University of Nottingham
UK | CHINA | MALAYSIA

Role profile

Job title	Research Fellow	Job family and level	Research and Teaching Level 4
School/ Department	Life Sciences	Location	Cell Signalling Research Group

Purpose of role

The role will provide support to a new MRC programme grant that aims to determine how adenosine receptor subtypes form stable or transient oligomeric complexes in different cell types at endogenous levels of receptor expression, and how their expression levels, ligand-binding characteristics and propensity to form these complexes are altered by drugs, local inflammatory mediators and hypoxia.

The role holder will undertake advanced imaging and spectroscopy studies, including fluorescence correlation spectroscopy, and use nanobodies and NanoBRET/nanobody approaches to study adenosine receptor function in different cell types including human macrophages, stem-cell derived cardiomyocytes and fibroblasts.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	**% time per year**
1	Develop and carry out biophysical studies in living cells, using fluorescence correlation spectroscopy and photon counting histogram techniques, directed at investigating the molecular pharmacology of adenosine receptors within membrane microdomains and oligomeric complexes. Investigate the effect of different pharmacological agents on these receptors and undertake detailed analysis of the experimental data obtained using curve fitting and statistical analysis. Develop and carry out studies directed at determining the pharmacological properties of G Protein-Coupled Receptor (GPCR) complexes using nanobodies, FRET and BRET approaches to study ligand binding, signalling and protein-protein interactions. The postholder should have an excellent working knowledge of GPCR pharmacology and be able to conduct laboratory experiments with a good level of independence. The postholder should have a good background in basic molecular pharmacological, molecular biology and cell biology techniques and be able to supervise new staff and project students in related projects. The postholder will have previous experience of imaging-based approaches to study membrane proteins or receptors.	70%
2	Report experimental results to the main supervisors and participate in collaborative meetings and research with other members of the team. The	10%

	Postholder will also be expected to prepare draft manuscripts for publication.	
3	Participation in discussions of research projects and present and communicate findings to the scientific community via published papers, oral communications and poster presentations (at both national and international meetings).	10%
4	In addition to the research project, you will be expected to be a reliable team member by supporting some aspects of general day-to-day activities to ensure a smooth-running of the laboratory.	10%

This job description may be subject to revision following discussion with the person appointed and forms part of the contract of employment.

Person specification

	Essential	Desirable
Skills	• Possess good written and oral communication skills. • Good record keeping of data. • Good ability to prioritize, set and meet deadlines in relation to experimental protocols, analysis and interpretation of data. • Ability to plan, assemble relevant data and write scientific papers and abstracts for scientific conferences. • Ability to work independently and as part of a team.	
Knowledge and experience	• Good working knowledge of receptor pharmacology, data analysis and intracellular signalling cascades. • A proven track record of research with evidence of publications and communications. • Previous research experience of the molecular pharmacological characterisation of G protein coupled receptors m(GPCRs). • Previous experience of bioluminescence resonance energy transfer techniques (BRET). • Good experience of cell culture, transfection techniques and cell-base signalling assays.	• Experience in biochemistry and cell biology. • Previous molecular biology experience. • Previous experience of working with nanobodies. • Previous experience of working with stem-cell derived cardiomyocytes and human macrophages. • Previous experience of advanced imaging approaches (e.g. super-resolution imaging, fluorescence correlation spectroscopy, photon counting histogram analysis).
Qualifications, certification and training (relevant to role)	▪ PhD in molecular pharmacology or a relevant subject area.	• Membership of a relevant biological society. E.g. British Pharmcological Society, Biochemical Society.
Statutory, legal or special requirements		

The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

The University is a signatory of the Declaration on Research Assessment (DORA). As such we commit to focus on the scientific content of publications (where requested or provided as part of the recruitment and selection process) as a basis for review of quality, and consideration of value and impact of research conducted, rather than any proxy measures such as Journal Impact Factor.

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

Valuing people	Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
Taking ownership	Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
Forward thinking	Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
Professional pride	Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
Always inclusive	Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others