

## **Bacterial Genetic : from Evolution to Engineering**

**Organizer:** Aude bernheim, [aude.bernheim@pasteur.fr](mailto:aude.bernheim@pasteur.fr)  
Arnaud Gutierrez, [arnaud.gutierrez@inserm.fr](mailto:arnaud.gutierrez@inserm.fr)

**Location :** Room 1505 1st floor, Institut Cochin, Bâtiment faculté de Médecine 24 rue du faubourg Saint Jacques 75014 Paris

The goal of the module is to give a broad view of the field of microbial genetics today, through talks of scientists working on diverse subjects. The idea is to focus on novel and recent themes of the field. Days are organized to get the big picture through an introductory class summarizing the main concepts on a specific topic and then dive into recent work through researchers presenting in depth their work. The main themes include phages, evolution, synthetic biology, single cell heterogeneity and ancient DNA. Researchers both from academia and the private sector will give seminars, allowing students to also discover research outside the academic world. Students will be evaluated on providing a written synthesis of the week (similar to what could be asked by a PI after a student attends a conference) that will be written on the last afternoon.

### **Monday 5 octobre:**

9h00-12h Hugo Barreto - **General concept on bacterial Evolution**  
13h30-15h Chiara Enrico-Bena - **seeing mutation in living bacteria**  
15h30-17h Audrey Menegaz - **heterogeneity in bacterial aging**

### **Tuesday 6 octobre:**

9h00-12h Nicolas Rascovan - **DNA as a time travel machine**  
13h30-15h Etienne Ruppe - **exploring gut microbiome**  
15h30-17h André Brigy - **Evolution of antibiotic resistance**

### **Wednesday 7 octobre:**

9h00-12h Natalie Bechon - **Defense against Phages**  
13h30-15h Egill Richard - **DNA mobility**  
15h30-17h Alba Herrero - **Microscopy as a new technology**

### **Thursday 8 octobre:**

9h00-12h Arnaud Gutierrez - **General concepts in synthetic biology**  
13h30-14h30 Baptiste Faussurier - **New Molecules discovery**  
14h45-16h Terry Brissac - **Abolis company**

### **Vendredi 9 octobre:**

9h00h-10h30 Alaksh - **Deepscan and protein evolution**  
10h30-12h Arnaud Maillard - **directed evolution tools**

**14h-17h Test**