

E16 - Functional genomic data analysis : epigenomics

Fall 2023

Responsible : Morgane Thomas-Chollier (mthomas@biologie.ens.fr)

Required background

Computer knowledge: practice of Linux command lines. Knowledge of high-throughput sequencing data analysis, practice of quality check with FASTQC and mapping.

Program (physically at ENS, room 321)

	Morning	Afternoon
Monday 9/11	9h – 9h30 Course introduction 9h30 – 11h Work in autonomy - Lectures 11h – 12h Discussion	14h – 15h15 Work in autonomy - Lectures 15h30 -17h Discussion
Tuesday 9/12	9h – 12h Practical ChIP-Seq analysis (i)	14h – 15h Practical ChIP-Seq analysis (i) 15h15 Introduction Open analysis 15h30– 17h Open analysis
Wednesday 9/13	9h – 12h Practical ChIP-Seq analysis (ii) + Motif analysis	14h – 17h Open analysis
Thursday 9/14	9h – 10h Discussion 10h-12h Open analysis	14h-15h15 Lecture Daan Noordermeer <i>Our genome in 3 dimensions: why it's important and what can go wrong</i> 15h30 – 16h30, Seminar Julie Segueni <i>DNA methylation changes CTCF binding and 3D genome structure in breast cancer cells</i>
Friday 9/15	9h – 10h Discussion 10-12h Open analysis	14h –17h Work in autonomy Finalising and Submitting Open analysis

Teaching team

Morgane Thomas-Chollier (Associate Professor, ENS, Paris)
Nina Vitorelli (PhD student / Teaching Assistant ENS, Paris)
Lucie Gaspard-Boulinç (PhD student / Teaching Assistant ENS, Paris)

Invited Seminars

Daan Nordermeer (Group leader, I2BC, Gif-sur-Yvette)
Julie Segueni (PhD student, I2BC, Gif-sur-Yvette)

Organization

Credits: 3 ECTS

Classes are held at the 5th floor of the Department of Biology of ENS, 46 rue d'Ulm, 75005 Paris in room 321.

Students will be evaluated based on a technical report and participation throughout the week.