



## Undergraduate Summer Internship in Systems Biology

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### Internship Project Description: Summer 2018

**Project Title:** Bio-containment of Transgenic Microbes

**Supervisor Name:** Finn Stirling

**Lab PI Name:** Pamela Silver

#### **Project Description:**

Engineered microbes are increasingly being used to manufacture an extensive list of products including pharmaceuticals, nutrients and biofuels. A key element of making use of transgenic microbes outside of a secure laboratory environment is to physically and biologically control their growth, to prevent their colonization of unintended environments. We are interested in engineering native members of the human microbiome to be able to diagnose and treat disease. A part of that will be limiting the growth of bacteria to the environment of the gut by engineering kill switches that respond to environmental cues. We are looking for organized, highly motivated students who are able to think independently whilst working with others to achieve a larger goal. The project will involve a variety of molecular biology techniques in bacteria, complemented by small amounts of basic bioinformatics.