Post-doctoral positions available in Springer research group at the University of Minnesota

Multiple post-doctoral research associate positions are available in the laboratory of Nathan Springer (http://www.cbs.umn.edu/labs/springer/) at the University of Minnesota. The Springer group uses classical genetic and genomic approaches to study basic aspects of genetics in crop plants. We seek to utilize genome, transcriptome and epigenome information to understand the sources of heritable variation. Details for several current projects are provided below. Many research projects will involve local collaborations at the University of Minnesota (Peter Tiffin – evolutionary genetics; Chad Myers – computational systems biology; Candice Hirsch – translational genomics) as well as collaborations with other institutions to provide training in collaborative research and multiple disciplines. Post-doctoral researchers will also be given freedom and support to develop their own research ideas that are complimentary to ongoing projects.

**Epigenome dynamics in crop plants** – The Springer group maintains an active research program to study the sources of epigenetic variation in maize. Whole-genome profiling of DNA methylation and histone modifications is used to understand how epigenetic information is used to organize the genome.

**Evolution of gene expression responses** - Changes in gene expression are part of the mechanism used by plants to tolerate abiotic stress, such as low temperature. The Springer group is studying the transcriptome and epigenome changes in diverse maize genotypes subjected to cold stress in order to study the molecular sources of variation for responsiveness to abiotic stress. This project also involves collaboration with Edgar Spalding (University of Wisconsin) to apply machine-vision approaches to document the diversity of phenotypic responses to cold stress in maize seedlings.

**Transposable element contributions to gene regulation** – Plant genomes are composed of interspersed genes and transposons. We are studying the contribution of transposons to gene regulation and phenotypic diversity. This collaborative project with Cory Hirsch (University of Minnesota) utilizes genomic and molecular biology approaches to document the influence of transposons on nearby genes.

A Ph.D. degree in genetics, genomics, plant biology, bioinformatics or a related field is necessary. Experience in genomics and bioinformatics is preferred but not required. To apply, send a letter of application, a full curriculum vita, and contact information for three references to Nathan Springer (springer@umn.edu). The University of Minnesota is an equal opportunity educator and employer.