# Science and Technology in Medicine

## Research Project Proforma (School of Medicine)

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| **Research Title:**<br><br>**Keywords (up to 5)** | **'Proteomic biomarker discovery and functionality assessments in orthopaedics and spinal cord injury'**<br>**Keywords: Proteomics; Biomarkers; Orthopaedics; Spinal Cord Injury** |
| **Supervisor:**<br>**Job Title:**<br>**Department:**<br>**Email Address:**<br>**Telephone:**<br>**Webpage link:** | Dr Karina Wright<br>Lecturer in Orthopaedics and Tissue Engineering, ISTM<br>karina.wright@rjah.nhs.uk<br>01691 404022<br><br>Dr Charlotte Hulme<br>Research Associate, ISTM<br>charlotte.hulme @rjah.nhs.uk<br>01691 404022 |
| **Type of projects offered (delete as appropriate)** | Lab-based protein analyses of patient body fluids.<br>Computer-based analysis of protein networks.<br>Computer-based analysis of patient demographics, disease/injury characteristics and body fluid proteomes. |

**(1) Outline the broad aims of your research and its medical relevance (150 words):**

**These studies aim to discover novel diagnostic, prognostic and predictive protein biomarkers in patient body fluids that can help to provide further valuable information to clinicians about orthopaedic injuries/diseases and spinal cord injuries. In doing so we hope that clinicians will be able to more accurately assign the best course of treatment to individuals. In addition, whole proteome analyses in these patients will provide a clearer picture of disease mechanisms and may highlight novel targets for the development of new treatments.**

**(2) Indicate the skills/techniques the student will learn (100 words)**

**Students will have the opportunity to gain skills in complex protein detection and analysis techniques in the laboratory and in computer-based studies.**

Please submit this form electronically to Faye Palmer at medicine.intercalation@keele.ac.uk