

Course: Computational analysis of cis-regulatory sequences

Required background

Computer knowledge: practice of Linux command lines.

Program

	Morning	Afternoon
Monday 9/14	09h30 – 10h45 (514), <i>Lecture</i> Motif discovery – MTC 11h00 – 12h00, <i>Practical</i> Using RSAT for motif discovery – MTC	13h30 – 14h45 (514), <i>Lecture</i> Motif, pattern-matching – MTC 15h00 – 16h45 <i>Practical</i> Pattern matching – MTC
Tuesday 9/15	09h30 – 10h00 (514), <i>Lecture</i> Motif comparison – MTC 10h00 – 12h <i>Practical</i> Open analysis – MTC	13h30 – 14h00 (514), <i>Lecture</i> Negative controls – MTC 14h00 – 15h15 <i>Practical</i> Open analysis – MTC 15h30 – 16h45 (514), <i>Lecture</i> « cis-regulatory element: Switches to modulate the expression level of genes » - SM
Wednesday 9/16	09h30-10h45 (514), <i>Lecture</i> « cis regulatory elements: How to find them: Past, presence & future » – SM 11h00 – 12h00 (514), <i>Lecture</i> ChIP-Seq analysis – MTC, SC	13h30 – 16h45, <i>Practical</i> ChIP-Seq analysis – MTC, SC
Thursday 9/17	9h30 – 10h30 (514), <i>Lecture</i> « Combining wetlab & bioinformatical approaches to study transcriptional regulation » – SM 10h45 – 12h00, <i>Practical</i> ChIP-seq / Open analysis – MTC, SC	13h30 – 15h15, <i>Practical</i> Open analysis – MTC, SC 15h30 – 16h45 (514), <i>Seminar</i> Daan Noordermeer « The 3D organization of gene regulation: lessons from the Hox genes»
Friday 9/18	9h30-10h45, <i>Practical</i> Open analysis – MTC, SC 11h00-12h00, <i>IBENS Seminar</i> « How do transcription factors "know" where to go in the genome » – SM	13h30 – 14h30 (salle info), <i>Exam</i> MTC, SC

Teaching tem

Samuel Collombet (ENS, Paris)

Sebastiaan H. Meijnsing (MPIMG Berlin, Germany)

Morgane Thomas-Chollier (ENS, Paris)

Organization

Credits: 3 ECTS

All classes are held at the 5th floor of the Department of Biology of ENS, 46 rue d'Ulm, 75005 Paris either in room 514 for (most) lectures or in the computer room.

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