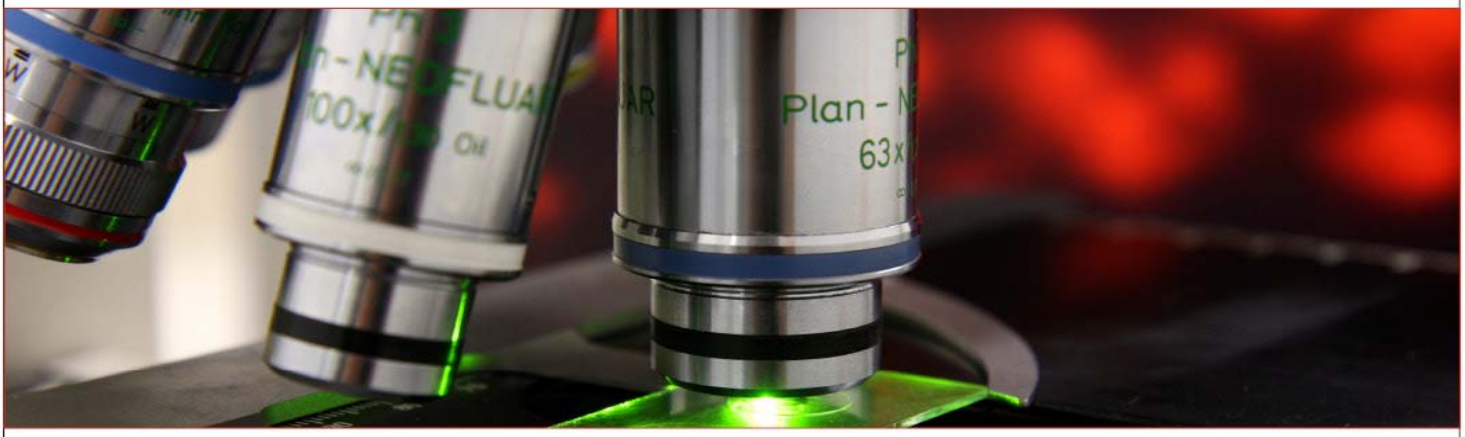
# SÉMINAIRES ET CONFÉRENCES



## Anthony Leung

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## « Novel tools to investigate the role of ADP-ribosylation in stress granules during RNA virus infection.»

ADP-ribosylation refers to the attachment of one or more ADP-ribose groups onto proteins and is a therapeutically important protein modification in cancers, neurodegeneration and viral infection. ADP-ribosylation is critical for the structural integrity of stress granules—a class of nonmembranous structures in the cytoplasm formed in response to stress, such as viral infection, or being induced by pathological mutations such as those implicated in Amyotrophic lateral sclerosis (ALS). Recently, we identified a select group of RNA viruses possesses a protein domain called macrodomain that removes ADP-ribosylation, in which the enzymatic activity is required for virus replication and virulence. In this talk, I will discuss how the enzymatic activity is important for the disassembly of virus-induced and ALS mutation-induced stress granules. Over many years, there has been a woeful lack of tools to address some fundamental questions of ADP-riboyslation, e.g., which sites are modified? how many ADP-ribose groups are attached to proteins? I will further describe our lab efforts in developing novel tools to decipher site and length of ADP-ribosylation so as to characterize the molecular mechanism of ADP-ribosylation in stress granules.



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