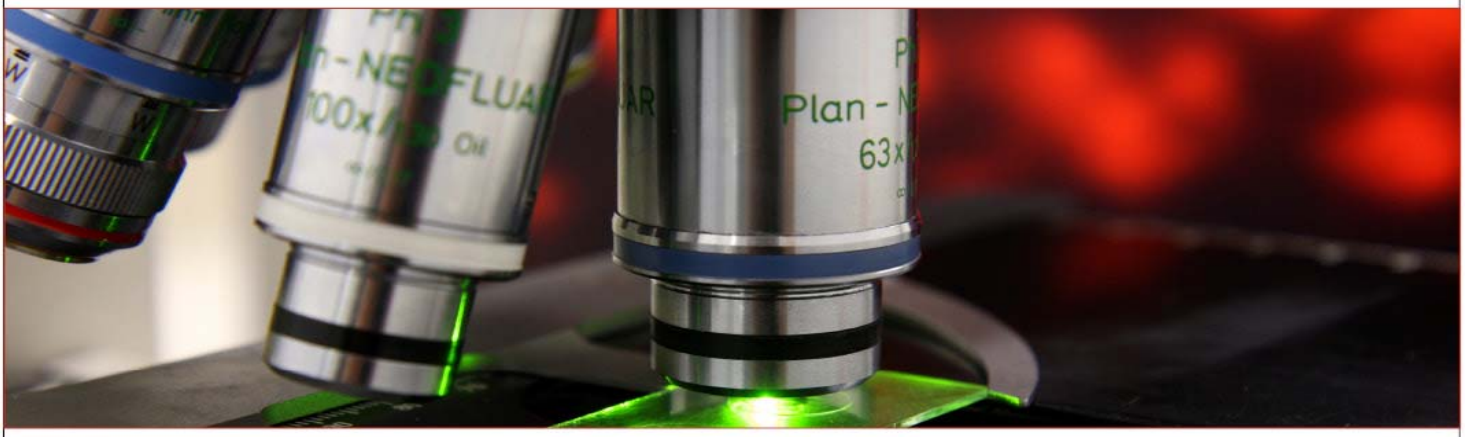
SÉMINAIRES ET CONFÉRENCES



Joaquin Ortega

Department of Anatomy and Cell Biology, McGill University

« CRYO-ELECTRON MICROSCOPY, A NOBEL-PRIZE WINNING TECHNIQUE. IMPACT ON THE ANTIBIOTIC RESISTANCE RACE»

Our research aims to understand the structure and function of new antimicrobial targets, developing them into tangible enzymes for intervention with new antibiotics. Current work focuses on the assembly process of the ribosome; a pathway of tremendous potential but that has not been explored as a target for antimicrobials yet. In recent years, or group and others found that the final steps in the ribosome assembly process are dedicated to the maturation of the functional sites. Several protein factors bind at or near these sites ensuring they fold into their functional conformation. However, their specific functions or how these assembly factors assist maturation are still unknown. The importance of cryo-EM has been recognized by the 2017 Nobel Prize in Chemistry, which was awarded to the developers of this technique Joachim Frank, Richard Henderson and Jacques Dubochet. We are using this technique to obtain structures of assembly intermediates alone and in complex with assembly factors to atomic resolution. These structures allow for amino acid level description of the molecular mechanism and the conformational changes that the assembly intermediates and ribosomal particles undergo upon interaction. This is critical information to fully understand the function of these assembly factors in the process of assembly of the ribosome and thus, for the development of new antibiotics targeting them. Overall, this work is impacting our ability to treat infectious diseases.

Faculté de médecine
Département de biochimie et médecine moléculaire
Université de Montréal

Le lundi, le 4 decembre 2017, 11:30

Pavillon Roger-Gaudry
Salle : G-415
Invité de Christian Baron

Tél : (514) 343-3647 courriel mailto: christian.baron@umontreal.ca