

# MICROBIOLOGIE, INFECTIOLOGIE ET IMMUNOLOGIE

## CONFÉRENCE

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Université   
de Montréal



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### Exploiting polymicrobial interactions to uncover drug-resistant mechanisms and cryptic behaviours of bacterial pathogens

The majority of lower airway infections are made of complex communities often referred to as polymicrobial (*i.e.* microbiome driven). Ongoing interactions occurring between microbes of these communities have the potential to impact disease progression and antibiotic resistance. Polymicrobial infections are often chronic and difficult to eradicate, therefore improving our molecular understanding of interspecies interactions and their direct impact on pathogenesis and antibiotic resistance may help to design targeted therapeutics with a minimal impact on the overall human microbiome and its health-related benefits. As a current *in vitro* model system of airway infections, I use two-species communities (*i.e.* *Pseudomonas aeruginosa* and *Burkholderia* species) to molecularly dissect interspecies interactions (*i.e.* bacteria-bacteria) that may be responsible for shaping the pathogenic/commensal communities (*i.e.* competition), disease severity (*i.e.* synergy in the host), and consequently persistence (*i.e.* antibiotic resistance). During the presentation, I will present various genetic approaches that are taken to study different types of *in vitro* interactions between *Pseudomonas* and *Burkholderia* resulting in the identification of one particular genetic locus in *Burkholderia* spp. that is involved in interspecies competition, antibiotic resistance, motility and colony morphotypes.

**Jeudi 27 novembre 2014 à 11h30**  
**Pavillon Claire-McNicoll, Salle Z-210**

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