

**ROYAL SOCIETY OF CHEMISTRY
PROCESS CHEMISTRY AND TECHNOLOGY GROUP**

STUDENT PLACEMENT OPPORTUNITY

Version 3
25 Aug 2020

INTRODUCTION

The Process Chemistry and Technology Group (PCTG) of the Royal Society of Chemistry (RSC) is offering one position for a student placement. This is intended to serve as a one-year industry placement for a chemistry or chemical engineering student at a UK university who is partway through his/her undergraduate course of study. The placement requires the student to support the work of the PCTG's Committee, and provides an opportunity to collaborate with one or more of the companies associated with the PCTG, thereby gaining exposure to a range of technical activities in the chemical industry.

OUTLINE OF THE PLACEMENT

The placement, starting in September 2020, will engage the student in some or all of the following projects. The student will be expected to contribute approximately 1,400 hours to the projects during the academic year 2020-21. More details on each project is given in the following section.

- Developing ProcTank, a process chemistry and technology knowledge repository under construction by the PCTG
- Supporting other PCTG projects such as organizing and managing conferences, symposia, webinars, workshops and site visits, updating the website (www.procchem.group), drafting newsletters, and engaging members through social media
- Supporting and shadowing chemical process safety related projects with xSeriCon, a Hong Kong-based process safety consultancy
- Supporting xSeriCon in its project to develop a waste plastic reprocessing facility. This will involve researching the state of the art in waste plastic reprocessing technology

The student will receive a bursary as follows:

- £6,000 from PCTG
- £6,000 from xSeriCon

Any necessary expenses such as travel and equipment will be reimbursed by PCTG or xSeriCon as appropriate.

Work will be mainly online from home, with extensive support from PCTG committee members. Travel within the UK and potentially overseas is a possibility, depending on project availability and the COVID-19 situation.

FURTHER DETAILS OF PROJECT REQUIREMENTS

ProcTank development

ProcTank (<https://www.procchem.group/proctank>) is a planned process chemistry and technology knowledge repository under construction by the PCTG. It is currently at an early stage of development.

First, the student will gather an initial batch of data to populate the repository. This will involve web searches and discussions with industry professionals and academics to obtain the required data.

Next, the database will be designed, and a specification prepared to enable development of the web portal for the repository.

The student will also support preparation of awareness-building materials such as enhancing the ProcTank webpage, writing articles for PCTG's newsletter, and reaching out to other media such as *Chemistry World* to promote ProcTank when ready for launch.

Shadowing xSeriCon's consultancy projects

xSeriCon (www.xsericon.com) conducts a range of chemical process safety consultancy projects for clients mainly located in East Asia and the Middle East. Where feasible, the student will be invited to shadow appropriate projects to gain exposure to the nature of chemical process development and process hazards analysis (PHA). Some project execution tasks will be provided, along with appropriate training, guidance and supervision. If the opportunity arises, the student may be invited to travel to a client's project location to participate in PHA workshops.

xSeriCon develops and markets process risk analysis software. Depending on the student's abilities and interests and project opportunities, the student may be able to use xSeriCon's software to execute project work, and/or contribute to the development and testing of the software.

Waste plastic reprocessing

xSeriCon is actively investigating the possibility of setting up a facility in East Asia to convert waste plastics into useful chemical products such as fuels and commodity chemicals for onward processing. xSeriCon has already conducted extensive research into the state of the industry, and gathered a significant body of background information on the technical feasibility of the project. This is a fast growing and rapidly evolving area of applied chemical technology.

The student will advance the project by collecting and analysing information from industry and academic players in the sector, and support the development of a detailed technical project plan in conjunction with xSeriCon staff. The aim is to complete a detailed feasibility study within the time span of the placement.

WHO IS THIS PLACEMENT SUITABLE FOR?

This placement will provide interesting and varied industry exposure in a range of active areas of chemistry and chemical engineering. It will be best suited to students with an

interest in the industrial application of chemistry. The role involves a great deal of outreach and engagement with professionals in the chemical sector, so confidence and good communication skills are essential. The work potentially involves a wide range of IT-related tasks, so the ideal student will have strong and varied computer skills and the ability to learn and apply new skills.

The student will ideally be based either in the UK or in Hong Kong. However, students based in other locations will also be considered.

For further discussions or more details, please contact Dr Peter Clarke, Managing Director of xSeriCon (peter.clarke@xsericon.com) or contact the PCTG via <https://www.procchem.group/contact>.

HOW TO APPLY

Please send the following to peter.clarke@xsericon.com on or before 25 September 2020:

- Your CV
- A sample of your recent written coursework
- A 200 word statement explaining why you are interested in this placement

All the information you provide will be treated in confidence, and used for the purposes of considering your application only.