

Title: Researcher/Post-Doc in Modelling Physical Stability of Medicines: Multi-scale modelling and imaging of a swelling/shrinking porous medium (pharmaceutical tablets)

Application deadline: 4th October 2021

Starting date: November/December 2021

Employer/Location: CMAC is a world leading medicines manufacturing research centre at the University of Strathclyde (Glasgow, UK) that hosts a portfolio of collaborative research programmes aimed to transform the development and manufacture of medicines (www.cmac.ac.uk).

Project details: Building on our long standing partnerships with a wide range of pharmaceutical manufacturers, we are excited to announce a new Community for Analytical Measurement Science (CAMS, <https://cams-uk.co.uk>) project with Pfizer and AstraZeneca on the development of advanced digital tools for the prediction of the physical stability of pharmaceutical solid oral dosage forms.

This project aims to combine cutting-edge experimental methodologies (e.g. X-ray computed nanotomography, terahertz time-domain spectroscopy, optical coherence tomography) with multi-scale modelling (e.g. pore-scale modelling, cellular automata) approaches leading to innovative digital tools that are capable of predicting long-term changes of drug release kinetics. This will make a significant contribution towards the delivery of digitally enabled R&D, manufacturing and supply with benefits from shorter time to market, reduced cost, environmental impact and improved health.

Job details: We are currently seeking applicants for a Researcher based at the University of Strathclyde. This is a unique opportunity to help realise the next generation of development tools to accelerate and de-risk medicine development. You will work closely with experts from Pfizer and AstraZeneca and PhD students to deliver this exciting project. You will have a Degree in a relevant subject (Mechanical Engineering, Chemical Engineering, Chemistry, Physics, Pharmaceutical Sciences or related discipline) with appropriate experience in modelling and microstructural characterisation ideally in a materials area to develop the digitally-driven technologies for predicting physical stability of tablets.

Profile:

- Sufficient breadth or depth of specialist knowledge of approaches for modelling porous media.
- Knowledge of imaging methods and image processing approaches relevant for analysing microstructural characteristics of porous media.
- Ability to plan and organise workload.
- Ability to work with partners outwith the University and promote this research.
- Assist in the supervision of student projects.

Contact details: Submit your application through the online vacancy portal of the University of Strathclyde (<https://bit.ly/3nDNbOh>). Informal enquiries about the post can be directed to Dr Daniel Markl, PI, daniel.markl@strath.ac.uk.