
THE UNIVERSITY OF NOTTINGHAM Role Profile
--

Job Title:	Research Associate/Fellow in Flow-Biocatalysis
School/Department:	School of Chemistry and School of Life Sciences
Job Family and Level:	Research and Teaching Level 4 Training Grade/Level 4
Contract Status:	Fixed-term for a period of 21 months
Hours of Work:	Full-time (36.25 hours per week)
Location:	School of Chemistry
Reporting to:	Dr Francesca Paradisi and Dr Thorsten Allers

Purpose of the Role:

To perform original primary research and disseminate findings for an ongoing research project entitled "Halophilic enzymes in tandem flow reactions". The goal of this proposal is to assemble enzymatic systems to generate amines (and other valuable chemicals) from alcohols via carbonyl intermediates. Amines are key functional groups of numerous intermediates for pharmaceutical and agrochemical applications, and enzymatic synthesis offers a 'green' alternative to traditional methodologies.

To overcome the limitations of mesophilic enzymes such as low stability in organic solvents, the project will focus on halophilic biocatalysts that offer remarkable stability and excellent substrate scope. We are currently using two enzymes (an alcohol dehydrogenases and an amino transaminase) that are derived from halophilic and halo-adapted microbes. The enzymes are covalently immobilised on an epoxy-resin and tested for bioconversion in a flow reactor for continuous production of amines starting from alcohols.

The person appointed will join that research groups of Dr Francesca Paradisi and Dr Thorsten Allers, who have a track record of productive collaboration on halophilic enzymes. The person appointed will be expected to plan, conduct and analyse research in this area and will be responsible for writing up work for publication and presentation at scientific meetings.

Main Responsibilities	
1.	To plan and conduct primary research towards the goals of the research project. To analyse data, interpret reports, evaluate texts and bring new insights to the research area.
2.	To write up research work for publication and contribute to the dissemination of research outputs at scientific conferences. To assist in the dissemination of research outputs to the general public.
3.	To identify opportunities and assist in writing bids for research grant applications.
4.	To supervise undergraduate and postgraduate students projects, where these fall within the goals of the research project.
5.	To liaise with other members of the research groups of Drs Paradisi and Allers, and ensure the co-ordination of work and sharing of data generated.

Knowledge, Skills, Qualifications & Experience

	Essential	Desirable
Qualifications/ Education	<ul style="list-style-type: none">• PhD (or near completion) or equivalent in chemical biology or enzymology.	<ul style="list-style-type: none">• PhD with a strong emphasis on biocatalytic transformations.
Skills/Training	<ul style="list-style-type: none">• Demonstrable skills in research in enzymology, chemical biology, biochemistry area.• Outstanding skills in wide variety of laboratory techniques, including recombinant enzyme production and identification/characterization of organic molecules.• Ability to analyse data, interpret reports, evaluate and criticise texts and bring new insights.• Good communication skills, including the ability to communicate with clarity on complex information.• Ability to collaborate with others, both internally and externally.	<ul style="list-style-type: none">• Peer-reviewed scientific publication(s) in the subject area of PhD.• Previous experience in enzyme immobilization and flow biocatalysis• Previous success in gaining support for externally funded research projects.• Ability to creatively apply relevant research approaches, models, techniques and methods.
Experience	<ul style="list-style-type: none">• Practical experience of applying the specialist skills and approaches and techniques required for the role.• Experience in enzymatic techniques.	<ul style="list-style-type: none">• Experience of developing new approaches, models, techniques or methods in research area.