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| UNIVERSITY OF NOTTINGHAMRECRUITMENT ROLE PROFILE FORM |

**Job Title:** Research Fellow

**School/Department:** School of Chemistry

**Salary:** £28,982 - £37,768 per annum depending on qualifications and experience. Salary progression beyond this scale is subject to performance

**Job Family and Level:** Research & Teaching Level 4

**Contract Status:** Fixed-term for a period of 3 Years

**Hours of Work:**  Full-time (36.25 hours per week)

**Location:** Centre for Biomolecular Sciences (CBS), School of Veterinary Science and Medicine (SVSM), School of Life Sciences (SoLS)

**Reporting to:** Professor M Searle (PI - CBS), Dr. Kevin Gough (SVSM) and Dr. Rob Layfield (SoLS)

**The Purpose of the New Role:**

We require a highly motivated individual todevelop phage-display technologies to generate libraries of novel ubiquitin binding domains for chain selective ubiquitin recognition. We will employ a variety of structural and biophysical techniques to characterise these interactions and screen for biological function in vitro and in cell-based assays. The post will be split between three sites involving the three collaborating Schools (Sutton Bonington Campus (SVSM), University Park Campus (CBS) and QMC (SoLS)).

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|  | **Main Responsibilities**  | **% time per year** |
| 1. | To develop molecular biology and phage-display techniques to generate libraries of novel proteins (based in the SVSM at Sutton Bonington); responsibility for protein characterisation and functional screening (School of Life Sciences) | 40% |
| 2. | Use biophysical tools including NMR to study the structure and interactions of new protein molecules (based in the CBS on UP) | 30% |
| 2. | To liaise on a day-to-day basis with the other researchers (PDRAs and students) on the project and with the PI and collaborating colleagues on UP, in the QMC and at Sutton Bonington | 5% |
| 4. | To write reports, research papers and give presentations as appropriate for the development of the project | 5% |
| 5. | To assist the Research Supervisors in the training and supervision of PhD students and other researchers involved in the project | 10% |
| 6. | To undertake other duties commensurate with the post as requested by the Research Supervisors | 10% |

**Knowledge, Skills, Qualifications & Experience**

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|  | **Essential** | **Desirable** |
| **Qualifications/ Education** | * PhD or equivalent in Chemistry or Biochemistry
 | * Post-doctoral experience in one of the areas relevant to protein chemistry/biochemistry
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| **Skills/Training** | * Excellent protein biochemistry and molecular biology skills to clone, over-express and purify proteins
* Hands-on experience and knowledge of high-field NMR techniques and multi-dimensional NMR data analysis, applied to protein structures
* Skills in the use of biophysical methods (ITC and CD) for quantitative analysis of protein interactions
* Evidence of the capacity to write high quality reports and papers for publication and to present work effectively to a variety of professional and academic audiences at meetings and conferences
* Evidence of a strong ability to take a leading role in the development and execution of research projects
* The ability to assess and evaluate concepts/theories in order to develop original methodologies to problem solving appropriate to their area of scholarship
 | * Experience with phage display libraries, sequencing and bioinformatics
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| **Experience** | * In-depth subject knowledge in their areas of scholarship
* A published track-record in biophysical and structural studies of protein interactions at the molecular level in peer-reviewed journals (at a level commensurate with experience)
* A substantial research background of strong relevance to the aims of programme of work
* Evidence of good oral communication skills and experience with presenting research at scientific meetings
* Experience of effective laboratory management and leadership in adherence to safety and SOPs
* Experience with flexible independent working and the ability to work as part of a multi-disciplinary team; ability to show initiative
 | * Experience of the supervision of other members of staff (e.g. technicians, researchers), undergraduate and postgraduate students
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##### Decision Making

**i) taken independently by the role holder;**

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| * Project manage the planning, spend, and implementation of the project goals on a day to day basis. Decide on the design of experiments to achieve the desired outcomes. Bring through sufficient materials for detailed characterisation.
* Decide on the design and scope of structural and biophysical experiments (NMR and ITC etc.) including the booking and setting up of instrumentation for data acquisition, off-line processing and interpretation and dissemination of data to collaborators.
* To give guidance, support and advice to students on research related work including PhD students. To order essential requirements in a timely manner. Prepare presentations and reports for internal review. Prepare drafts and revisions of research output.
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**ii) taken in collaboration with others;**

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| * Participate in decision making processes in planning the project direction and in the analysis and interpretation of data through regular meetings held with supervisors and other involved researchers (PDRAs and PhD students).
* Agree what knowledge to draw on and how to apply it to develop new intellectual understanding. Agree which aspects of the research findings to include in presentations or publications and how to convey the findings.
* Assist in co-managing the laboratory environment; ensure that all safety procedures and arrangements for laboratory based experiments are followed by co-researchers in accordance with SOPs and COSHH guidelines.
* Supervise/co-supervise the training of research students and other co-researchers.
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**iii) referred to the appropriate line manager by the role holder.**

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| * Purchase of equipment relevant to the project (MS).
* Any major change to research plan or strategy (MS, KG, RL)
* Planning of collaborative work to support other users of the facilities (MS, KG, RL)
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**Additional Information**

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| This post is administered by the University of Nottingham but split between the VET School site at Sutton Bonington (Kevin Gough), the Centre for Biomolecular Sciences on UP (Mark Searle) and School of Life Sciences in the QMC (Rob Layfield). The project is funded by the Leverhulme Trust for a fixed term of 3 years. |