

# Tyler Duncan Hether

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## Education

Ph.D. Bioinformatics & Computational Biology, University of Idaho. Expected May, 2016

*Dissertation:* "The role of genetic interactions in adaptation".

*Committee:* P. Hohenlohe, P. Joyce, C. Parent, & J. Foster.

M.S. Biology, University of Central Florida. Received July, 2010

*Thesis:* "Using landscape genetics to assess population connectivity in a habitat generalist".

B.S. Biology, University of Central Florida. Received December, 2006

## Employment

University of Idaho 2010–2015.

University of Central Florida 2006–2010.

## Research Support

Eugene Magelby Natural Sciences Scholarship, 2015–2016

NSF DDIG "The role of genetic interactions in adaptation", 2014–2016

Bioinformatics & Computational Biology Fellowship "Develop computational tools to analyze recombination rate variation from low-coverage sequence data", 2014–2016

NSF BEACON Graduate Fellowship "The Genetic Architecture of Multi-dimensional Adaptation & Speciation", 2011–2013

Sigma Xi Grants-in-Aid of Research "Evaluating the role of landscape features on gene flow", 2008–2009

## Programming & Scripting Languages

R, C++, perl, python,  $\text{\LaTeX}$ , mathematica, & bash

## Publications

- Hand, B.K, T.D. Hether, R.P. Kovach, C.C. Muhlfeld, S.J. Amish, M.C. Boyer, S.M. O'Rourke, M.R. Miller, W.H. Lowe, P.A. Hohenlohe, & G. Lukart. 2015. Genomics and introgression: Discover and mapping of thousands of species-diagnostic SNPs using RAD sequencing. *Current Zoology* 61 (1): 146-154
- Hether, T.D. and P.A. Hohenlohe. 2014. Genetic regulatory network motifs constrain adaptation through curvature in the landscape of mutational (co)variance. *Evolution* (68) 4: 950-964.
- Rosenblum, E.B., B.A. Sarver, J.W. Brown, S. Des Roches, K. M. Hardwick, T.D. Hether, J.M. Eastman, M.W. Pennell, and L.J. Harmon. 2011. Goldilocks meets Santa Rosalia: an ephemeral speciation model explains patterns of diversification across time scales. *Evolutionary Biology*. 39, number 2, 255-261.
- Hether, T.D. and E.A. Hoffman. 2012. Machine learning identifies specific habitats associated with genetic connectivity in *Hyla squirella*. *J. Evolutionary Biology* 25, issue 6, 1039-1052
- Degner, J.F., D.M. Silva, T.D. Hether, J.M. Daza, E.A. Hoffman. 2010. Fat frogs, mobile genes: unexpected phylogeographic patterns for the ornate chorus frog (*Pseudacris ornata*). *Molecular Ecology* 19, issue 12, 2501-2515.
- Jenkins D.G.,..., T.D. Hether, et al. 2010. Isolation by distance: 20th century relic or reference standard for 21st century landscape genetics? *Ecography* 33, issue 2, 315-320.
- Hether, T. D. and E. A. Hoffman. Characterization of five dinucleotide and six tetranucleotide polymorphic microsatellite loci for the squirrel treefrog (*Hyla squirella*). Appeared in D. Abdoullaye, I. Acevedo, A.A. Adebayo, et al. 2010. Permanent Genetic Resources added to Molecular Ecology Resources Database 1 August 2009-30 September 2009. *Molecular Ecology Resources* 10, 232-236.
- Degner, J. F., T. D. Hether, and E. A. Hoffman. 2009. Eight novel tetranucleotide and five cross-species dinucleotide microsatellite loci for the ornate chorus frog (*Pseudacris ornata*). *Molecular Ecology Resources* 9, 622-624.

## Talks & Presentations

- University of Idaho's IBEST Science Update. Talk title: Experimental Evolution of Local Adaptation in Yeast, 2014.
- University of Idaho's College of Science Research Exposition 2014. Poster title: "Hidden Markov Models Aid in Identifying Recombination Rate and Gene Conversion Hotspots in Low-Coverage DNA Sequencing of *Saccharomyces cerevisiae* Crosses". Primary author, 2014.
- Evolution. Poster title: "Genetic network architecture, mutation rate, and correlational selection affect G-matrix stability". Primary author, 2014.
- Evo-Wibo. Poster title: "Genetic network architecture, mutation rate, and correlational selection affect G-matrix stability". Primary author, 2014.
- BEACON seminar series. Talk title: "Recombination rate and gene conversion heterogeneity: implications for 'genomic islands' of divergence". Primary author, 2013.
- Evolution. *Hamilton Award Nominee*. Presentation Title: "Genetic regulatory motifs constrain adaptation through curvature in the landscape of mutational variation" Primary author, 2013.

BEST Science Exposition, University of Idaho. Poster Title: "Spatial autocorrelation structure of genomic sequence divergence under neutrality using coalescent simulations" Contributing author, 2012.

BEST Science Exposition, University of Idaho, Idaho. Poster Title: "Genetic Regulatory Networks, G-matrices, & Adaptive Divergence" Primary author, 2012.

Evolution. Poster Title: "Genetic Network Architecture and the G-matrix Under Divergent Selection" Primary author, 2012.

Seventh Annual Southeastern Ecology and Evolution Conference (SEEC), Atlanta, Georgia. Presentation Title: "Using landscape genetics to evaluate habitat permeability in an abundant frog" Primary author, 2010.

Biogeography Conference, Baja, Mexico. Poster Title: "Isolation by distance is dead: long live IBD" Contributing author, 2009.

Sixth Annual Southeastern Ecology and Evolution Conference (SEEC), Gainesville, Florida. Poster Title: "Is clinal variation in skin color of the ornate chorus frog (*Pseudacris ornata*) driven by natural selection?" Primary author, 2009.

Evolution. Presentation Title: "Testing for selection along a cline of color change in a polymorphic frog" Contributing author, 2008.

## Educational Outreach

"NIMBioS Evolutionary Quantitative Genetics Workshop", 2015 – Helped teach quantitative genetics to graduate students and postdocs

"Creatures of the night", 2011 – Helped teach chiropteran natural history elementary children

"White Sands Institute", 2011 – Helped teach lizard evolution to middle school children

"Save the Frogs Day", 2011, Helped teach amphibian decline awareness and habitat requirements to preschool children.

## Journal Referee

Biological Journal of the Linnean Society, Evolution, & Molecular Ecology

Last updated: November 11, 2015

<https://sites.google.com/site/buddingyeastbiologist/>