PROJECT RESUME

The developing brain is one of the most fascinating topics in anatomy. How neural stem cells decide whether to multiply or turn into neurons during embryonic development directly affects the eventual size of the adult brain, but this process is poorly understood. In this project, we will explore this question using the developing chicken embryonic cerebellum as a model system. The cerebellum is concerned with controlling muscular activity, and birds have a large, folded cerebellum, just like mammals (including humans). In this project, we will develop genetic tools to modify the signals that dividing neural stem cells respond to in their fate choices and set the stage for a thorough investigation into the mechanisms through which the cerebellum, and by extension the entire brain, gets to develop into such a large structure.