

University of Birmingham Research Placements

Research Supervisor	Amy Naylor
Description of laboratory or group	Bone turnover is a life-long process that supports the growth and maintenance of a healthy skeleton. Old bone is removed and new bone is formed continually - estimates are that 10% of the adult skeleton is newly formed every year. We are interested in understanding the molecular mechanisms that control this remodelling process. By understanding the molecular basis we aim to identify novel drug targets for common and disabling diseases where bone remodelling is abnormal, such as osteoporosis, rheumatoid arthritis and osteoporosis.
Number of placements available	1
Project Title	3D tomography analysis of bone by high resolution microCT
Start Date	Flexible - based on student availability (Start date cannot be 3rd-14 th August)
Duration of placement	Flexible - based on student availability (minimum of 20 days/4 weeks)
Project Description	To analyse bone remodelling we perform very high resolution (up to 5 micron) X-ray scans using a method called microCT. This generates large datasets that can be reconstructed in 3D to show the microarchitecture of the bone tissue. We use these datasets to analyse a number of parameters including bone density, trabecular interconnectivity etc. This project will be to scan, reconstruct and analyse bones from various ongoing projects.
Person Requirements	The data generated will be used by our lab, so it is important that they are robust. The student must be able to pick up the methods relatively rapidly (training will be provided!) and then process and analyse the samples carefully and methodically. The process is labour intensive and slow (but the data generated are worth it!) so a good work ethic and attention to detail are important.
Academic Requirements	Scientific discipline - probably best suited to a biological scientist or medic
Development Opportunities	The student will have the opportunity to generate real data that will be used to answer questions that we think are really important. They will be included in lab meetings and have the opportunity to observe other laboratory techniques and attend research seminars. We are based in the University Research Labs within the Queen Elizabeth Hospital which is a unique research environment where clinics are run alongside basic research. The student will have the opportunity to experience this unique working environment.
Funding	Students will be provided with a bursary to contribute to any costs or expenses for the duration of the internship
How to apply	Please complete a brief cover letter to demonstrate your interest, along with your CV at the link below. There is also space to submit any additional files i.e. poster presentations, publications. https://uobasops.formstack.com/forms/uobresearch2020