



## Mouse Blood and Lymphatic Vessels Phenotyping

### Objective of the course

Different protocols has been widely developed in cardiac phenotyping. However, more scarce is the knowledge about the methodologies addressed to phenotype vascular abnormalities in mutant mice.

The aim of this course is capacitating participants to localize and to interpret vascular abnormalities in mutant mice.

In order to achieve this aim we focus on learning about:

1. Injection techniques and macroscopic and microscopic visualization of blood and lymphatic vessels.

-Surgical techniques of vascular injection.

-Injection media and their visualization (plastic resins, latex, Indian ink, fluorescent substances and radiographic and paramagnetic contrasts).

-Blood vessel visualization by dissection, conventional histology, confocal laser microscopy, SEM, TEM, X-ray, ultrasounds, CT, MRI and SLO.

2. Distribution, topography and structure of blood and lymphatic nodes and vessels in mice.

### Theoretical and practical sessions

1. Directional terms and planes of the mouse body
2. Development of blood vessels. Type and structure of blood vessels.
3. Methodologies addressed to visualize th mouse circulatory system.
4. Heart and coronary vessels. Thoracic vascularization.
5. Abdominal and pelvic vascularization
6. Vascularization of the thoracic and pelvic limbs
7. Vascularization of the head and neck
8. Lymphatic system: Thoracic duct. Identification and localization of lymph nodes.

In addition to theoretical and practical sessions, the course will include seminars examining specific vascular abnormalities.



### Speakers

**Jesus Ruberte** (Course coordinator)  
Professor of Veterinary Anatomy and Embryology. UAB  
Head of the Mouse Imaging Platform and Morphological Analysis Unit. CBATEG

**Marc Navarro, Ana Carretero and Victor Nacher** (Course secretary)  
Professors of Veterinary Anatomy and Embryology. UAB

**Luisa Mendes-Jorge**  
Professor of Veterinary Anatomy. FMV. Lisboa

**David Ramos** and **Joana Araujo**  
Assistants in practical sessions

**Silvia Lope**  
Technician MRI Service. UAB

The course will take place at the CBATEG and the Veterinary School of the Autonomous University of Barcelona.  
08193 Cerdanyola del Valles  
Barcelona SPAIN

(see to location: [www.uab.cat](http://www.uab.cat))

### Equipment:

μCT eXplore Locus (GE). MRI (Bruker Biospec 7T). High-frequency ultrasound (Visualsonics). Laser scanning confocal microscope (TCS LP2 Leica). Scanner Laser Ophthalmoscope (HRAII Heidelberg Engineering)

**Duration:** Four days

**Number of participants:** 10 maximum

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