

Summer Undergraduate Research Program
Faculty Project Proposal Submission

Faculty Name:

Eric Rulifson

Department/Organization Affiliation:

UCSF Institute for Regeneration Medicine and Diabetes Center

Project Name(s):

Gene regulatory networks for insulin-producing cell development in *Drosophila*

General Topic (Keywords):

gene expression, transcription, fate specification, insulin, stem cell programming

Project Description(s):

We have identified the nearly complete set of transcription factors expressed specifically in the field of cells destined to become the endocrine cells of *Drosophila*. This endocrine field includes the brain insulin-producing cells, which are a model for pancreatic beta-cells. In order to develop a provisional gene regulatory network model for specification of endocrine cell fates, we are determining the regulatory linkages amongst these 50 or so transcription factors by multiplex in situ hybridization analysis of mutant embryos. The summer project would consist of contributing to this effort in the lab.

Desired Skills or Experience:

Basic molecular biology and laboratory skills (PCR, immuno-histochemistry). We will provide all necessary training.

Time Commitment:

Prefer a weekday commitment for 2 months.

Preferred Starting Date:

Any