## Call for a Postdoctoral researcher

Post-doctoral position available at the ***Laboratory of Biochemistry-GQBB***, Institut Químic de Sarrià, University Ramon Llull in Barcelona. Two years contract for a highly talented researcher to join the group and participate in collaborative projects on protein engineering of carbohydrate active enzymes in biocatalysis and synthetic biology. The postdoctoral researcher will be mainly involved and lead the project:

## New-to-nature glycosidases as bio-orthogonal tools in metabolic labeling and microbiome studies

Bio-orthogonal unmasking of caged substrates (masked probes, metabolites, drugs, labeling agents) in living cells enables the study of biological processes and biomolecular functions in their natural environment.
The project aims at developing engineered glycosidase enzymes/un-natural glycoconjugate substrates pairs for the bio-orthogonal and selective *in vivo* unmasking of probes/metabolites/labeling agents by the genetically-encoded engineered hydrolase for metabolic labeling and microbiome studies.
This is a collaborative project between the Planas Lab at IQS-URL, Barcelona (enzyme engineering and chemical biology) and the Peczuh's Lab at the University of Connecticut, USA (synthetic carbohydrate chemistry).
The project envisages proof-of-concept applications in microbiome studies (engraftment of a specific strain into a microbiome) and metabolic labelling (bacterial cell wall polysaccharides biosynthesis). Central to the project is the design and implementation of diverse bio-orthogonal engineered glycosidase/un-natural glycoconjugate substrate pairs. It will involve state-of-the art protein design and engineering by directed evolution approaches, development of high-throughput screening methods, biochemical characterization of engineered variants for specificity and bio-orthogonality on designer unnatural glycoside conjugates for subsequent implementation to the relevant proof-of-concept applications.

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The research at the *Laboratory of Biochemistry* focuses on Carbohydrate Active Enzymes (CAZymes) involved in the biosynthesis, modification and degradation of glycans and glycoconjugates, from fundamental aspects of their mechanism, specificity and regulation to their applications in biocatalysis, synthetic biology and as therapeutic targets in infectious diseases (https://planaslab.iqs.edu/).

**Applicant's profile**

- PhD in Biotechnology, Biochemistry, or alike.
- Experience in molecular cloning, protein expression, protein engineering and directed evolution, preferably on carbohydrate active enzymes, cellular assays, and skills in modeling and computer-aided protein design.
- Communication and team building skills for collaborative work in a research team.
- Managing abilities to supervise MS and undergrad students.
- Fluent in English.

**If you are interested to apply, please do it through the following link:**
https://cezanneondemand.intervieweb.it/iqs/jobs/postdoctoral-researcher-labbio-43920/en/
**It's necessary to include the following documents:**
- Letter of interest in the specific program, detailing previous experiences
- Full CV and reprints of two main publications by the applicant
- Two letters of recommendation from scientists with whom the researcher has collaborated

Application deadline: July 10th$^{th}$, 2024 / Incorporation in September 2024
Full-time position for 2 years, extensible upon additional funding / Salary based on merits and qualifications