



Western University
Department of Physics and Astronomy

PHYSICS & ASTRONOMY COLLOQUIUM

Date: Thursday, 24 November 2016
Time: 1:30 p.m.
Location: Physics & Astronomy Seminar Room 100

Dr. David W. Litchfield

Chair, Department of Biochemistry
Director, Functional Proteomics Facility
Western University

“Proteomic strategies to reveal the promise and peril of molecular targeted therapies and precision medicine”

ABSTRACT

Completion of the human genome project was heralded as a landmark achievement that would transform clinical practice by enabling the precise diagnosis and treatment of many human diseases. However, while there have been a number of striking successes, the anticipated promise of the human genome project has not yet been fully realized. One of the central limitations of genomics is that knowledge of the DNA sequence is not sufficient to understand the functional properties of living cells. In fact, intricate and dynamic networks of proteins are responsible for maintaining the fitness of living cells and how cells respond to changes in their environment. Since alterations in these regulatory protein networks accompany virtually all human diseases, detailed understanding of individual proteins and their relationships with other proteins within living cells is required to understand the underlying mechanisms of disease. In this talk, I will highlight proteomic strategies, based on the use of mass spectrometry and complementary technologies, that we have devised to determine how perturbations in regulatory protein networks in living cells may represent precise and effective targets for therapeutic intervention.

COFFEE + light snacks will be available in the Atrium, 2nd floor, at 1:15 p.m.