BBSRC-funded 4-year iCASE PhD studentship - Studying Conformational Changes and Agglomeration in Biopharmaceuticals Using Spectroscopic Imaging in Microfluidics

Applications are invited for a BBSRC iCASE PhD studentship in Chemical Engineering and Bioprocessing. This studentship is an initiative between the Departments of Life Sciences and Chemical Engineering at Imperial College London and is additionally supported by our Industrial Partner, a major pharmaceutical company, to address key issues in Bioprocessing and Pharmaceutical Sciences.

The student will apply spectroscopic chemical imaging to the study of protein behaviour in a range of different conditions with a particular focus on agglomeration of biopharmaceuticals in Microfluidic set-ups. The project will explore the development and application of novel spectroscopic imaging methodology to study a range of proteins and therapeutic antibodies. As part of the project, the imaging methodology for simultaneous high-throughput analysis of proteins will be used as well as chemical imaging of protein solutions in microfluidic devices.

This project is an exciting piece of science with broad implications for our understanding of protein behaviour and stability. It builds upon leading collaborative research efforts of two teams that have applied FTIR spectroscopic imaging to key bioprocessing problems. The overall aim is to further develop applications of a novel imaging methodology for use in a wide range of industrial and academic settings.

Funding and Eligibility:

Applicants should have a BSc degree, at 2:1 level or better, and a Master’s degree, at Merit level or better, in physics/chemistry/biochemistry/chemical engineering or related discipline or an equivalent level of professional qualifications or experience. Knowledge and experience of spectroscopic methods (FTIR or Raman) and their applications to study proteins as well as microfluidics is desirable but not compulsory. Only UK and EU students who meet the BBSRC UK residency requirements are eligible to apply (minimum of three years of continuous residency in the UK immediately prior to the start of the PhD). Non-EU nationals are not eligible.

The studentship covers: (i) 4 years’ annual tax-free stipend at the standard Research Council rate, (ii) 4 years contribution towards research costs, and (iii) 4 years tuition fees at the UK/EU rate.

How to apply:

Further details on this project are available from principal supervisors Prof. Sergei G. Kazarian (s.kazarian@imperial.ac.uk) in the Department of Chemical Engineering (www.imperial.ac.uk/vsci) and Dr. Bernadette Byrne (b.byrne@imperial.ac.uk) in the Department of Life Sciences.

Further details about Imperial College and the Departments of Life Sciences and Chemical Engineering are available at www.imperial.ac.uk; http://www3.imperial.ac.uk/lifesciences; http://www3.imperial.ac.uk/chemicalengineering

Interested candidates should send their application to Prof. Sergei G. Kazarian (s.kazarian@imperial.ac.uk) by 10th April 2017, including a full curriculum vitae, and the names and contact details of two academic referees. The studentship is available to start in October 2017.