

RITA M. GRAZE
CURRICULUM VITAE

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Education

B.A. in Biology, Emphasis: Evolution and Ecology, Advisor: William R. Rice, UCSC, 1998
Ph.D. in Genetics, Advisor: Sergey V. Nuzhdin, UCD, 2007
Dissertation: "Quantitative genomics of morphological and regulatory divergence between closely related species *D. simulans* and *D. mauritiana*."

Honors and Awards

1998 Honors Senior Thesis: "Sperm competition within and between isolated populations of *Drosophila melanogaster*", UCSC.
1998 College Honors and Honors in Biology, UCSC.
2002 NSF Graduate Research Fellow (Evolution), UCD.

Professional Experience

2007-2011 Postdoctoral Researcher, UF, Gainesville, FL
2013-current Assistant Professor, AU, Auburn, AL

Teaching Experience

2001 TA, BIS 101 "Genes and Gene expression", L. Gottlieb.
2001 Guest Lecture, BIS 101: "The Development of *Drosophila*", L. Gottlieb.
2002 TA, MCB 160L "Principles of Genetics Laboratory", K. Burtis.
2007 Readership "Introduction to Evolution", EVE 100, S.V. Nuzhdin.
2009-2011 Lectures in Undergraduate Genetics AGR 3303, W. Vermerris:
"The Genetics of Sex Determination", 2 lectures
"Introduction to Chromosome Mechanics", 3 lectures
"Evolutionary Genetics"
"Molecular techniques and Bacterial Genetics"
2013-current Genetics (Undergraduate, 250 students)

Reviewer

Genetics, Genetica, Heredity, Molecular Ecology, and Molecular Biology and Evolution.

References

Lauren M. McIntyre, mcintyre@ufl.edu, 352-273-8024
Sergey V. Nuzhdin, snuzhdin@usc.edu, 213-740-5773
Marta L. Wayne, mlwayne@ufl.edu, 352-392-9925
Wilfred Vermerris, wev@ufl.edu, 352-273-8162

Peer Reviewed Publications

- 1) Jensen, K., Sanchez-Garcia, J., Williams, C., Khare, S., Mathur, K., **Graze, R. M.**, *et al.* (2012) Purification Of Transcripts And Metabolites From *Drosophila* Heads. J. Vis. Exp. (In Press), e50245, doi:10.3791/50245.
- 2) **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. Mol Biol Evol. First published online January 7 2012 doi: 10.1093/molbev/msr318.
- 3) Yang, Y.* , **Graze, R.M.**, Walts, B.M., Lopez, C.M., Baker, H.V., Wayne, M.L., Nuzhdin, S.V., and McIntyre, L.M. (2011) Partitioning Transcript Variation in *Drosophila*: Abundance, Isoforms and Alleles. G3 1:427-436.
- 4) **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.
- 5) Main, B.J.* , Bickel, R.D., McIntyre, L.M., **Graze, R.M.**, Calabrese, P.P., and Nuzhdin, S.V. (2009) Allele-specific expression assays using Solexa. BMC Genomics 10:422.
- 6) **Graze, R.M.**, Barmina, O., Tufts, D., Naderi, E., Harmon, K.L., Persianinova, M., and Nuzhdin, S.V. (2007) New candidate genes for sex comb divergence between *Drosophila mauritiana* and *Drosophila simulans*. Genetics 176: 2561–2576.
- 7) Kopp, A., **Graze, R.M.**, Xu, S., Carroll, S.B. and Nuzhdin, S.V. (2003) Quantitative Trait Loci Responsible for Variation in Sexually Dimorphic Traits in *Drosophila melanogaster*. Genetics 163: 771-787.

Manuscripts in Progress

- 8) *Bacher R. L., **Graze, R. M.**, Womack, A. J., Campo, D., Dalton, J., Arbeitman, M. N., Vermerris, W., and McIntyre, L. M. RNA-seq: normal models and missing data. Genetics (submitted 2012).
- 9) **Graze R.M.**, McIntyre L.M., Morse A.M., Nuzhdin S.V., and Wayne M.L. (submitted 2013) The role of chromosome in the evolution of gene regulation, *cis* and *trans* on the X.

* Indicates Ph.D. student mentee

Presentations

- 1) RNA-seq in *drosophila* hybrids reveals species specific gene regulation. Graze, R.M., Novelo, L.L., Amin, V., Casella, G., Nuzhdin, S.V., and McIntyre, L.M., Contributed Poster, *Drosophila* Research Conference 2011.
- 2) The evolution of gene regulation in the sensory system and brain of the female fly. Graze, R.M., McIntyre, L.M., Main, B.J., Wayne, M.L. and Nuzhdin, S. V., Contributed Poster, *Drosophila* Research Conference 2010.

- 3) Regulatory divergence in *Drosophila melanogaster* and *D. simulans*, a genome-wide analysis of allele-specific expression. Graze, R.M., McIntyre, L.M., Main, B.J., Wayne, M.L., and Nuzhdin, S.V., Contributed Poster, Florida Genetics 2009.
- 4) Identifying the components of regulatory divergence in *D. simulans* and *D. mauritiana*. Graze, R.M. and Nuzhdin, S.V., Contributed Poster, Florida Genetics 2008.
- 5) Candidate genes for sex comb divergence between *D. mauritiana* and *D. simulans*. Graze, R.M., Barmina, O., Tufts, D., et al., Selected Talk, Drosophila Research Conference 2006.
- 6) Chip based analysis of *cis* and *trans* divergence in gene expression. Graze, R.M., Hahn, M.W. and Nuzhdin S.V., Contributed Poster, Drosophila Research Conference 2005.
- 7) Quantitative Trait Loci responsible for variation in sexually dimorphic traits of *Drosophila melanogaster*. Kopp, A., Graze, R.M., Xu, S., et al., Contributed Poster, Drosophila Research Conference 2002.
- 8) Quantitative genetic analysis of sexually dimorphic traits in *Drosophila melanogaster*. Kopp, A., Graze, R.M., Xu, S., et al., Contributed Talk, Evolution meeting 2001.

Memberships

The Genetics Society of America
Society for the Study of Evolution