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Associação da Faculdade de Farmácia
para a Investigação e Desenvolvimento

NEUROVASCULAR LABORATORY

OrganizationAlexandra Brito
FPULInês Figueira
FARM-IDJoana Pereira
FPULRita Garcia
FPUL**Sponsors****FCT**

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Models of the Blood-Brain Barrier (BBB) Scientific Tools to Target the Brain

Faculty of Pharmacy (FP), University of Lisbon (UL), Portugal**March 18-20, 2021****Fully online sessions**

Theoretical (T): 9.75 h

Practical (P): 3.75 h

Virtual Lab (VL): 3.00 h

Total: 16.50 h

Day 1 – 18th March**8:45** Welcome *Alexandra Brito, FPUL, Portugal***9:00** BBB: structure and function (T) *Istvan Krizbai, Biological Research Centre, Hungary***9:45** Therapeutic strategies to overcome the BBB (T) *Alexandra Brito, FPUL, Portugal***10:30 Break****11:00** BBB study models (T) *Joana Bicker, Faculty of Pharmacy, University of Coimbra, Portugal***11:45** *In vitro* models of the BBB: static vs. dynamic (T) *Inês Figueira, Association of the FPUL for R&D (FARM-ID), Portugal***12:30 Lunch****13:45** Data mining tools to study the BBB *in silico* (T) *André Falcão, Faculty of Sciences, UL, Portugal***14:30** Structure-based approaches to model BBB permeation (P; VL) *Rita Guedes, FPUL Portugal***15:15** Tools and resources to find BBB permeant compounds (P; VL) *Natália Aniceto, FPUL, Portugal***16:00 Break****16:30** BBB imaging in Neuropathology: methods in clinical practice (T) *Manuel Correia, Hospital Santa Maria, Portugal***17:00** BBB imaging in Neuropathology: clinical cases (T) *Lia Neto, Hospital Santa Maria & Faculty of Medicine, UL, Portugal***17:30** Micro-CT as a preclinical imaging tool (T) *Margarida Franco, Polytechnic of Leiria, Portugal***18:00** End of session**Day 2 – 19th March****9:00** Targeted drug delivery to the brain (T) *Torben Moos, Faculty of Medicine, Aalborg University, Denmark***10:00** Nanomedicines as a highway to brain (T) *Mafalda Videira, FPUL, Portugal***10:30 Break****11:00** Nose-to-brain delivery as a strategy to overcome the BBB (T) *Ana Fortuna, Faculty of Pharmacy, University of Coimbra, Portugal***11:30** Drug conjugation as a tool to overcome the BBB (T) *Miguel Castanho, Faculty of Medicine, UL, Portugal***12:00** Peptide shuttles for receptor-independent transport across the BBB (T) *Vera Neves, Faculty of Medicine, UL, Portugal***12:30 Lunch****13:45** Primary cultures of brain microvascular endothelial cells (BMEC) (P; VL) *Rui Silva, FPUL, Portugal***14:30** Cell lines of mouse BMEC: static vs dynamic cultures (P; VL) *Joana Pereira, FPUL, Portugal***15:15** Establishment of a BBB *in vitro* model (P; VL) *Inês Figueira, FARM-ID, Portugal***16:00 Break****16:30** Assessment of BBB properties in an *in vitro* model (P; VL) *Inês Figueira, FARM-ID, Portugal***17:15** Evaluation of BBB features in BMEC cultures (P; VL) *Rita Garcia, FPUL, Portugal***18:00** End of session**Day 3 – 20th March****9:00** Therapeutic ultrasound as a treatment modality for physiological and pathological ageing (P; VL) *Jürgen Götz, Queensland, U. Australia***9:45** Evaluation of BBB features in brain tissue (P; VL) *Joana Pereira, FPUL, Portugal***10:30 Break****11:00** Tools for analysis of BBB data: ImageJ (P; VL) *Joana Pereira, FPUL***11:45** Tools for analysis of BBB data: Icy (P; VL) *Rita Garcia, FPUL, Portugal***12:30** Course assessment and closing *Alexandra Brito, FPUL, Portugal*Contact: Alexandra Brito (Coordinator) – abrito@ff.ulisboa.pt; mariabrito@campus.ul.ptMore information at: <https://www.ff.ulisboa.pt/education/courses/non-degree-courses/curso-pos-graduado-de-actualizacao-models-of-the-blood-brain-barrier-scientific-tools-to-target-the-brain/?lang=en>