
# Institut d'Alembert Seminar / 22 March. 2024 at 11 a.m.
# Amphi Simondon - 1 B36
# Bât. Sud-Ouest

## Debugging and remodeling cellular surfaces with glycotools and click-electrochemistry.

**By Sébastien GOUIN,**
DR CNRS, Laboratoire CEISAM, Université de Nantes

**Presentation :**

Increasing bugs resistances to antibiotics or antifungals is a serious health problem, which is worsening with the constant identification of strains resilient to commonly available chemotherapeutic agents. Our group is interested in developping antagonists of carbohydrate-binding and processing enzymes as "glycotools" to disrupt the attachment of pathogenic bacteria and fungi to host cells. The design of mono and multivalent glycoconjugates and their *in vitro* and *in vivo* potential will be discussed.

Our second research interest focuses in the development of new bioconjugation methods. The chemo-selective modification of native proteins is of particular importance in chemical biology and for the development of therapeutic conjugates. Recently, we developed the first electrochemical method coined eY-click to functionalize tyrosine (Y) residues of proteins in biocompatible media. The click-electrochemistry method was explored for remodeling the surface of therapeutic viruses, gram-/+ bacterial strains, and eukaryotic cell lines.

**Biography :**

Dr. Sébastien G. Gouin studied organic chemistry at the University of Nantes where he received his PhD in 2003. After postdoctoral training with Prof. Paul V. Murphy at University College Dublin (Ireland), he was appointed as a CNRS research associate at the University of Amiens (2005) and CNRS research director at the University of Nantes (2018). The present research activities of his group "glycochemistry and bioconjugates" in the laboratory CEISAM, are focused on the development of glycoconjugates targeting pathogenic lectins and glycosidases and new bioconjugation methods.

- **10h30 :** Welcome coffee
- **11h :** Talk by Sébastien Gouin