Mohammad Siddiq

Molecular, Cellular, and Developmental Biology | Ecology and Evolutionary Biology
University of Michigan
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Education & Training:

University of Michigan Spring 2019 —
Postdoctoral Fellow
Research Advisor: Dr. Patricia Wittkopp

University of Chicago Fall 2012 — Winter 2019
Ph.D. Candidate, Ecology & Evolution
Research Advisor: Dr. Joseph Thornton

Indiana University Fall 2008—Spring 2012
B.S. Biology with distinction
Departmental & General Honors
Research Advisor: Dr. Kristi Montooth

Publications

In review : **Siddiq, M.A.** & Thornton, J.W. Fitness effects but no temperature-mediated balancing selection at the polymorphic Adh gene of D. melanogaster.

Siddiq, M.A., Loehlin, D.W., Montooth, K.L., & Thornton, J.W. (2017). Experimental test and refutation of a classic case of molecular adaptation in Drosophila melanogaster. *Nature Ecology & Evolution, 1,* 0025. **Featured in The Scientist (July 2018)*

Siddiq, M.A., Hochberg, G.H., & Thornton, J.W. (2017). Evolution of protein specificity: Insights from ancestral protein reconstruction. *Current Opinion in Structural Biology, 47,* 113-122.

Hoekstra, L.A., **Siddiq, M.A**., & Montooth, K.L. (2013). Pleiotropic effects of a mitochondrial-nuclear incompatibility depend upon the accelerating effect of temperature in Drosophila. *Genetics, 195*(3), 1129-1139.

Meiklejohn, C.D., Holmbeck, M.A., **Siddiq, M.A**., Abt, D.N., Rand, D.M., & Montooth, K.L. (2013). An incompatibility between a mitochondrial tRNA and its nuclear-encoded tRNA synthetase compromises development and fitness in Drosophila. *PLoS Genetics, 9*(1), e1003238.

Conference Presentations

Society for the Study of Evolution Conference (Providence, RI—2019). "Clinal genetic variation in the *D. melanogaster* ADH enzyme affects alcohol catabolism and fitness without temperature-mediated tradeoffs" *Oral presentation*

Gordon Research Conference: Molecular mechanisms of evolution (Easton, MA–2019). "The

role of alcohol dehydrogenase in ethanol adaptation of *D. melanogaster*." *Poster presentation*

Population, Evolution, and Quantitative Genetics Conference (Madison, WI—2018) "Surprising mechanisms underlying evolution in a classic system: Revisiting ADH in *Drosophila"* *Oral presentation*

Gordon Research Conference: Molecular mechanisms of evolution (Easton, MA–2017). "*The role of alcohol dehydrogenase in ethanol adaptation of D. melanogaster*." *Poster presentation*

Midwest Population Genetics Conference (Chicago, IL—2016) "ADH adaptation in *Drosophila*: Testing a classic hypothesis with ancestral sequence reconstruction." *Oral presentation* *Awarded best student presentation*

Society for the Study of Evolution Conference (Austin, TX—2016). "ADH adaptation in *Drosophila*: Testing a classic hypothesis with ancestral sequence reconstruction." *Oral presentation*

Genetics Society of America *Drosophila* Research Conference (Chicago, IL—2015) – "Functional evolution of alcohol dehydrogenase in *Drosophila*." *Poster presentation*

Gordon Research Conference: Molecular mechanisms of evolution (Easton, MA–2015). "Functional evolution of alcohol dehydrogenase in *Drosophila*." *Poster presentation*

Society for the Study of Evolution Conference (Raleigh, NC—2014). "Functional evolution of alcohol dehydrogenase in *Drosophila*." *Oral presentation*

Midwest *Drosophila* Conference 2014 (Allerton, IL—2014). "Functional evolution of alcohol dehydrogenase in *Drosophila*." *Oral presentation; Awarded best student presentation*

Society for Molecular Biology and Evolution (Chicago, IL—2013). "Inferring the order of mutational changes responsible for mechanistic divergence of a functionally constrained promoter." *Poster presentation*

Hutton Honors College Research Symposium (Bloomington, IN—2011). "Causes and consequences of genetic interactions between mitochondrial and nuclear genomes." O*ral presentation*

Research Funding and Awards

University of Michigan Life Sciences Fellowship	2019 -
NSF Doctoral Dissertation Improvement Grant	2015 - 2018
NSF Graduate Research Fellowship Award	2014 - 2017
NIH Genes and Regulation Training Grant	2012 - 2014
uChicago Biological Sciences Division Travel Award	May 2018
GSA Victoria Finnerty Travel Award	Spring 2012
Hutton Honors College Research Awards	2010 - 2012
Indiana University Excellence Award	2008 – 2012

Teaching Experience

Graduate Teaching Assistant

Molecular Phylogenetics (Dr. Joseph Thornton)	Spring 2017
Evolution of Biological Molecules (Dr. Joseph Thornton)	Winter 2015
Environmental Ecology (Dr. Trevor Price)	Winter 2014

Undergraduate Teaching Assistant

Genetics (Dr. Brian Calvi)	Spring 2011, 2012*****
Genetics (Dr. Andrew Zelhof)	Fall 2010, 2011
Biological Mechanisms (Dr. Susan Hengeveld)	Summer 2011
Evolution and Diversity (Dr. Susan Hengeveld)	Fall 2009

***** Hutton Honors College Teaching Award & Biology Undergraduate Teaching Award

Professional Activities

Gordon Research Seminar Co-Chair/Organizer(selected)
Molecular Mechanisms in Evolution, 2021

Genetics Society of America Peer-Review Training Program

Manuscript Review
Genes, Genomes, Genetics (G3), Genetics, eLife, Molecular Biology & Evolution, Nature

Scientific Society Affiliations:
Society for the Study of Evolution, Genetics Society of America, Society for Molecular Biology and Evolution

Other Activities

Ecology & Evolution student representative on hiring & recruitment committees (2013 – 2017)
Midwest Population Genetics Student co-organizer (2014, 2016)
Guest lecturer
Benedictine University (2018)
University of Chicago Laboratory School (2014)