

## Job Description

Please complete all accessible boxes and refer to the guidance on writing Job Descriptions

<b>Position Details</b>	
<b>Faculty/Professional Support Service</b>	[ Science and Engineering ]
<b>School/Department</b>	[School of Science and the Environment ]
<b>Division/Section/Unit</b>	[Chemistry and Environmental Science ]
<b>Job Title</b>	[Research Associate ]
<b>Vacancy No</b>	[Recruitment Team]
<b>Grade</b>	[Grade 7 ]
<b>Hours of Work</b>	[35 hours per week ]
<b>Contract Duration (Perm/Fixed Term)</b>	[9 months starting 01/04/2018 ]
<b>Reports To (Job Title)</b>	[Dr Marloes Peeters (PI) and Adrian Watson (Head of Division) ]
<b>Responsible For (Job Title)</b>	[n/a ]

<b>Principal Accountabilities</b>
<p>[The post holder will undertake research in the field of thermal biosensors (using high affinity polymeric nanoparticles) by preparing, conducting, and recording the outcome of experimental laboratory work.</p> <p>Work closely with senior research staff to analyse and disseminate research findings through relevant journals, conferences, and seminars, in order to further the institution's standing in the Higher Education and research community and contribute to the development of new areas in the field of biosensors (particularly using nanoparticles and synthetic recognition elements).</p> <p>Take responsibility for the management of discreet research projects as directed by the project co-ordinator. ]</p>

## Key Tasks

Project : Cardiovascular disease (CVD) is the main cause of death in Western countries, with an estimated annual cost of £19 billion to the UK economy. This project will investigate the development of novel thermal sensors to determine cardiac biomarker levels, using low-cost and easy to operate thermal sensors.

We will build on our recent work on high affinity nanoparticles for specific proteins [Canfarotta et al., *Nanoscale*, 2018, DOI:10.1039/C7NR07785H) to troponin and other novel biomarkers including H-FABP and ST2. These nanoparticles will then be functionalized onto sensors and measured with patented thermal technology that have previously been developed. The candidate will analyse clinical samples and benchmark thermal detection to current state-of-the-art.

Excellent laboratory skills and background in polymer/organic synthesis are essential. The candidate must be familiar with reactions under inert atmosphere and work with technical equipment such as NMR, HPLC.

The project requires a candidate read and able to work independently after training in the thermal equipment of Dr Peeters is received.

Skills and experience in the field of polymer synthesis and sensors will be beneficial.

Candidate must be able to work in a hazardous environment (organic chemistry laboratory) and engage with the MMU safety policy, e.g. wear protective clothing and safety glasses always in the laboratory.

Plan and prioritise own day to day work and resources to achieve agreed research objectives, leading the work of small teams of research assistants and/or research students as required.

Undertake quality research and detailed analysis, and present findings to appropriate internal and external groups, such as research forums, conferences, or seminars, as required.

Write up results of own research and prepare for presentation to research team and relevant stakeholders.

Use initiative and judgement to develop appropriate techniques in order to facilitate research work and resolve problems affecting the achievement of objectives and deadlines.

### Liaison and Networking

Contribute to the dissemination of research findings through journals, conferences and seminars, in order to further the institution's standing in the HE and research community.

Participate in the development of internal and external partnerships and networks in order to disseminate information, share best practice, generate income, establish opportunities for collaborative work, and to enhance the reputation of the University.

Work with partners and external agencies on collaborative projects that benefit both the department and the Faculty.

### *Teaching Support*

Supervise the work/projects of taught postgraduate and/or research students as required and provide training on techniques appropriate to the role.

Contribute to teaching support via demonstration of practical methods or operation equipment to undergraduate, masters and/or research students as appropriate.

### *Service Provision*

Keep relevant stakeholders updated on progress, and be responsible for exploring their needs, and acting on feedback, in order to ensure that research delivers against their requirements.

Collaborate with senior academic staff to organise, manage and carry out appropriate research.

Respond to enquiries and requests for information from potential students, academic staff from other HE institutions, and relevant stakeholders, when required.

