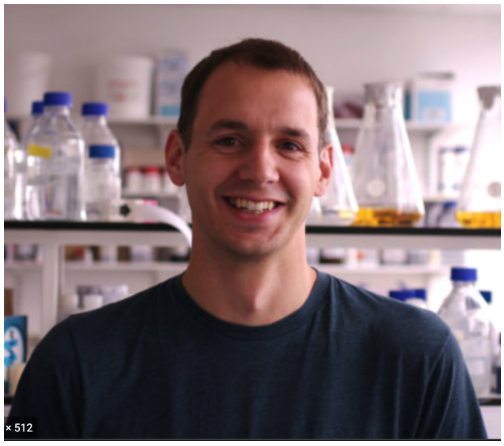
Conférence

September 15th 2022 at 11:00 h Salle Marcel Dorée.
Centre de Recherche en Biologie Cellulaire de Montpellier (CRBM)
1919 Route de Mende, Montpellier



Dr Ewan MacDonald
Post-doc in Ludger Johannes lab
Institut Curie, Université PSL, U1143 INSERM, UMR3666 CNRS,
Cellular and Chemical Biology unit; Paris, France

Title:
DESIALYLATION GLYCOSWITCH TO ACUTELY CONTROL ENDOCYTOSIS

Abstract
The glycan makeup of plasma membrane proteins is typically perceived as being static. Here, we have discovered a novel molecular switch that challenges this notion. We have worked out a previously unrecognized signal transduction pathway by which growth factors acutely control the endocytosis of cell surface glycoproteins through the triggered removal of sialic acid from their glycans. Their subsequent retrograde transport to the Golgi apparatus allows for resetting of the glycan makeup and the repurposing of these glycoproteins through their polarized transport to specific plasma membrane areas to serve new functions. We demonstrate that this desialylation glycoswitch is thus set to control essential physio-pathological activities including cancer cell motility. It elevates glycosylation to the level of dynamic regulatory processes as phosphorylation and ubiquitination.

Invitation: Cécile Gauthier-Rouvière
cecile.gauthier@crbm.cnrs.fr