CAMBRIDGE CARES CAMBRIDGE CENTRE FOR ADVANCED RESEARCH AND EDUCATION IN SINGAPORE LTD.

Research Fellow

Who are we?

We are the University of Cambridge presence in Singapore called Cambridge CARES, sponsored by the NRF CREATE program CAM.CREATE. CARES also hosts industry-funded and other agencies funded projects. Our team is comprised of world-class scientists and engineers working in a vibrant, fast-paced environment with great opportunities for knowledge and skills development.

CARES is a partner in the Pharma Innovation Programme Singapore (PIPS). The core partners of PIPS are: The Agency for Science, Technology and Research (A*Star), The National University of Singapore (NUS), the Nanyang Technological University (NTU), the Singapore Institute of Technology (SIT), and pharma companies GlaxoSmithKline (GSK), MSD International GmbH (Singapore branch), Pfizer Asia Pacific, as well as Syngenta.

Within PIPS, CARES is leading a project "**From Digital Twins to Real Time AI-supported Plant Operation**", which aims to develop an ontological representation of physical process models relevant to manufacture of pharmaceuticals, and link these models with a Knowledge Graph. This is a large project involving close collaboration of the groups of Profs. Alexei LAPKIN and Markus KRAFT in CARES and the group of Dr Lianlian JIANG in I2R A*STAR. This specific advertisement is for a position within the group of Prof. LAPKIN.

Who are we looking for?

We are looking to fill one vacancy of a Research Fellow with experience in process modelling and process development, preferably within fine chemistry/pharmaceuticals sectors. We are seeking a candidate with experience in developing chemical process models and in simulation. Specifically, experience in modelling processes related to manufacture of pharmaceuticals, such as multiphase batch and continuous synthetic chemistry reactions, crystallization, tableting, etc, using tools such as Matlab, gPROMS, Aspen Custom Modeller, or similar. An ideal candidate would also have prior lab experience in process development in fine chemistry, for example, development of a specific multi-phase chemical reaction (working with reactor systems, analytical instruments, control equipment, etc).

What skills do you have?

Working with process modelling environments such as gPROMS, Matlab, Aspen Custom Modeller or similar. Development of first principle models. Excellent knowledge of process modelling background and theory, such as unit operations, mass & heat transfer models, chemical reactor design, separation processes. Ideally, knowledge of OntoCAPE and process ontologies. Knowledge of Python and at least a basic knowledge of standard machine learning methods (classification, regression, BO).

When is position available and for how long?

The position is available immediately initially as a fixed-term 1 year contract with the end-date of 30 June 2025. The position will be offered subject to probationary period of three months.

What can we offer you?

- A stimulating working-environment with friendly, highly motivated colleagues.
- Opportunities to develop and implement new ideas in a creative environment.
- A competitive salary in line with your skills and experience.
- A comprehensive medical insurance cover as part of your employment.

Please note that this post is mainly based in the CREATE Tower at NUS University Town, Singapore.

To apply, please send your CV and cover letter (summarising the most relevant skills and experience that you have for the position) to https://talent.sage.hr/jobs/6a44bfd4-946f-4d1b-879e-31037e656488.

Informal enquiries could be sent to the academic lead of the project: Prof. Alexei Lapkin (aal35@cam.ac.uk).