

From: Chris Oakley
Subject: Postdoc: Plant ecological and evolutionary genetics

A postdoctoral position is available study the genetic basis of adaptation in native populations of the model plant *Arabidopsis thaliana*. This research is part of a NSF funded collaborative project on the genetic basis of fitness tradeoffs across environments, focusing on freezing tolerance as a key adaptive trait. We use a combination of field experiments in the native environments, experiments in controlled growth chambers, and -omic data to investigate, across environments, the links between genotype, phenotype, and fitness. Additional research in the lab is focused on the evolutionary ecology and genetic basis of heterosis and outbreeding depression in *Arabidopsis*. Resources available in the lab include a large collection of lines from natural *A. thaliana* populations spanning latitudinal and altitudinal gradients, recombinant inbred lines and near isogenic line populations for genetic mapping, and engineered lines (transgenic and CRISPR-CAS9) for candidate genes. Development of new research directions building on these themes and resources is encouraged.

Research activities will include (but are not limited to): Leading growth chamber experiments to estimate freezing tolerance, lifetime fitness, and patterns of global gene expression; field planting and harvesting of experiments at sites in Italy (near Rome) and northern Sweden (three to four trips per year, ~10 days each); overseeing development of near isogenic lines (for fine mapping), and the production and genotyping of two new recombinant inbred line populations; data analysis; and manuscript preparation.

A PhD in biology or related discipline is required and preference will be given to candidates with a strong background in plant evolutionary biology. Previous experience with the analysis of genomic data is strongly preferred. This is initially a one-year appointment, with the possibility of an extension of 1-2 years dependent on funding and performance. A start date of April 1, 2017 or sooner is preferred, but this is negotiable.

Applicants should send (as a single PDF attachment) a CV, a letter summarizing research interests, accomplishments, and objectives, and the names and contact information for two professional references. Review of applications will begin February 4, 2017 and will continue until a suitable candidate is found.

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