

# 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 – 18<sup>th</sup> 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 – 19<sup>th</sup> 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 – 20<sup>th</sup> 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*

**Official language: English**

**Timetable: Western European Time**

Contact: Alexandra Brito (Coordinator) – [abrito@ff.ulisboa.pt](mailto:abrito@ff.ulisboa.pt); [mariabrito@campus.ul.pt](mailto:mariabrito@campus.ul.pt)

More information at: <https://www.ff.ulisboa.pt/> | <https://www.ff.ulisboa.pt/?lang=en>

U

LISBOA

UNIVERSIDADE  
DE LISBOA



FACULDADE DE  
FARMÁCIA  
Universidade de Lisboa

iMed.  
ULisboa

FARM-ID

Associação da Faculdade de Farmácia  
para a Investigação e Desenvolvimento



NEUROVASCULAR LABORATORY

### Organization

Alexandra Brito  
FPUL

Inês Figueira  
FARM-ID

Joana Pereira  
FPUL

Rita Garcia  
FPUL

### Sponsors

abcam®

Air Liquide

alfagene

Binding Site

FCT  
Fundação para a Ciência e a Tecnologia

frilabo



FUNDAÇÃO JACQUELINE DIAS DE SOUSA

ImmunoTools

Palex

Constant Improvement  
LUSOPALEX

FPUL

sysmex