Title: Computational prediction of purification strategies for industrial protein production

Purification is a critical step in the manufacture of proteins for research, therapeutic and industrial use, and the annual market serving these sectors is worth billions. Substantial work is required to develop a methodology for the purification of a protein target, with each having a bespoke process including multiple bind/elute chromatography steps. An ideal purification approach would be a generic "flow­ through" process as this would reduce both cost and time, and introduce flexibility. This 4-year fully-funded EPSRC CASE PhD project is a collaboration between the Departments of Biology (Dr Michael Plevin) and Computer Science (Prof Susan Stepney) at University of York and FUJIFILM Diosynth Biotechnologies (FDBK). The goal of the project is to evaluate whether computational modelling and optimisation can predict protocols for flow­-through purification of recombinant protein targets. Flow-­through purification approaches address a real-world need for economic and flexible production of proteins in smaller amounts for more specialised or smaller markets, and would allow low volume production facilities to be located closer to the point of use.

You will work in a highly supportive research environment that bridges academia and industry. You will receive training across all disciplines of the project and spend 3 months working at FDBK, a national leader in field, to gain experience in industrial protein production. This highly interdisciplinary project would suit a graduate in chemistry, physics, engineering or biochemistry who has strong computational skills and experience in practical lab-based research.

Please contact [Michael Plevin](https://www.york.ac.uk/biology/research/biochemistry-biophysics/michael-plevin/) or [Susan Stepney](https://www.cs.york.ac.uk/people/susan) for more information.

More details can be found here: <https://www.findaphd.com/phds/project/fully-funded-epsrc-icase-project-with-fujifilm-computational-prediction-of-purification-strategies-for-industrial-protein-production/?p142004>