

THE UNIVERSITY OF MANCHESTER  
PARTICULARS OF APPOINTMENT  
FACULTY OF SCIENCE & ENGINEERING  
SCHOOL OF ENGINEERING  
DEPARTMENT OF CHEMICAL ENGINEERING  
RESEARCH ASSOCIATE  
VACANCY REF: SAE-031306

**Salary:** Grade 6, £37,694 to £46,049 per annum depending on relevant experience

**Hours:** Full time

**Duration:** Fixed term available for 2 years 5 months

**Location:** Oxford Road, Manchester

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**Enquiries about the vacancy, shortlisting and interviews:**

Name: Aline Miller

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**Background**

Applications are invited for a Research Associate to work on an exciting, materials chemistry project and play a leading role in the design and development of revolutionary treatments that will improve the standard of care in the targeted deliver of therapeutics. This is an excellent opportunity for a recent PhD graduate in material sciences, chemical engineering or related discipline, with a maximum of up to ~3 years relevant R&D experience. The role will appeal to someone proficient in the design and characterisation of self-assembling hydrogel or elastomer materials, ideally for regenerative medicine applications, with skills in various *in vitro* analytical and characterisation techniques. The candidate will work within the [Polymers and Peptides Research Group](#) based within the [Manchester Institute of Biotechnology](#).

**About the Role**

As part of our multi-disciplinary R&D team, you will be responsible for the design, characterisation and testing of hydrogel and multi-block copolymers / copolypeptides materials for drug/cell delivery wound healing, cell culture and tissue engineering applications. Work will focus predominantly on the synthesis, using biotechnology approaches, and formulation of self-assembling peptide-based

materials, hydrogels and multi block co-polypeptides. You will then go onto exploring the potential use of the materials for biomedical and biotechnological application e.g.: control kinetics of therapeutic release, material degradation, fine tuning the chemistry of building blocks, hydrogel composition and properties. In this role you will work closely within our materials, pharmacy and clinical collaborators to explore not only new materials and their physical properties, but also their early application and adoption potential, with a view to moving selected hydrogels along the TRLs. In return, we will provide you with the opportunity to develop your research, technical and leadership skills and gain invaluable experience to develop your scientific and commercial expertise.

The School/Department is strongly committed to promoting equality and diversity, including the Athena SWAN charter for gender equality in higher education. The School/Department holds a Bronze Award and the University a Silver Award for their good practice in relation to gender; including flexible working arrangements, family-friendly policies, and support to allow staff to achieve a good work-life balance. We positively welcome applications from women for this post. All appointments will always be made on merit.

Click here for further information about the [Department of Chemical Engineering](#) or the [Manchester Institute of Biotechnology](#)

#### **Key Responsibilities, Accountabilities or Duties**

- Synthesise self-assembling peptide-based materials using biotechnology approaches
- Design, make and characterise a range of self-assembling peptide-based materials: structure properties correlations.
- Test a range of self-assembling peptide-based materials to incorporate and deliver therapeutics.
- Develop research objectives and direction for own research, with the assistance of a mentor if required.
- Use creativity to analyse and interpret research data and draw conclusions on the outcomes.
- Use research resources, laboratories and workshops as appropriate and retain accurate and detailed laboratory records.
- Write up research work for project reports, regular group presentations and for high impact publication.
- Contribute to collaborative research strategy direction and decision making with colleagues in areas of research
- Be involved in the supervision of PhD and Master level projects and assist in project direction and in the development of student research skills.
- Continually update knowledge and understanding in field or specialism.
- Translate knowledge of advances in the subject area into research activity.
- Communicate complex information, orally, in writing and electronically.
- Attend and contribute to relevant meetings.
- Balance with help the competing pressures of research and administrative demands and deadlines.
- Be aware of the risks in the work environment and their potential impact on their own work and that of others.

### **Person Specification**

#### **Essential:**

- Have, or be about to obtain, a relevant PhD (or equivalent)
- Specialist knowledge in the science of self-assembling peptides
- Specialist knowledge in the design, characterisation and application of hydrogel or elastomeric materials
- Experience in research methods and techniques to soft materials, including oscillatory rheology, spectroscopic, microscopic and scattering methodologies
- Appreciation of in vitro pharmacokinetic, efficacy and safety evaluation of materials
- Some experience of cell culture, ideally for therapeutic efficacy and toxicity studies
- Excellent communication and interpersonal skills
- Excellent time management and organisational skills
- Ability to work independently and as part of a team
- Ability to liaise confidently and effectively with a range of individuals
- Flexible approach to dealing with research problems as they arise
- Willingness to learn and develop
- Ability to present in both written and oral publications
- Ability to meet deadlines
- The ability to evaluate complex data
- Ability to contribute to broader management and administrative processes
- Ability to assess and organise resources
- Understand equal opportunity issues as they may impact on areas of research content