



<b>Job title</b>	Surface Science Research Associate/Fellow (Title will be 'Research Associate' where an appointment is made before PhD is completed)	<b>Job family and level</b>	Research & Teaching Level 4 (Appointment will be Level 4 Career Training Grade where an appointment is made before PhD has been completed)
<b>School/ Department</b>	School of Chemistry	<b>Location</b>	Nanoscale and Microscale Research Centre (nmRC), Cripps South Building, University Park

## Purpose of role

The Surface Science Research Associate/Fellow will manage and further develop the X-Ray Photoelectron Spectroscopy (XPS) facility at the Nanoscale and Microscale Research Centre (nmRC), an interdisciplinary research facility dedicated to supporting and promoting world-leading nanoscience and materials characterisation.

You will develop non-standard solutions for research challenges presented by University of Nottingham researchers and external users, thus giving the nmRC a leading edge in this field. The nmRC also hosts a 3D OrbiSIMS instrument, the first of its kind in an academic setting, you will be able to develop skills with this instrument to complement and enhance your surface science knowledge and experience.

	<b>Main responsibilities</b> (Primary accountabilities and responsibilities expected to fulfil the role)	<b>% time per year</b>
1	<b>To develop the XPS research area within the nmRC by:</b> <ul style="list-style-type: none"> <li>▪ Discussing with UoN researchers and external users their needs for XPS experiments.</li> <li>▪ Developing and optimising experimental procedures for different materials and structures.</li> <li>▪ Performing XPS measurements and providing experimental data in a timely manner.</li> <li>▪ Assisting with data interpretation.</li> <li>▪ Performing services rendered work for external clients as required.</li> </ul>	40 %
2	<b>To plan and manage the operations of the XPS facility including:</b> <ul style="list-style-type: none"> <li>• Technical maintenance of XPS instrumentation, working closely with instrument manufacturers and workshops.</li> <li>• Ensuring efficient usage of the XPS facility by maintaining a booking system.</li> <li>• Contribute to new and existing policies regarding health and safety including the delivery of training and monitoring adherence.</li> </ul>	10 %

	<ul style="list-style-type: none"> <li>• Training researchers on surface analysis and/or XPS theory and hands on practical training.</li> </ul>	
3	<p><b>To support and develop research relating to the 3D OrbiSIMS, including:</b></p> <ul style="list-style-type: none"> <li>▪ Discussing with UoN researchers and external users their needs for 3D OrbiSIMS experiments.</li> <li>▪ Developing and optimising experimental procedures for different materials and structures.</li> <li>▪ Assisting with data interpretation.</li> </ul>	20%
4	<p><b>To contribute to the development of research projects, grant applications, publication of journal articles and other laboratory activities. Participate in and develop external networks, nationally &amp; internationally. Monitoring research outputs and writing reports including the following tasks:</b></p> <ul style="list-style-type: none"> <li>▪ Gathering information about research outputs generated from the XPS facility, including publications, research grants, new collaborations, and industrial engagement.</li> <li>▪ Monitoring financial outputs of the XPS facility, including income generated from access charges and services rendered work.</li> </ul>	20%
5	To contribute to the wider nmRC research strategy, collaborating with other members of the nmRC team to deliver correlative analysis on a wide range of materials investigations.	5%
6	To maintain a safe working environment for all users of the XPS facility and oversee Health and Safety (for example, maintain safety records/risk assessments etc). To keep up to date with regulations and work closely with the nmRC Safety Officer.	5%

## Person specification

	<b>Essential</b>	<b>Desirable</b>
<b>Skills</b>	<ul style="list-style-type: none"> <li>▪ Excellent oral and written communication skills, including the ability to communicate with clarity on complex information.</li> <li>▪ Ability to creatively apply relevant research approaches, models, techniques and methods.</li> <li>▪ Ability to assess and organise resource requirements and deploy effectively.</li> <li>▪ Ability to build relationships and collaborate with others, both internally and externally.</li> <li>▪ Ability to manage/supervise researchers within a safe working environment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Technical skills in maintaining ultrahigh vacuum equipment and familiarity with ancillary support equipment (water chillers, vacuum pumps).</li> </ul>
<b>Knowledge and experience</b>	<ul style="list-style-type: none"> <li>▪ Proven technical specialist knowledge and understanding in own technical area/s.</li> <li>▪ A strong track record of performing XPS experiments and analysing the resulting data (including interpreting data and peak fitting).</li> <li>▪ In-depth knowledge of surface science analysis.</li> <li>▪ Experience working with ultrahigh vacuum instruments.</li> <li>▪ Experience assisting and training researchers.</li> <li>▪ Significant proven people and time management experience.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Familiarity with KRATOS XPS instrumentation (Kratos Axis Ultra and Vision II software).</li> <li>▪ Good working knowledge of CasaXPS</li> <li>▪ Experience managing research instrumentation.</li> <li>▪ Previous success in gaining support for externally funded research projects.</li> <li>▪ Experience of developing new approaches, models, techniques or methods in research area.</li> </ul>
<b>Qualifications, certification and training (relevant to role)</b>	<ul style="list-style-type: none"> <li>▪ A first or upper-second class honours degree in a physical science or engineering.</li> <li>▪ PhD (or near completion) or equivalent in relevant subject area or the equivalent in professional qualifications and experience in research area.</li> </ul>	<ul style="list-style-type: none"> <li>▪ A trained user of multiple XPS systems.</li> </ul>
<b>Statutory, legal or special requirements</b>		<ul style="list-style-type: none"> <li>• Membership of a professional organisation.</li> </ul>



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.

## 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 always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.
- Taking ownership** Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.
- Forward thinking** Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.
- Professional pride** Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.
- Always inclusive** Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

## Key relationships with others

