

# Primary phenotyping of mouse embryos



## INFORMATIONS

### Training course from PHENOMIN infrastructure

Durée : 3 days

In 2015 :

Reference : SRI16-0402  
From November 25th to  
November 27th

Lieu : Institut Clinique de la  
Souris  
Rue Laurent Fries  
67404 ILLKIRCH  
GRAFFENSTADEN

#### Frais de participation :

Lunches are free of charge for  
the attendees  
Code : 250

#### Renseignements et inscriptions :

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## Prospectives attendees

*Researchers, engineers, scientists. Need to have the basic knowledge in animal biology to understand mouse development physiology and the biological technics for phenotyping. The training is opened to Non-French speaking people.*

## Learning objectives

**This training is aimed at providing a theoretical and practical background knowledge destined for researchers and engineers that are willing to acquire primary expertise in mouse development. The topics will cover dissection of post implant embryos, histology, whole mount Lac Z staining and confocal imaging of whole embryos.**

## Content

### Jour 1 :

- Lectures: Mouse embryology  
Introduction to Mouse embryonic development  
Determining the window of lethality of mutant mice in utero  
Phenotyping of mouse embryos -

- Workshops

Collection and fixation of mouse embryos and placentas at E10.5 (mid gestation stage)  
Whole mount Lac Z staining of E10.5 embryos (Step1)

### Jour 2 :

- Lectures : Phenotyping of mouse embryos  
- Classical histology (Fixation, embedding, orientation, sectioning and staining), Immunohistochemistry and in situ hybridization  
- Imaging technics (HREM, micro CT, OPT)  
- High frequency echography to visualize and quantify embryonic development

- Workshops

- Observation of embryos by echography  
- Observation of embryos by micro CT, OPT (potentialy)  
- Whole mount Lac Z staining of E10.5 embryos (step 2) + Observation  
- Collection of mouse embryos at E8.5 (early embryonic stage)  
- Collection of mouse fetuses and placentas at E18.5 (just before birth)

### Jour 3 :

- Lectures: specific technics in mouse embryology  
The in-vitro culture of mouse embryos/ drug testing  
Confocal macroscopy: application in embryology

- Workshops

Observation of embryos at the confocal microscope  
Visualization of histological sections at different stages of development. Example of abnormalities.

## Teaching methods

Lectures in the morning and workshop in the afternoon.

## Informations

This training course is an "action d'adaptation et de développement des compétences" (ref. French law). A certificate of attendance is delivered after the course. An evaluation measures the trainees' satisfaction especially on the achievement of learning objectives.

## Study Directors

**Dr. Yann Hérault, PhD**

**Pr. Manuel Mark, M.D, PhD**

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