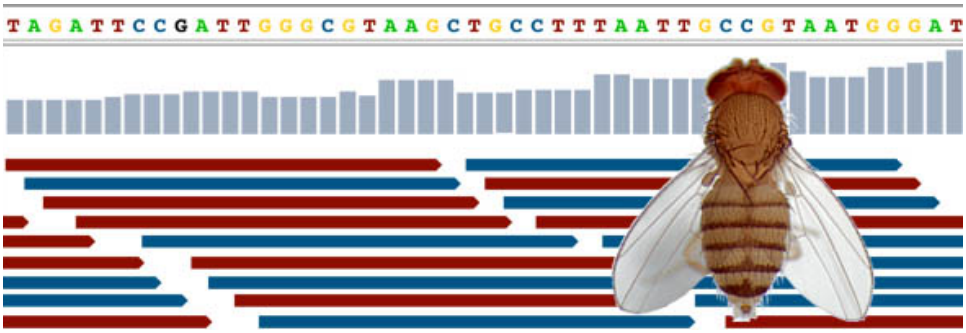

BIOPHYSICS SOCIAL HOUR

A tour through the Coolon lab!

Investigating ecological and evolutionary genomics by studying *Drosophila sechellia*

Research in the Coolon lab focuses on ecological and evolutionary functional genomics. We primarily use the model system Drosophila to understand the molecular mechanisms that underlie variation in genome-wide gene expression and the ultimate role it plays in shaping the phenotypic diversity of life.

The regulation of gene expression is essential for organismal form, function and fitness. Understanding the genetic and molecular mechanisms responsible for regulatory divergence should therefore provide insight into trait evolution. Using deep-sequencing, we quantify total and allele-specific mRNA expression levels genome-wide within and between species of *Drosophila* fruit flies using custom bioinformatics pipelines developed by members of the group. This work takes advantage of the numerous qualities that make *Drosophila* a great system including sequenced genomes, a wealth of resources and tools and the ability to cross different species to make hybrids needed for these analyses. Using these approaches we are studying how the environment, evolution, mutations, epigenetics, development, tissue-specificity and genetic interactions influence the expression of genes genome-wide.

http://jcoolon.faculty.wesleyan.edu/

Sponsored by the
Wesleyan Biophysics Program

Join us to learn about the various biophysical techniques used at Wesleyan

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Learn how ecological and evolutionary genomics can be studied in *D. sechellia*

Come see what the Coolon lab does in their daily research

Refreshments to follow!

HA 126
Coolon Lab

April 5, 2016
5pm-6:30pm