
***06/03/2023 at 11H00***

***IBMM, Auditoire BRACHET***
Rue Jeener et Brachet 12, 6041 GOSSELIES

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Speaker : Lionel **POULIN, PhD**

Function : CNRS, CRCN Senior Researcher

Laboratory of Cell Physiology

Pasteur Institute of Lille

Title **: « M**yeloid cells get the nods from the microbiota**»**

Invited by : V. Flamand et S. Goriely

***15/03/2023 à 11.00***

***IBMM, Auditoire BRACHET***
Rue Jeener et Brachet 12, 6041 GOSSELIES

*Or Teams*

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**Speaker:**

# Alexandre Chenal

Unité Biochimie des Interactions Macromoléculaires
Département Biologie Structurale et Chimie
UMR CNRS 3528, INSTITUT PASTEUR PARIS

**Title :**
« Integrative structural biology to decipher the mechanism of host cell intoxication by the CyaA toxin"

**Abstract :**

Bordetella pertussis, the causative agent of whooping cough, secretes an adenylate cyclase toxin (CyaA, of 1706 residues) that plays an essential role in the early stages of respiratory tract colonization. The cel process of CyaA is still poorly understood. After its secretion through a type 1 secretion system, CyaA in human cells via a direct translocation of its catalytic domain (ACD) across the plasma membrane. Once i ACD catalyses high amounts of cAMP, leading to cell death. Our results, based on a combination of biop approaches, illustrate how the structural flexibility of CyaA is essential for its secretion, its folding, its tra across plasma membrane and cell intoxication. All of these steps involve disorder-to-order structural tra are finely tuned to the environmental conditions that CyaA successively experiences along its journey fr bacterium to the eukaryotic cell cytoplasm. These data open new avenues for both basic sciences, as we as biotechnological applications of recombinant CyaA as an antigen delivery vehicle, and as a potential p antigen in the next generation of pertussis vaccines.

Invited by Laurence Van Melderen

# Réunion Microsoft Teams

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***17/03/2023 à 11.00***

***IBMM, Auditoire BRACHET***
Rue Jeener et Brachet 12, 6041 GOSSELIES

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**Speaker:**

# Dr. Thomas THEIL

Reader
Centre for Discovery Brain Sciences
University of Edinburgh
Hugh Robson Building
George Square
Edinburgh EH8 9XD
UK

**Title :**" Studying the role of primary cilia in human corticogenesis using organoids"

**Abstract :**

Defects in primary cilia, cellular antennas that control multiple intracellular signalling pathways, underli
neurodevelopmental disorders, but how cilia control essential steps in human brain formation remains
investigating ciliary roles using human cortical organoids that provide unprecedented opportunities to r
development and disease. We determined that cilia are regulating critical steps in forebrain developme
dorsal/ventral patterning and neuronal differentiation. Our findings also have implications for our unde
the pathogenesis of neurodevelopmental disorders including autism spectrum disorders.

Invited by E. Bellefroid

# ***24/03/2023 at 11H00***

***IBMM, Auditoire BRACHET***
Rue Jeener et Brachet 12, 6041 GOSSELIES

Speaker : **Olivier ROHR**

Function : Professeur à l'Université de Strasbourg

Directeur du laboratoire de Dynamique des Interactions Hôte-Pathogènes

## Title **: « Enjoy the Silence… How CTIP2/BCL11b controls HIV-1 expression »**

Abstract :

Latently-infected reservoirs constitute major hurdles to HIV cure. The cellular repressor CTIP2 contributes to HIV-1 gene silencing in microglial cells, the main HIV-1 targets in the central nervous system. CTIP2 expression favors the establishment and the persistence of the viral reservoirs by recruitments of regulatory complexes to the latent HIV-1 promoter. These epigenetic and transcriptional blocs are overcome in productively-infected cells by specific viral counteractions. Interestingly, CTIP2-mediated antiviral functions are not limited to direct impacts on the integrated provirus. Our results suggest that CTIP2 expression is induced by viral infections to silence the cellular response. These recent results further highlight how this silencing factor is a central player in the control of HIV-1 expression.

Invited by : Carine Van Lint