Proactively and effectively engage with quality assurance procedures to ensure that University standards are upheld.

### *Teamworking*

Actively participate as a member of the research team, providing mutual support to colleagues to achieve successful completion of projects.

Attend Faculty, Department and Programme meetings/boards as appropriate and proactively contribute to decision making.

Introduce new starters to the area, giving training on basic skills and activities to assist their induction to the team.

Guide and support research assistants and other members of staff within the department in areas of expertise e.g. in undertaking research and writing up papers for publication. |

## Special Features

N/a

## Miscellaneous

You have a legal duty, so far as is reasonably practicable, to ensure that you do not endanger yourself or anyone else by your acts or omissions. In addition you must cooperate with the University on health and safety matters and must not interfere or misuse anything provided for health, safety and welfare purposes.

You are responsible for applying the University's Equal Opportunities Policy in your own area of responsibility and in your general conduct.

You have a responsibility to promote high levels of customer care within your own areas of work.

You are expected to co-operate with the PDR process, engaging in the setting of objectives in order to assist in the monitoring of performance and the development of the individual.

Such other relevant duties commensurate with the grade of the post as may be assigned by the Manager in agreement with you. Such agreement should not be unreasonably withheld.

You may be required to undertake a specific Health & Safety role, commensurate with your grade, to support the University in meeting its statutory Health & Safety obligations. This could include acting as a DSE Assessor, First Aider, Fire Marshall or Departmental Safety Co-ordinator. The allocation of such roles will be subject to the provision of appropriate training and assessment of competence.

You may, with reasonable notice, be required to work at any of the Manchester Metropolitan University sites.

You have the responsibility to engage with the University's commitment to Environmental Sustainability in order to reduce its waste, energy consumption and carbon footprint.

You have the responsibility to engage with the University's commitment to delivering value for money services that optimise the use of resources and therefore should consider this when undertaking all duties and aspects of your role.

## Review

This is a description of the job at the time of issue. It is the University's practice periodically to review and update job descriptions to ensure that they accurately reflect the current nature of the

job and requirements of the University and to incorporate reasonable changes where required, in consultation with the job holder.



Attributes		Item	Relevant Criteria	Rank
1	Skills & Abilities	1.1	Ability to synthesise complex data from different sources and communicate findings orally and via written reports and articles for a range of diverse audiences.	E
		1.2	Ability to use initiative, creativity and judgement to develop appropriate approaches in order to further research.	E
		1.3	Ability to lead the work of a research team, co-ordinating effort and resources.	D
2	General & Specialist Knowledge	2.1	Proficiency in the application of relevant equipment, software and techniques such as NMR, HPLC and working under inert atmosphere.	E
		2.2	Possess sufficient breadth or depth of polymer chemistry and nanoparticle synthesis [to work within established research programmes.	E
3	Education & Training	3.1	Hold, or be undertaking and working towards a doctoral level qualification; evidence of continuous professional development in the field of Chemistry or a materials science related area.	E
		3.2	[PhD degree in a relevant subject related to Chemistry or a materials science degree	D
4	Relevant Experience	4.1	Research experience in the field of [organic synthesis and/or polymer/nanoparticle synthesis], which should include:	E

HR Only

		4.2	<ul style="list-style-type: none"> <li>making a demonstrable, independent contribution to projects</li> <li>preparing written reports of results</li> </ul> <p>Additional research experience, including:</p> <ul style="list-style-type: none"> <li>building relationships, networks and partnerships with internal and external contacts</li> <li>presenting at national and/or international research meetings</li> <li>preparing funding proposals and applications to external bodies</li> <li>supervising student work and providing appropriate support and feedback</li> </ul>	D
5	Special Requirements	5.1	Not specific requirements	

<b>Date of Revision</b>		
<b>Key</b>	<b>Identification Method</b>	<b>A</b>
		<b>I</b>
		<b>T</b>
		<b>C</b>
		<b>P</b>
		<b>G</b>
	<b>Rank</b>	<b>E</b>
		<b>D</b>