

<b>Job Description &amp; Person Specification</b>	
<b>Post title:</b> Postdoctoral Research Associate in NMR-based Omics Approaches	<b>Post No:</b> 010759
<b>School or Department:</b> MTIF	<b>Date created:</b> 06/08/2021
<b>Grade:</b> G	<b>Hours per week:</b> 37
<b>Fixed term end date</b> (if applicable): 12 months initial period with potential for extension	
<b>Other requirements of the role:</b>	
<b>Immediate line manager:</b> Professor Philippe Wilson	
<b>Title &amp; Grade of posts line managed by postholder:</b> Postgraduates, depending on experience	

**Job purpose:** This role will involve responsibility for a recent high-profile externally-funded research project to determine authenticity of food and food products through benchtop NMR omics approaches. The Wilson group covers a range of areas spanning human, animal and environmental medicine and combining interdisciplinary approaches to deliver clinically-actionable solutions to real-world problems. Our new colleague will be responsible for delivering the experimental and data analytics workflows for our food authenticity research. You will cover the spectrum of our portfolio including the analysis of food, and NMR spectral data and the creation of novel models through to standalone informatics projects at the chemical biology interface. You will work with the senior Research Fellow/Group Manager to cascade train new colleagues and postgraduates to ensure a high level of data analysis skills in the group. Additionally, you will form an integral part of grant and manuscript preparation as part of the senior team within the group. This post is funded by a significant industrial research grant to Prof Wilson and therefore liaising with commercial and industrial stakeholders will form part of this role.

**Principal duties and responsibilities:** The role will encompass all of the following, but the balance of duties and responsibilities will be determined in discussion with the post holder's line manager:

#### A) Subject Area

1. **NMR spectroscopy and 'omics' techniques**
2. **Data Science for chemistry and biology**
3. **Analytical chemistry**
4. **Multivariate data analysis**

#### B) Principal Duties

1. Undertake individual or joint research on NMR analysis as applied to projects within the Wilson Group, record and write up the results. This may involve, for example, undertaking and recording the outcome of experiments & field work, the development of questionnaires, conducting of surveys, literature or database searches as appropriate.
2. Analyse and interpret the results of this research and generate original ideas based on these outcomes, preparing reports for the project team as necessary.
3. Produce research reports and publications, preparing papers and presenting the information to stakeholders, such as steering groups, as appropriate.
4. Contribute to research plans as appropriate; communicating with internal and external contacts as necessary.
5. Keep knowledge and skills up the required level by engaging in internal and externally based CPD, making both internal and external contacts for collaboration purposes.

6. Ensure that all resources used are correctly recorded and documented, files are kept up to date and data accuracy is maintained.
7. Attend and contribute to meetings as appropriate.
8. Assist in the supervision of student projects and contribute to courses, particularly aspects such as research techniques or approaches or demonstration of equipment as appropriate. This assistance may also take the form of tutorials or assistance in practical work.
9. Provide guidance and supervision where appropriate to support staff and students assisting with research.

**N.B.** The post-holder may be required to undertake any other duties which may reasonably be required as within the nature of the duties and responsibilities of the post as defined, subject to the proviso that normally any changes of a permanent nature shall be incorporated into the job description in specific terms.

## Personal Attributes

Attributes	Essential	Desirable
<b>Knowledge</b>	<p>A thorough understanding of standard research techniques and methods within NMR spectroscopy as applied to food chemistry, molecular biology and cheminformatics approaches., and the ability to develop skills further in this area</p> <p>Expertise and understanding of current technological developments and the deployment of techniques within the field</p> <p>Understanding of other equipment and machinery within the school</p> <p>Expertise in relevant software and IT</p>	<p>An understanding of omics techniques for biofluid and food analysis in a Higher Education context</p> <p>Knowledge of research and funding opportunities</p>
<b>Skills</b>	<p>Ability to collate, interpret and analyse complex data</p> <p>Ability to explain complex ideas clearly using terminology appropriate to the audience</p> <p>Bibliographic research skills (including use of electronic library resources)</p> <p>Ability to demonstrate specific equipment and techniques specifically related to data science if required</p> <p>Ability to deal with problems which may affect the achievement of research objectives and deadlines</p>	<p>Systematic approach to managing information.</p>
<b>Experience</b>	<p>Significant relevant work experience in a research environment, utilising standard research methods and techniques</p> <p>Experience of report writing</p> <p>Experience of data collection, analysis and interpretation</p>	
<b>Qualifications</b>	<p>Undergraduate and Masters or equivalent in data science, bioinformatics, computer science or any other relevant discipline</p>	<p>PhD in a relevant discipline</p> <p>Membership of relevant bodies</p>

## Competencies

Essential Competencies	Desirable Competencies
<p><b>Communicating and Influencing (Level 2)</b> Communicates information effectively to a wide range of diverse stakeholders, influencing events.</p> <p><b>Making informed decisions (Level 2)</b> Uses analyses, reports and data to test the validity of options and assess risk before taking decisions. Ensures optimum decisions are taken.</p> <p><b>Organisation and Delivery (Level 2)</b> Plans time taking account of organisational priorities and other colleagues' work roles to achieve results</p> <p><b>Team working (Level 2)</b> Contributes to team development, seeking and testing improvements to the team's outputs/service</p>	

[N.B All competencies should be drawn from the NTU Competency Framework which can be found [here](#)]

**Job Description and Person Specification created by: Prof Philippe Wilson, Professor of One Health**

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