Mellizyme

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WEBSITE
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Protein Informatician

Salary: Competitive
Starting date: Early 2021
Location: Liverpool Science Park, L3 5TF
Reports to: Chief Scientific Officer (CSO)

The Company

Mellizyme Biotechnology is a start-up with top-tier investor and government grant backing that has discovered an exciting and important new class of environmentally significant enzymes. You will join a small, energetic team and apply your skills in software and data engineering to develop the computational infrastructure to drive our ground-breaking R&D pipelines in synthetic biology and machine learning. We envisage a healthy, equitable and sustainable world. We are building this future using biology.

The Position

We seek a protein bioinformatician with knowledge of protein sequence, structure and modelling, with skills and interests in modern methods of machine learning [1] and data visualization. Using the methods of synthetic biology (e.g. [2-4]) we are able to make, sequence, and assay many tens of thousands of proteins. This provides at once the requirement to understand the data so generated, and to extend our methods for predicting improved sequences to make and test.

Your skillset

You will have a broad skillset and a keen interest in developing new skills. Required languages include Python. Any skills in additional languages including Java would be an advantage. Data management skills, and knowledge of a range of database systems, including SQL, graph and document databases – along with an understanding of when to utilize each – is important. Knowledge of data science approaches, and experience in packages such as numpy, scipy, Pandas, and scikit-learn are beneficial. Any prior work in machine learning, and skills in packages such as Keras, PyTorch and TensorFlow would be handy. Experience in the development and use of RESTful webservices would be advantageous. Web development skills, using frameworks such as Bootstrap, Angular and React would be a benefit. Any DevOps skills and prior experience in cloud computing would be helpful. Previous experience in scientific software development / computational biology / bioinformatics / laboratory automation would be advantageous but are less important than a desire to learn to apply your skills in a new domain. Previous work in industry is highly appreciated, more so if you can bring modern software engineering practices including Agile software development. Evidence of being able

to manage and drive software development within short deadlines and with rapidly evolving requirements is crucial, as is an ability to communicate well within an interdisciplinary team. Our directive is to help people and planet, so you must be motivated to do exactly this. The culture is casual and the work is serious.

The offer

We offer a competitive salary, the opportunity to join a very exciting start-up, and full computational facilities including access to serious, multi-GPU (PFLOP) computers to fulfil your potential in the development of the software and laboratory architecture necessary for the exploitation of clean, green enzymes for the BioEconomy.

Our expectations

Your job is to help us develop and deploy game-changing technology to address environmental issues. As such, and in line with the company mission, we expect you to act in an environmentally friendly way. You will be required to read up and stay informed on a variety of topics. You may be asked to represent the company at meetings, trade shows and conferences which may require domestic and international travel.

The benefits

- Competitive salary
- Substantial stock options
- Core working hours
- Pension scheme
- On-site gym, parking and bike storage, café
- 26 days holiday excluding bank holidays
- +1 to take on your birthday
- The chance to have a direct, real impact on climate and environmental issues
- The opportunity to work with a group of clever, driven and kind people.

Equal employment opportunity

All qualified applicants will receive consideration for employment without discrimination on the basis of race, colour, religion, sex, sexual orientation, gender identity, national origin, protected veteran status, disability, or any other factors prohibited by law.

Informal enquiries

In the first instance, please contact Prof Douglas Kell via email kelldb1@fastmail.fm, quoting position SE101 in the subject line, and including a full CV and the names of three referees (along with an indication of whether they may be contacted). We will be in contact regarding the rest of the interview process.

[1] Kell, D. B., Samanta, S. & Swainston, N. (2020). Deep learning and generative methods in cheminformatics and chemical biology: navigating small molecule space intelligently *Biochem J* **477,** 4559-4580. DOI.:

[2] Currin, A., Swainston, N., Day, P. J. & Kell, D. B. (2015). Synthetic biology for the directed evolution of protein biocatalysts: navigating sequence space intelligently. *Chem Soc Rev* **44,** 1172-1239. DOI.

[3] Swainston, N., Currin, A., Green, L., Breitling, R., Day, P. J. & Kell, D. B. (2017). CodonGenie: optimised ambiguous codon design tools. *Peer J Comp Sci* **3,** e120. DOI.

[4] Swainston, N., …Kell, D. B. (2018). PartsGenie: an integrated tool for optimising and sharing synthetic biology parts. *Bioinformatics* **34,** 2327-2329. DOI.