

Postdoctoral Researcher

Adaptive Laboratory Evolution for Strain Engineering

Systems Biology Research Group, University of California - San Diego

Academic Department/Research Unit: Bioengineering

Description:

We are seeking a highly motivated individual with a strong background in experimental evolution and/or strain engineering to join our team. Funding is available immediately for a 3 year [US DOE funded project](#) that integrates strain optimization via adaptive laboratory evolution and material science to address the problem of plastic waste in the environment. The position will lead the optimization of bacterial strains to accelerate degradation and improve breakdown byproducts of the plastic degradation process.

Qualifications (mandatory requirements):

- PhD degree or similar in bioengineering, chemical engineering, microbiology, molecular biology, or biochemistry
- High-quality publication record within PhD research field
- Strong work ethics, independent research record, and motivation to succeed within competitive this research field

Preference given to candidates with proven track record within:

- Bacterial Culturing and Physiological Characterization – Demonstrated ability to culture microbes in a range of various conditions and characterize their performance under different culturing conditions. Experience with spore-forming bacteria is desirable.
- Genome engineering – Ability to engineer strains through gene knock-outs or introduction of small insertions, substitutions or deletions similar to frequency occurring adaptive mutations
- Bioinformatics – Ability to classify / search for organisms via their genetic content and run whole genome sequencing pipelines for assembly and to identify mutations.
- Process Control Concepts applied to Lab Automation – A fundamental understanding and ability to operate various protocols to optimize strains via an automated laboratory evolution platform is required.
- Superior computational skills are required for this multi-disciplinary and multi-institutional project.

The candidate will be integrated with the Adaptive Laboratory Evolution Group – PI: Adam Feist, as part of the Systems Biology Research Group - PI: Bernhard Palsson, at the University of California - San Diego Department of Bioengineering to work on this innovative project. The SBRG (<https://systemsbiology.ucsd.edu/>) is located in the Bioengineering Department at UCSD and is a highly diverse group bringing in expertise from multiple engineering, biology, and computer science backgrounds. Our collaborative environment in the perennially sunny climate of San Diego makes for an ideal setting to pursue scientific training at a top-rated research institution while enjoying the diverse environment and beauty of California. The candidate will leave the group with a range of desirable skills in laboratory automation, industrial biotechnology, and bioinformatics.

How to apply:

To apply, please email Adam Feist (afeist@ucsd.edu) your CV and a short description of why you think you are qualified for the position (i.e. cover letter).