton University, currently Project Manage Genome Sciences University of Washington)

Catherine Edmonson (Honors Thesis Biochemistry: Predicted impact of SNPs in fibronectin binding protein A of Staphylococcus aureus - included in publication #74. MD 2016 University of Florida Currently Neurosurgical Resident University of Michigan)

Rhonda Bacher (Honors thesis Statistics/Math use of linear models to address issues of heteroscedasticity in the analysis of RNA seq data. PhD Statistics University of Wisconsin: Currently Assistant Professor of Biostatistics University of Florida)

**Graduate Students**

Adalena Nanni PhD in progress Sex Antagonism in Drosophilia

Zihao Liu MS 2020 Metabolomics: meta analysis instead of batch correction

Chelsea Devaux MS December 2017 Genomics of *Staphylococcus aureus* (Currently PhD student Texas )

Felicia New MS December 2015 Population Genomics in *D. simulans* (Currently PhD student Cornell University)

Justin Fear PhD May 2015 Causal inferences for regulation of Gene Networks (Currently Postdoctoral Associate NIH)

Trey Polvadore MS 2014 (Currently PhD student Biology UFL)

Yajie Yang PhD 2013 University of Florida A Systems Biology Approach to Understanding Transcriptional Networks (Currently on parental leave)

Martin Gonzalo PhD 2006 Purdue University Determination of the Genetic Basis for responses to plant population density in *Zea mays L*. (Currently Head of Research and Limagrain South America)

Jason Brewer MS 2006 Purdue University Analysis of long term tillage studies (Currently Research Technician NCSU)

Karen Thompson MS 2003 Purdue University Modeling mineral uptake in Zea mays L. (Currently Manager Pioneer Hybrid)

Yuanji Pan MS 2003 Purdue University Analysis of Partial Diallels (Currently Research Technician NIH)

Lexingtons Ndulu PhD 2001 Purdue University Genetic analysis of nutritional quality traits in sorghum (Currently Manager 3M)

**Postdoctoral Research Associates**

Xinwen Zhang Natural variation in pigmentation in *D. melanogaster* 2020-present

Jeremy Newman The role of gene expression in diabetes 2014-2018 (Currently Research Associate Department of Pathology University of Florida)

Funda Ogut Maize response to ozone 2016-2018 (Currently Assistant Professor Artvin Çoruh Üniversitesi Turkey)

Alexander Kirpich Metabolomic Data Analysis 2015-2017 (Currently Assistant Professor School of Public Health Georgia State University)

Alison Gerken Allele Specific Expression in Drosophila 2014-2015 (currently Postdoctoral Associate USDA Manhattan Kansas)

Rita Gaze Allele specific expression and speciation in Drosophila, University of Florida 2007-2012 (Currently Associate Professor Auburn University)

Rob Kulathinal Annotation in Drosophila (Currently Associate Professor Temple University)

Marina Telonis-Scott Alternative splicing and gene networks in Drosophila melanogaster, University of Florida, 2007-2009 (Currently Assistant Professor Deakin University Australia)

Jie Yang Detection of SNPs by hybridization, University of Florida, 2007-2008 (Currently Assistant Professor SUNY Stonybrook)

Jason Pienaar Evolution of sex dimorphism, University of Florida, 2007-2008 (Currently Senior Lecturer University of Pretoria, South Africa)

Laura Higgins Behavioral genomics in D. melanogaster, University of Florida, 2008 (Currently product development JMP)

Koen Verhoeven Mapping in natural populations, Purdue University, 2003-2005 (Currently Professor NIOO The Netherlands)

Cynthia Coffman Mapping binary traits, Duke University Medical Center, VA Medical Center, 1997-2003 (Currently Research Associate Professor Duke University Medical School)

**Currently funded grants**

PI: Lauren M. McIntyre; PI Paul Schmidt Rapid evolution of pigmentation in D. melanogaster: from cis regulation to phenotype Agency: NIH NIGMS; 1/1/2021-12/31/2024 (Total Award ~$2,000,000)

PI: Lauren M. McIntyre (Co-I Sergey Nuzhdin) Allele Specific Regulation of Context Specific GRN Agency: NIH NIGMS; 9/1/2018-8/31/2022 (Total Award $1,463,961)

PI: Arthur Edison Genetics and quantum chemistry as tools for unknown metabolite identification Agency: NIH NIEHS; 9/1/2018-8/31/2022 (~$430,000 McIntyre PI: Computational Core)

PI: Patrick Concannon Critical role for alternative splicing in conferring risk for type 1 diabetes Agency: NIH NIDDK; (~$120,000 McIntyre)

PI: Mark Atkinson Immune Function and the Progression to Type 1 Diabetes Agency: NIH; NIAID (~150,000 McIntyre)

PI: Rolf Renne Noncoding RNAs in gamma-Herpesvirus Biology and AIDS Malignancies

NIH NCI (8% Salary)

**Previously funded grants (PI/COPI funding only)**

PI: Ana Conesa Co-PI Lauren M. McIntyre Integrative Analysis of Metabolomic Data Agency: NIH; 9/1/2017-8/30/2019 Total Award $152,500

PI: Steve Lower Co-I Lauren M. McIntyre Vance Fowler Magnus Hook Molecular binding reaction that initiates *Staphylococcus aureus* infections Agency: NIH; 6/30/2014-5/31/2019 (~$350,000 McIntyre)

