**JOB DESCRIPTION**

**Vacancy Ref:** A2219

<table>
<thead>
<tr>
<th><strong>Job Title:</strong></th>
<th>Postdoctoral Research Associate</th>
<th><strong>Present Grade:</strong></th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Department/College:</strong></td>
<td>Lancaster Medical School, Faculty of Health and Medicine</td>
<td><strong>Directly responsible to:</strong></td>
<td>Dr. Jemma Kerns</td>
</tr>
<tr>
<td><strong>Supervisory responsibility for:</strong></td>
<td>Some supervision of postgraduate students</td>
<td><strong>Other contacts</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Internal:**
- Dr David Cheneler, Engineering Department
  - Academic staff across Lancaster University

**External:**
- Mr George McLauchlan, Consultant Orthopaedic Surgeon, Lancashire Teaching Hospitals NHS Foundation Trust

**Major Duties:**

1. Liaise with Mr McLauchlan to collect human samples following total knee replacement, in accordance with the appropriate REC and HRA approvals for the project.

2. Measure protein expression, and gene expression in the subchondral bone of the samples.

3. Establish baseline chemical information about the samples using Raman spectroscopy, including the spectral analysis using multivariate analysis.

4. Establish baseline material properties of the samples.

5. Take a leading role in addressing the scientific goals of the project.

6. Participation in national and international conferences and workshops to present the results of the project to a wider audience and to learn about current advances in the field.

7. Preparation of journal papers for publication of project findings in high-impact peer-reviewed scientific journals.

8. Participation in (and ultimately taking the lead in) writing new research proposals that build on the expertise developed in this project.

9. Co-supervise undergraduate and postgraduate research projects.