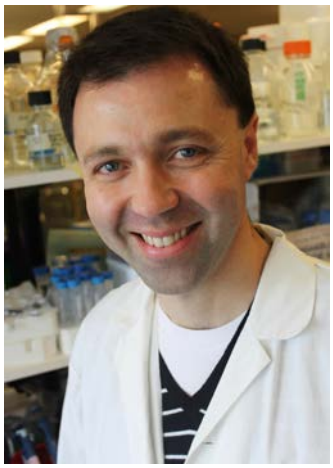
GUEST SPEAKER SEMINAR

Molecular Genetics
UNIVERSITY OF TORONTO

A “3D view” of the bacterial ribosome assembly: insights from cryo-EM, mass spectrometry and chemical probing



Containing more than 50 individual components the bacterial ribosome constitutes one of the most intricate macromolecular machines found in living organisms. Our laboratory is focused in understanding how this macromolecular complex is assembled. A challenging aspect has been that in cells this is a highly efficient process and assembly intermediates do not accumulate. However, we have found that protein factors assisting the assembly represent extraordinary tools to study ribosome maturation. Mutations directed at these factors disable ribosome assembly and allow the accumulation and isolation of assembly intermediates. Biochemical and structural characterization of these immature ribosomal particles is revealing new and exciting information, in particular, on the late steps of the 30S and 50S subunit assembly. We anticipate this work will have profound impact on the understanding of ribosome maturation with implications for the druggability of this process and the development of new antimicrobials.

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Host: Dr. William Navarre

Date: Monday November 24th, 2014
Time: 12PM
Place: Medical Sciences Building
Room 4279