



Job title	Research Fellow in Light Microscopy (Title will be 'Research Associate' where an appointment is made before PhD is completed)	Job family and level	Research and Teaching Level 4 (Appointment will be Level 4 Career training grade where an appointment is made before PhD has been completed)
School/ Department	Nanoscale and Microscale Research Centre (nmRC)	Location	Nanoscale and Microscale Research Centre (nmRC), Cripps South Building, University Park, Nottingham, NG7 2RD

Purpose of role

We are seeking a Research Fellow to join a collaborative multidisciplinary team working to develop light microscopy based correlative approaches for materials imaging and analyses. The role is based within the Nanoscale Microscale Research Centre (nmRC), an inter-disciplinary facility dedicated to supporting and promoting world-leading nanoscience and materials characterisation. The nmRC is a hub for state-of-the-art facilities and the allied expertise needed for materials imaging, chemical imaging, compositional analysis and nanofabrication.

The primary remit is to drive and deliver world-leading imaging and analysis of soft, organic and/or hydrated materials (including biological, pharmaceutical and histological specimens) to enable new research directions within the University of Nottingham. To do so, the role will lead the operation of three recently procured confocal laser scanning microscopes at the nmRC plus associated sample preparation techniques that enable analysis of samples in their most solvated, non-fixed states. (www.nottingham.ac.uk/nmrc). A key focus will be on establishing methodologies for combinatorial and synergistic analysis of such materials between light microscopy and techniques such as electron microscopy, atomic force microscopy, and mass spectrometry imaging.

The Research Fellow must have good knowledge and practical skills of the imaging of biological/organic materials at the micro/nano-scale and an understanding of current limitations of these techniques. In particular, the Research Fellow will require skills in preparing biological/organic or soft matter samples for imaging and analysis within a biosafety level 2 environment: essential to develop methods and innovate solutions to the challenges presented by internal and external users as necessary to place the nmRC at the forefront of this field.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	Research Responsibilities: <ul style="list-style-type: none"> To plan and conduct research using recognised and new (non-standard) approaches, methodologies, and techniques within the research area of nanoscale correlative imaging and analysis. 	60%

	<ul style="list-style-type: none"> • To identify opportunities and assist in the writing of research grant applications. To prepare proposals and applications to both external and/or internal bodies for funding, contractual or accreditation purposes. • To apply new methodologies in light microscopy to a range of materials and train researchers in the application of native state imaging with optical microscopy techniques. • To analyse and illuminate data, interpret results, evaluate existing literature, and bring new insights to the research area. 	
2	<p>Engagement, Communication and Continuation Responsibilities:</p> <ul style="list-style-type: none"> • To write up research work for publication and/or contribute to its dissemination at national/international conferences, resulting in successful research outputs. • To build relationships with both internal and external contacts to exchange information, to form relationships for future collaborations and identify potential sources of funds and/or opportunities for collaboration. • To support the co-ordination and functional operation of a biosafety level 2 laboratory, ensuring compliance with health and safety policy and protocol. • To utilise and contribute to organising research resources and facilities, laboratories, and workshops, as appropriate. 	30%
3	<p>Teach, supervise, examine and personal tutoring:</p> <ul style="list-style-type: none"> • To provide support, guidance, and supervision to other staff, where appropriate and applicable. 	10%
4	<p>Other:</p> <ul style="list-style-type: none"> • Any other duties appropriate to the grade and level of the role 	N/A

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> • Proven ability in innovative and effective experimental research / characterisation of biological or related materials. • Excellent oral and written communication skills, including the ability to communicate with clarity on complex information and write to a publishable standard. • High analytical ability to analyse and illuminate data and interpret results. • Excellent problem-solving skills. • Excellent IT and organisational skills. • Ability to translate and apply relevant research approaches, models, techniques, and methods as evidenced by peer-reviewed publications commensurate with career stage. • Ability to build relationships and collaborate with others, both internally and externally. • Ability to assess and organise resource requirements and deploy effectively. 	
Knowledge and experience	<ul style="list-style-type: none"> • Significant knowledge and experience of preparing biological (or related) samples for image analysis (e.g. fixing, resin embedding and sectioning of samples). • Knowledge and practical experience of confocal laser scanning microscopy. • Knowledge and experience of working to and documenting health and safety standards and operational protocols pertaining to biological analyses. • Well organised and self-motivated, with the ability to manage the day-to-day running of projects, identify 	<ul style="list-style-type: none"> • Knowledge and practical experience of electron microscopy techniques such as SEM and TEM. • Knowledge and practical experience of correlative light and electron microscopy (CLEM) • Experience of cryogenic imaging and sample preparation (e.g. cryo-confocal use, high pressure freezer, cryo-ultramicrotome). • An understanding and working knowledge of biosafety level 2 and 3 laboratory requirements. • Previous success in gaining support for externally funded research projects.

	<p>research objectives and carry out appropriate research activities within a given timescale.</p> <ul style="list-style-type: none"> • Experience in training students and/or researchers. 	<ul style="list-style-type: none"> • Experience in managing research equipment and/or laboratory space. • A strong track record in collaborative multi- and interdisciplinary research. • A good publication record in international peer-reviewed journals, commensurate with stage of career.
<p>Qualifications, certification and training (relevant to role)</p>	<ul style="list-style-type: none"> • A first or upper-second class honours degree in a physical, life science or related discipline. • PhD submitted (nearly submitted is acceptable) or awarded in an area related to life sciences / pharmacy / biomedical engineering. 	<ul style="list-style-type: none"> • A PhD in an area related to the imaging and characterisation of biological structures such as cells and tissues.



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

