

PhD candidate position on gene delivery to the brain

We are looking for a highly motivated candidate willing to pursue a PhD in our young and dynamic ChemSynBio team at IQS School of Engineering - Ramon Llull University in Barcelona!

Group

At ChemSynBio (www.chemsynbio.iqs.edu), we harness chemical and synthetic biology to create biotherapeutic and biomedical tools, especially to treat brain diseases and to understand brain transport. We aim to conduct groundbreaking research and to grow together!

Project

Current treatments against brain diseases have very low efficacy due to the low permeability of most drugs across the **blood-brain barrier** (BBB). Our project Creating an Orthogonal Gate to the Brain (OBGate) has recently been awarded a prestigious **European Research Council** Starting Grant to develop new strategies to deliver large therapeutics into the brain with unprecedented efficiency and selectivity. Within this project, you will **develop viral and non-viral gene delivery nanocarriers** to transfect brain endothelium or brain tumor cells with high selectivity. You will participate in the **whole development process** of the nanovehicles, from the design, formulation and characterization to the *in vitro* and *in vivo* experiments.

Tasks

- Contribution to **research excellence** at all stages: literature review, experimental design, experimentation, data analysis, and proposal of new research directions.
- **Collaboration** with other researchers and contribution to an **inspiring atmosphere**.
- **Presentation** of results and contribution to preparing reports and scientific **publications**.
- Engagement in **laboratory management** and **team activities**.
- **Training** in technical and horizontal skills. **Student supervision** and training.

Profile

- Requirement: **master's degree**.
- Background in chemistry, nanotechnology, pharmacy, biotechnology, or related.
- Optional experience: nanoparticles, viral vectors, cell culture, experimental animals.
- **Strong motivation and proactivity**.
- Good social skills to work in a **team**.
- **Excellent communication** skills and **fluency in English**.

Conditions

- Three years of **funding guaranteed**.
- **Training** opportunities on scientific and horizontal skills.
- **Room for creativity, mentorship & team support**.
- Proposed starting date: **January 2026**.

Applications are welcome until November 15th or until the candidate is selected

- Applications should be addressed to Dr. Benjamí Oller-Salvia (benjami.oller@iqs.url.edu) and Dr. Shambhavi Pandey (shambhavi.pandey@iqs.url.edu).
- Please include "**Predoc GeneDelivery – Your Name**" in the subject of your email.
- The following documents should be combined as a **single pdf** with your name:
 - **Motivation letter** explaining why you would be a good fit for the position and our team.
 - **Curriculum Vitae**.
 - Master's and Bachelor's **academic records**.
 - Contact details of two **referees**. Reference letters are valued but not compulsory.