

## **A UROP perspective by Fiyinfoluwa Oladipo**

Summer 2023 (undertaken in the Department of Surgery and Cancer)

**Fiyinfoluwa** was a year 3 undergraduate at Imperial College London in 2022-2023: MBBS Medicine, School of Medicine.

**UROP title:** Quantifying knee instability in patients after anterior cruciate ligament (ACL) rupture

Having completed a UROP in the summer following the first year of my course, I was keen to do it again. An age-old question for every medical student is “Do you know what to specialise in?”. And my answer to that (still) remains “I don’t know yet”. However, ever since beginning medical school, I’ve longed to get involved in research, whatever field it might be. Having loved the highs and lows of experiments in my sixth form, it was my priority to accumulate the skills I needed to be a good researcher.

The story of how I came to partake in this UROP is a two-fold story. I had initially applied for and started this project in the summer of 2022, and then decided to continue it into this summer 2023, having enjoyed my time in the lab and working with my supervisor.

My interest in this UROP had been sparked earlier after attending an online “Speed-dating with Researchers” event held by the Society of Research and Academia that is geared towards the highlighting research opportunities in medical sciences. Among all the fantastic researchers who shared their work and journeys with us, I was particularly captivated by the talk given by Prof. Alison McGregor. She spoke about the need to develop a broad range of assets and capabilities as a researcher (or as in my case, a student) and to push the boundaries of what you can attain. After hearing this, I decided to email her asking if she had any research opportunities that were available in her lab.

Fast forward a year later (summer 2023), I decided in early 2023 to continue with the same project I had been given under Prof. McGregor, supervised by one of her PhD students. The project focused on musculoskeletal medicine and biomechanics (these were fields I would have never thought I would be interested in as a first year, and now here I was!)

If there’s one thing, I wish I had known about the UROP from the start, it was to apply for bursaries. The fact that Imperial focuses on supporting its students’ ambitions in this way is amazing, and it is a huge honour and privilege to have benefited from that. I applied (with a colleague) for the UROP bursaries available, which included the Presidential UROP Bursary available to students of Black heritage, which I am so grateful to have been awarded. This helped with travel costs to and out of London from home, and helped free me from the worries about the implicit costs of pursuing a UROP; I cannot recommend applying enough.

My project had two main components. The first was assisting in the authorship of a narrative review to scope the current understanding of our topic in the wider literature. And the second was handling and processing of data captured from patients with ruptured ACLs using optical motion technology. As a student, this is exactly the type of challenging thing I had wanted (and actually needed) to be involved in, as it exposed me to two very different sides of research and had me juggling both as a student researcher.

Other than being incredibly supportive, something that I really appreciate my supervisor doing is that they treated me as being capable of independently handling the tasks I was given, including making decisions and problem-solving. It exposed doubts I didn’t realise I had about myself, and stepping up

to the plate helped to build self-confidence in my abilities. This came through encountering and learning various new software and programs on the spot, planning, and organising a research paper, but also (and arguably most importantly) developing a godly work ethic that really helped put my work in research in context of everything else in my life.

If there were three things to take away from this it, they would be:

1. Always take notes, legibly; you'll thank yourself later.
2. Always try to find a solution, even if it doesn't work out initially. It helps to build your problem-solving skills.
3. And always ask questions; that's what learning is about.

To get into some of the specific elements of the research, it involved facilitating studies using VICON™ optical motion capture systems, and handling and processing some of the data afterwards using MATLAB and R studio. I also conducted a narrative review, from the screening stage (which I started in the summer of 2022), all the way to writing drafts for feedback from my supervisor. Lastly, I gained incredible insights into musculoskeletal clinical medicine from my PhD student supervisor.

As I head into my intercalated year of Medicine at Imperial, I can confidently say that I've acclimatised to the research environment, and developed the self-assurance required to tackle challenges head-on. I'm continually discovering how my unique personality traits strengthen my abilities as a researcher, and working in a team environment that helps uphold these skills. In a way, I believe everyone should consider pursuing a UROP; it's an exceptional opportunity for incredible personal and professional growth.