

Early stage researcher/PhD student positions available in the European Training Network *Brain Barriers Training* – BtRAIN



The European Training Network Brain Barriers Training – BtRAIN invites applications for **12 positions** for **Early Stage Researchers (ESR)/PhD students**.

Research in **BtRAIN** (www.btrain-2020.eu) is dedicated to create and disseminate unique knowledge on the vertebrate brain barrier signature genes and their specific role in regulating brain barrier function in development, health, ageing and disease. **BtRAIN** will train a new generation of young researchers to think out of the box and to bridge disciplinary interfaces by providing trans-disciplinary training in research and technological development in the field of brain barriers research.

To achieve such a holistic overview on the biology of the vertebrate brain barriers, BtRAIN provides a unique trans-disciplinary and trans-sectorial environment, combining the expertise of clinical and non-clinical researchers in **biomedical disciplines** (developmental biology, vascular and cell biology, physiology, pharmacology, neuroimmunology) and **technologies** (chemistry, bioengineering and imaging of the brain barriers) with that of **bioinformatics** from the academic and non-academic sector. BtRAIN fosters intense contacts of 12 academic and 6 non-academic partners from 7 EU countries, CH, USA and the European Network Brains4Brain.

The following BtRAIN projects are available

Project 1: In vitro models of the blood brain-barrier (BBB) and applications in pharmacological and toxicological screenings

Project 2: In vitro models of the blood-brain and blood- cerebrospinal fluid (CSF) barriers using an integrated microfluidic device

Project 3: Comparison of mouse and zebrafish cerebral endothelial cell transcriptomes and functional investigation of conserved pathways governing brain angiogenesis and BBB formation

Project 4: Integrative meta-analysis of public and novel vertebrate BBB omics data and establishment of the BBBhub platform

Project 5: Role of the orphan G-protein-coupled receptor Gpr126 signalling in the development of the blood-brain barrier

Project 6: Age-induced changes in gene and microRNA expression at the mouse blood-brain barrier

Project 7: Blood-brain barrier derived non-coding RNAs as functional biomarkers for the aging BBB versus the BBB in Alzheimer's Disease

Project 8: Brain endothelial mechanisms directing the cellular pathway of T cell migration across the BBB

Project 9: Contribution of the BBB in amyloid- β biology in Alzheimer's disease

Project 10: Exploring CD4+ T cells as carriers to mediate transport of drugs across the blood-brain barrier

Project 11: Role of different receptors in promoting pathogen and leukocyte migration across the brain cerebrospinal fluid barrier (BCSFB) in meningitis

Project 12: Molecular control of the human brain barriers in health and neuroinflammation

Eligibility Criteria

BtRAIN is a research fellowship programme for 'Early Stage Researchers (ESR)'. If you intend to do your PhD and you have less than 4 years research experience, you might apply for a

fellowship. Applicants will have to meet the Marie Skłodowska-Curie eligibility criteria (http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-msca_en.pdf p40-41).

Pre-requisites for the candidates

- University Master Degree in any discipline in the Life Sciences, Medical Sciences, or in Biomedical Engineering, Chemistry or Bioinformatics, depending on the project applied for
- Mobility during the program to fulfill the requirements for secondments
- Ability to work in an international team and to meet deadlines
- Ability to analyze, integrate and communicate large amounts of data
- Ability to multi-task

Submit your application now: <http://www.btrain-2020.eu/application>