Germ line stem cell biology

Making use of the ability to conduct large-scale systematic RNAi screens, the aim of this project is to generate genomic mutations in genes identified in recent screens. We are particularly interested in genes acting in the germ line with a role in stem cell renewal and differentiation as well as transposable element control. The project will include use of CRISPR/Cas-mediated genome engineering to generate knockouts, reporter, and conditional alleles.

Analysis of germ line death and survival

Germ cells are more sensitive to irradiation than other cells in the body, but the underlying molecular mechanisms remain uncertain. We have identified genes in Drosophila that affect germ cell survival. This project will include a further characterization of these genes and placing them into the context of known death and survival strategies.

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