

Discovery of novel drug-like cyclic peptides to modulate proteins linked to human disease.

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As a Master's student in the Rogers lab you will learn and advance a leading-edge technology at the interface of chemistry and molecular biology. We manipulate ribosomes to accept unnatural amino acids, amino acid chemical structures not present in the universal genetic code. You will reprogram the ribosome to synthesize peptides with an unnatural cyclic topology, and screen trillions of these cyclic peptides (more molecules than there are stars in the galaxy) to isolate molecules with novel drug-like properties. This necessitates interdisciplinary thinking and will involve exposure to a wide-range of experimental techniques, from DNA and RNA molecular biology to solid-phase peptide synthesis. As well as specialty techniques using ribozymes, *in vitro* ribosomes and ultra-high throughput peptide screening. Cyclic peptides hold great promise as the next generation of drugs. The Rogers lab is a newly formed group at the ILF whose mission find molecules with never-seen-before pharmacological activities.

