

**Biosensors** have the potential to radically transform our healthcare system. By providing cheap and easy to use measurement tools, biosensors will enable the deployment of fully personalized medicine in our daily life, empowering patients to make more informed decisions on their health.



Pursuing this vision, our goal is to develop new biosensing technologies capable of performing **real-time, continuous, *in vivo* measurements**, and that are **universally applicable** to the detection of many different molecules. To achieve this, our lab combines biochemistry, biophysics, and analytical chemistry. In particular, this project aims to develop new biological receptors, and then implement them in electrochemical signalling devices to measure important drugs, hormones, and biomarkers.

We are offering a position for a **PhD candidate**, jointly supervised by Dr. Gabriel Ortega and Dr. Oscar Millet, for a project in the development of biosensors for personalized medicine. The project will cover all stages of development, so the student will acquire skills in biomolecular engineering, biophysical characterization of biomolecular receptors, sensor manufacturing, and *in vivo* studies. The candidate should have a background in biochemistry, chemistry, physics or a related discipline, and must be in possession of the qualifications required to access a PhD program in Spain. Previous experience working with proteins and/or electrochemistry would be an asset, but is not required. We seek a student self-motivated, curious, independent, and with a keen interest in biomolecular sciences and biotechnology.

**CIC bioGUNE** is a research centre in biosciences located in Bilbao (Spain), where fundamental biological research goes hand in hand with applied clinical research. It offers an international, multidisciplinary scientific environment, hosting over 200 researchers working on chemical biology, cancer, genomics, biophysics, immunology, and many more. CIC bioGUNE is also equipped with state-of-the-art facilities for metabolomics, structural biology, and animal studies.

For any inquiries, please contact Dr. Gabriel Ortega ([gortega@cicbiogune.es](mailto:gortega@cicbiogune.es)) and Dr. Oscar Millet ([omillet@cicbiogune.es](mailto:omillet@cicbiogune.es)). For your application, send your complete CV, academic records, and a cover letter. Candidates will be evaluated on a continuous basis until filling the position.

Publications:

Ortega *et al.* "The Effect of Charged Residue Substitutions on the Thermodynamics of Protein-Surface Interactions." *Protein Science*, **2021**, 13(12): 2408-17

Ortega *et al.* "Rational Design to Control the Trade-Off between Receptor Affinity and Cooperativity." *Proceedings of the National Academy of Sciences*, **2020**, 117(32): 19136-40

Ortega *et al.* "Surface Attachment Enhances the Thermodynamic Stability of protein L." *Angewandte Chemie International Edition*, **2019**, 58(6): 1714-8

Arroyo-Currás *et al.* "High-Precision Control of Plasma Drug Levels Using Feedback-Controlled Dosing." *ACS Pharmacology & Translational Science*, **2018**, 1(2): 110-8