PI: Lisa Ainsworth Co-PI Lauren M. McIntyre, Andrew Leakey, Pat Brown Title: Genetic and Genomic approaches to improve Maize responses to ozone Agency: NSF; 1/1/2013-12/31/2017 Total Award $4,594,025 ($675,711 McIntyre) NSF

PI: Art Edison & Rick Yost Co-PI Lauren M. McIntyre, Tim Garrett, Glenn Walter South East Center for integrated Metabolomics Agency: NIH Total Award $7,129,401 ($812,772 McIntyre)

PI: Lauren M. McIntyre Novel solutions to increase crop productivity: Design for multi-omics experiments Agency: Bayer Corporation; Total Award €25,000

PI: Lauren M. McIntyre Co-PI Sergey Nuzhdin Quantitative Comparisons between genotypes and model species Agency: NIH; 9/1/2012- 8/31/2017 Total Award $1,914,075

PI: Sergey Nuzhdin Co-PI Lauren M. McIntyre, Michelle Arbeitman Title: Population Genetic Framework for Neuroanatomical Mechanisms of Behavioral modifications Agency: NIH; Dates: 4/1/2011-12/31/2015 Total Award: $1,500,000

PI: David Bloom Co-PI Lauren M. McIntyre Title: Molecular Genetics of HSV reactivation Agency: NIH; 7/30/2011-7/31/2015 Total Award: $2,151,248 ($390,140)

PI: Erik Deumens Co-PI Lauren M. McIntyre, Senthold Asseng, Paul Avery, Jose Fortes, Xiaolin Li, Bill Farmerie, Eric Ford, Lawrence Page Title: CC-NIE Network Infrastructure: 100Gig Connection to FLR NSF OCI-1245880 10/1/2012 – 9/30/2014 Total Award: $385,405 NIH

PI: Sixue Chen Co-PI Lauren M. McIntyre, Brad Barbazuk, Doug Soltis, Pam Soltis Proteomic Analysis of Plant Polyploidy Agency: UF Opportunity Fund: Dates 5/1/2011-4/30/2013 Total Award $80,000

PI: Chris Taylor; Co-PI: Lauren M. McIntyre, Karen Koch; Title: Functional Genomics of Transfer Cells; Agency: NSF; Dates: 09/15/08-08/15/12; Total Award: $1,992,541

PI: Pedro Fernandez-Funez; Co-PI: Lauren M. McIntyre, Henry Baker, George Casella; Title: Molecular Mechanisms of Neurodegeneration; Agency: UF Opportunity Fund; Dates: 05/01/10 – 10/30/12; Total Award: $80,000

PI: Maurice Swanson Co-PI: Lauren M. McIntyre, Brad Barbazuk, Alberto Riva, Mark Settles, Laura Ranum Interdisciplinary Center for RNA research Agency: UF Genetics Institute 6/1/2010-5/30/2012 Total Award: $100,000

PI: Lauren M. McIntyre; Co-PI: Sergey Nuzhdin, Marta Wayne; Title: Genetic variation of the allele-specific transcriptome in Drosophila; Agency: NIH; Dates: 02/01/07-01/31/12 Total Award: $1,102,456

PI: Lauren M. McIntyre; Co-PI: Sergey Nuzhdin, Marta Wayne; Title: Genetic variation of the allele-specific transcriptome in Drosophila ARRA supplement; Agency: NIH; Dates: 9/1/09-1/31/12 Total Award: $387,696

PI: Jose Fortez; Co-PI: Lauren M. McIntyre; Title: MRI: Acquisition of Instrumentation for Coupled Experimental–Computational Neuroscience and Biology Research; Dates: 7/1/08-6/30/11; Total Award: $1,311,108

PI: Paul Gulig; Co-PI: Lauren M. McIntyre, Valerie de Creasy, Anita Wright; Title: Genomic Analysis of Vibrio vulnificus: Understanding and Preventing Human Disease by Understanding Lifestyle in Mammals, Oysters, and Biofilms; Agency: UF; Dates: 05/1/08-04/30/09; Total Award: $85,000

PI: Vance Fowler; Co-PI: Lauren McIntyre, Steven Gill; Title: Virulence determinants in *S. aureus* bacteremia; Agency: NIH; Dates: 6/01/07-05/31/08; Total Award: $1,287,000

PI: Matias Kirst; Co-PI: Lauren McIntyre, George Casella, John Davis; Title: High-throughput SNP genotyping and bioinformatics pipeline for complex genomes; Agency: Opportunity Incentive Seed Fund; Dates: 6/1/06-5/31/07; Total Award: $87,674

PI: Sergey Nuzhdin; Co-PI: Lauren McIntyre, Marta Wayne, Larry Harshman, Artyom Kopp

Title: Quantitative Genomics of Sexual Dimorphism; Agency: NIH; Dates: 4/1/01-3/20/06

Total Award: $1,504,263

PI: Katy Simonsen; Co-PI: Lauren McIntyre; Title: Identifying Quantitative Trait Loci from Sequence Data in Natural Populations; Agency: NSF; Date: 9/2000-8/2004; Total Award: $343,000

PI: Rebecca Doerge; Co-PI: Lauren McIntyre; Title: Development of Statistical Methods for Agricultural Genomics; Agency: USDA-IFAFS; Date: 9/2000-8/2003; Total Award: $500,000

PI: Lauren McIntyre; Co-PI: Rebecca Doerge; Title: Statistical Analyses for Binary Traits

Agency: NSF; Date: 9/1998-6/2003; Total Award: $297,107