Applications are invited for two research studentships in the field of orthopaedic biomechanics leading to the award of a PhD degree. The posts are supported by bursaries and fees (at the UK/EU student rate) provided by The Sackler Trust.

The combination of high activity levels, ambitious functional requirements and long-life expectancy makes it a challenge to treat osteoarthritis in younger and more active patients. Bone conserving treatments that promote normal joint biomechanics are ideally suited to this demanding patient group. These PhD projects will explore how treatments such as bi-compartmental knee replacement and ceramic hip resurfacing could benefit these patients. The research will investigate how bone adapts to the implants, how to optimise the procedures for improved biomechanics and how they compare to their more invasive total joint replacement alternatives.

To succeed in their research, the students will apply a broad range of techniques using world class facilities, including: imaging and finite element analyses, a tissue laboratory with a robotic testing platform, a gait analysis laboratory and additive manufacturing laboratories (3D printing metals/polymers) for prototyping implants and surgical instruments.

The PhD students will join an enthusiastic multidisciplinary team of engineers, scientists and clinicians. Under the supervision of Drs Richard van Arkel and Ulrich Hansen (Dept. Mechanical Engineering) and Professor Justin Cobb (Dept. Surgery and Cancer), these collaborative PhDs will be poised to take advantage of the new multidisciplinary Michael Uren Biomedical Engineering Hub, which opens in August 2019 (http://www.imperial.ac.uk/white-city-campus/research/michael-uren-hub/).

You will be an enthusiastic and self-motivated person who meets the academic requirements for enrolment for the PhD degree at Imperial College London. You will have a 1st class honours degree in mechanical engineering, bioengineering or a related subject. Being able to work in a dynamic, interdisciplinary environment is essential. A passion for engineering, demonstrated by extra-curricular activities or industrial experience is also desirable, as would be previous experience with the available techniques.

To find out more about research at Imperial College London in this area, go to:
http://www.imperial.ac.uk/msk
http://www3.imperial.ac.uk/mebiomechanics
https://www1.imperial.ac.uk/msklab/

For information on how to apply, go to:
http://www.imperial.ac.uk/mechanical-engineering/study/phd/how-to-apply/

For further details of the post contact Dr Richard van Arkel (r.vanarkel@imperial.ac.uk), +44 (0)20 7594 6157. Interested applicants should send him an up-to-date curriculum vitae (and a student transcript for degrees still in progress). Suitable candidates will be required to complete an electronic application form at Imperial College London in order for their qualifications to be addressed by College Registry.

Closing date: until post filled

*Imperial Managers lead by example.*
Committed to equality and valuing diversity. We are also an Athena SWAN Silver Award winner, a Stonewall Diversity Champion, a Two Ticks Employer, and are working in partnership with GIRES to promote respect for trans people.