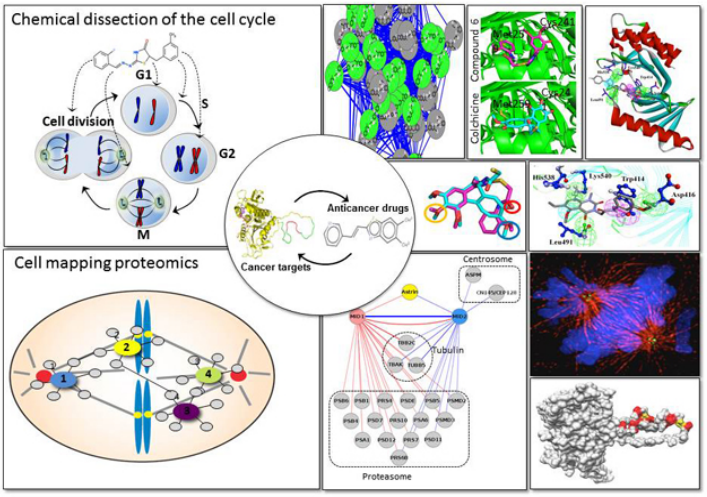
GUEST SPEAKER SEMINAR

Molecular Genetics
UNIVERSITY OF TORONTO

Chemical and Proteomic Dissection of Cell Division



The cell cycle is comprised of G1, S, G2 and M (mitosis) phases, which integrate environment sensing signalling pathways with cell growth, genome duplication and proliferation. Mitosis is characterized by DNA condensation, nuclear envelope breakdown, mitotic spindle assembly, chromosome congression, sister chromatid separation and cell division. Mitosis relies on a multitude of enzymatic activities (kinases, kinesins, ubiquitin ligases, etc.) that assemble and regulate the mitotic spindle. The Torres lab aims to understand how multiple mechanisms and enzymatic activities coordinate the assembly of the mitotic microtubule spindle during cell division. In a complementary goal, we aim to discover novel drugs that inhibit cell division, which can be used to dissect the mechanisms of cell division and for the development of novel cancer therapies. In this talk, we report our efforts on the identification of novel chemical probes for dissecting the mechanisms governing cell cycle progression with an emphasis on cell division and for developing novel cancer therapeutics. We also report our efforts using proteomic approaches to identify and characterize the function of novel enzymes that are critical for cell division, which represent potential cancer targets.

Dr. Jorge Torres

Department of Chemistry and Biochemistry
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Host: Dr. Andrew Wilde

Date: Tuesday September 22nd, 2015
Time: 12PM
Place: 1 King's College Circle
Medical Sciences Building,
Room 4279