POST-DOCTORAL POSITION TO INVESTIGATE LARGE-SCALE CHROMOSOME STRUCTURE AND FUNCTION IN STEM CELLS AND LEUKEMIA

The Florida State University, Tallahassee Florida, USA

I am looking to hire one or more post-docs in early 2017. We study the developmental control of replication timing during cell fate transitions, mostly using mouse and human embryonic stem cells. Replication timing is regulated in megabase-sized units, and is intimately linked to the 3D structural organization of chromosomes (e.g. Pope et. al, Nature, 2014; Dileep et. al., Genome Res., 2015; Rivera-Mulia et. al., Genome Res., 2015). Both 3D structure and replication timing are cell type specific and extremely stable during interphase, but dismantled during mitosis and re-organized during early G1 phase of a cell fate transition. We are using various chromosome engineering methods to delineate *cis*-elements regulating replication and large scale chromosome folding, as well as the role of *trans*-acting factors (e.g. architectural proteins) in establishing structure and regulating function during the cell cycle and cell fate transitions. Anyone with a strong background in basic molecular and cellular biology is eligible to apply for those projects. In a new direction, we have found that replication timing is highly heterogeneous within different B-cell acute lymphocytic leukemias, despite their derivation from a presumably narrow window of immature B-cell differentiation. We can identify “replication timing signatures” linked to genetic subtypes or to outcome. For this project, I would be most interested in someone who can bring mouse (particularly xenograft) expertise into my lab and/or someone with strong background in hematopoiesis. Interested candidates should send a description of research interests, CV and a list of at least 3 references to Dr. David M. Gilbert via email: gilbert@bio.fsu.edu.