

# MF9390 - Epigenetics, development and disease

Course organizer: Prof. Philippe Collas

## Course schedule Week 50, Dec. 13-17, 2010

Location: Domus Medica, Sognsvannsveien 9

### Mon 13 Dec.

- 09:00-12:00: Lectures (Philippe Collas) – *Domus Medica, room 2183*
  - Introduction to the course
  - Epigenetic regulation of gene expression
  - Epigenetics and stem cells
- *Break*
- 13:00-15:00: Lecture (Philippe Collas) – *Domus Medica, room 2183*
  - Epigenetics and stem cells (cont.)
  - **Journal Club paper distribution**
- 15:00-17:00: Independent group work – Journal club preparation (1)

### Tue 14 Dec.

- 09:00-12:00: Lectures – *Domus Medica, room 2183*
  - Methods in epigenetics (Philippe Collas; 09:00-09:45)
  - Epigenetics and Development - genomic imprinting: **Dr. Robert Feil**, *Molecular Genetics Institute, Montpellier, France* (10:00-12:00)
- *Break*
- 13:00-14:00: Seminar by **Dr. Robert Feil** – *Domus Medica, room 2183*
- 14:00-17:00: Independent group work – Journal club preparation (2)

### Wed 15 Dec.

- 09:00-11:00: Lecture – *Domus Medica, room 2183*
  - Epigenetics and disease: **Dr. Leonardo Meza-Zepeda**, Oslo Univ. Hospital
- 11:00-12:30: Seminar by **Dr. Leonardo Meza-Zepeda**
- *Break*
- 13:30-18:00: **Practical lab: ChIP assay (part 1 of 4)** – *Domus Medica, room 2240*
  - DNA-protein cross-linking, washes, cell lysis, set up own chromatin fragmentation; set up own ChIP

### Thu 16 Dec.

- 08:00-10:00: **Practical lab: ChIP assay (part 2 of 4)** – *Domus Medica, room 2240*
  - Recovery and wash of ChIP material, set up cross-link reversal/DNA elution/protein digestion
- 10:30-12:30: Lecture – *Domus Medica, room 2183*
  - Epigenetics and nutrition: **Prof. John C. Mathers**, Institute for Ageing and Health, Newcastle University, Newcastle upon Tyne, UK
- *Break*

- 13:30-16:00: **Journal Club presentations (part 1 of 2)**: 5 groups – *Domus Medica, room 2183*
- 16:30-18:30: **Practical lab: ChIP assay (part 3 of 4)** – *Domus Medica, room 2240*
  - Set up PCR from ready-eluted and purified ChIP DNA

**Fri 17 Dec.**

- 09:00-11:30: **Journal Club presentations (part 2 of 2)**: 5 groups – *Domus Medica, room 2183*
- 12:00-13:00: Seminar by **Prof. John C. Mathers** – *Domus Medica, room 2183*
- *Break*
- 14:00-16:30: **Practical lab: ChIP assay (part 4 of 4)** – *Domus Medica, room 2240*
  - Analysis of results; discussion on genome-wide approaches
  - Social and pizzas

**Notes:**

**Personal work:** students are expected to put personal efforts into preparing their journal club presentations and assimilating information provided throughout the course.

**Reading material:** students will present 1 article, in groups of 2, during Journal Clubs. Students are also expected to read other assigned articles during the week. All articles will be distributed at the beginning of the course.

**Grading:** students will be evaluated during the course on the quality of results delivered, quality of journal club presentations and general participation. Pass / fail grade.