

## Candidate Information

<b>Position:</b>	Research Fellow
<b>School/Department:</b>	School of Pharmacy
<b>Reference:</b>	21/109295
<b>Closing Date:</b>	Monday 29 November 2021
<b>Salary:</b>	£34,304 - £40,927 per annum.
<b>Anticipated Interview Date:</b>	Wednesday 15 December 2021
<b>Duration:</b>	12 months

### JOB PURPOSE:

To be an active member of the Pharmaceutical Engineering research team assisting in the technological development and commercial exploitation of drug loaded surgical sutures for improved post-surgical wound care and management. To assist in the planning and delivery of research activity so that the overall research objectives of the project are met.

### MAJOR DUTIES:

1. Design, develop, prepare and fully evaluate innovative prototype surgical sutures loaded with active ingredients in the remit of the project and with the aid of the project PI. Product evaluations may include texture analysis, thermal analyses, spectroscopic analyses, suture characteristics (memory, knot security, coefficient of friction), drug release testing, biodegradation profile, antimicrobial effectiveness and, ex-vivo permeation studies.
2. Design, develop and refine formulations, processing parameters and analytical methods in order to obtain reliable data.
3. Establish optimal design and processing space using multivariate analysis to assist process scale up (bench-to-pilot).
4. Present regular progress reports on research to members of the research group or to external audiences, to disseminate and publicise research findings.
5. Prepare documentation for meetings with the University's commercial development team and external (both industrial and academic) collaborators.
6. Prepare, in consultation with supervisor, material for publication in national and international journals and presentations at international conferences, tradeshows, etc.
7. Assist supervisor in the preparation of funding proposals, submissions to pharmaceutical/medical devices companies and applications to external bodies.
8. Liaise on a regular basis with colleagues and students. Build internal contacts and participate in internal networks for the exchange of information and to form relationships for future collaboration.
9. Assist in the establishment of cross-sector knowledge-related collaborations and networking.
10. Carry out routine administrative tasks associated with the research project to ensure that the project is completed on time and within budget. These might include organisation of project meetings and documentation, financial control, risk assessment of research activities.
11. Carry out occasional undergraduate supervision, demonstrating or lecturing duties within the post holder's area of expertise and under the direct guidance of a member of academic staff.
12. Read academic papers, journals and textbooks to keep abreast of developments in own specialism and related disciplines. Develop a literature base.

### ESSENTIAL CRITERIA:

1. Applicants must have a degree in Pharmacy, Pharmaceutics, Pharmaceutical Science, Pharmaceutical Engineering, Chemistry, Chemical Engineering, or a closely-related discipline (Minimum standard 2.1).
2. Have, or about to obtain, a PhD in pharmaceutical sciences, pharmaceutics, pharmaceutical technology, or pharmaceutical engineering.
3. Minimum of three years recent relevant research experience.

4. Recent, relevant, experience in formulation development, pharmaceutical analysis (including thermal analyses, spectroscopic analyses, HPLC).
5. Demonstrable experience of preparing materials for publication in international scientific journals.
6. Demonstrable experience of preparing materials for dissemination at national and/or international conferences.
7. Ability to undertake administrative tasks relevant to the research.
8. Demonstrable ability to coordinate with members of the research group to facilitate progress of work.
9. Proven ability to liaise with external collaborators and sponsors.
10. Practical problem-solving skills, independence of thought and initiative.
11. Demonstrable ability to present scientific arguments and data in a clear, concise and confident manner in both written and oral formats.
12. Able to work in a disciplined manner within a team environment.

**DESIRABLE CRITERIA:**

1. PhD with specific emphasis on drug delivery platforms (in particular, drug-loaded medical devices).
2. Knowledge or experience of hot-melt extrusion or hot-melt spinning.
3. Knowledge of multicomponent pharmaceutical materials.
4. Knowledge of multicomponent phase diagram construction.
5. Knowledge or experience of eutectic systems, deep eutectic systems and/or therapeutic deep eutectic systems.
6. Knowledge of drug-eluting or drug-loaded medical devices.
7. Knowledge of or experience in performance of microbiological assessments.
8. Knowledge or experience of using in-line PAT tools and multivariate analysis.
9. Knowledge or experience of conducting ex-vivo permeation experiments.
10. Experience in preparation of funding proposals and applications to external bodies.
11. Experience of research resources allocation, laboratory management and/or workshops coordination where appropriate.
12. Experience of UG or PG students' supervision.
13. Knowledge or experience of commercial development, customer discovery programmes, and cross-sector knowledge exchange.