

Scientific and technical environment of the training course



Centre de physiopathologie de Toulouse Purpan

<http://www.cptp.inserm.fr>

Toulouse réseau imagerie - Plateforme IBiSA d'imagerie cellulaire de Toulouse

<http://trigenotoul.com/>

COURSE DIRECTOR

Sophie ALLART

Research engineer

UMR 5282

LOCATION

TOULOUSE (31)

ORGANISATION

2.5 days

From Tuesday (9:00 am) to Thursday (12:00 am)

Training course in English

From 5 to 8 attendees

TRAINING FEES

1000 Euros

AT THE END OF THE TRAINING

COURSE

Satisfaction survey from trainees

A certificate of training is delivered.

COURSE DATE

Ref. 20 189 : from Tuesday 02/06/20 to Thursday 04/06/20

Intravital two-photon excitation microscopy (TPEM)

OBJECTIVES

- Learn the basic and advanced theory of multiphoton microscopy
- Hear about the strengths and weaknesses of TPEM (intravital two-photon excitation microscopy)
- Optimize the use of the necessary tools for the development of experiments in the field of intravital multiphoton imaging and tissue explant: preparation of live samples, acquisition and visualization of images
- Learn how to acquire images *in vivo* on a whole animal or a tissue explant

AUDIENCE

Researchers, engineers, technicians

PRE-REQUIREMENT

Attendees should have strong basic knowledge in fluorescence microscopy. For example, to have taken one of the courses "Fluorescence microscopy: bases and novelties" (Ref. 20180, this catalog) or "Confocal microscopy workshop" (Ref. 20182, this catalog) or equivalent level

TRAINING PROGRAMME

Lectures (40 %)

- Advanced theoretical concepts of two-photon microscopy
- Probes characteristics for two-photon microscopy
- *Ex vivo* two-photon microscopy: how to set up an experiment on explanted tissue
- Intravital two-photon microscopy: how to set up an experiment on anaesthetized animals

Workshop : Practical sessions (60 %)

- Cut of fresh tissue, explantation, then do multicolor imaging and second harmonic generation with a two-photon microscope
- Intravital two-photon imaging in mice
- 4D visualization and analysis (cell tracking) with Imaris software (Bitplane)
- Round table and feedback: interactive discussion groups on trainees' issues

Practical sessions in subgroups of 4 trainees with one speaker per subgroup

EQUIPMENT

2 Zeiss 7 MP two-photon microscopes

See CPTP and IPBS imaging platforms websites for more details about equipments

SPEAKER

S. Allart (PhD), head of the imaging core Facility of the CPTP. E. Bellard, Head associate of the Imaging core facility of IPBS-CNRS. Mr. Rodrigues, engineer on two-photon, institute Paoli Calmette