



**UNIVERSITY OF LEEDS**

## **CANDIDATE BRIEF**

**Research Fellow in Mineralized Tissues, Faculty of Medicine and Health**



**Salary: Grade 7 (£33,797 – £40,322 p.a.)**

**Reference: MHDEN1159**

**Closing date: 6 October 2019**

**Full-time, fixed term for 24 months, available immediately**



# **Research Fellow in Mineralized Tissues**

## **School of Dentistry**

### **Department of Oral Biology**

**Are you interested in oral hard tissues such as dental enamel and dentine? Do you have skills in synchrotron X-ray scattering techniques and data analysis? Would you like to join a multidisciplinary team using and developing novel synchrotron X-ray scattering techniques to investigate dental hard tissue hierarchical structures?**

This is an excellent opportunity for you to join a new team led by Professor Maisoon Al-Jawad to work on an exciting new project in the Department of Oral Biology within Leeds School of Dentistry in collaboration with international colleagues at synchrotron facilities. As part of a multidisciplinary team you will be using and developing cutting edge synchrotron X-ray scattering techniques to study 3D hierarchical mineralized tissue structures in dental enamel and related hard tissues. The project involves the development of novel techniques, beyond those currently being used to study oriented structures at multiple length-scales in hierarchically organised mineralized tissues.

You will have a PhD (or close to completion, meaning, submitted initial version of thesis at point of application) and will have a first degree in physics, bioengineering, biomedical sciences or related discipline. You will also have experience of working both independently and as part of multidisciplinary teams. Excellent interpersonal and communication skills are essential, as is a willingness to work flexibly and travel internationally to synchrotron facilities and collaborating institutes.

### **What does the role entail?**

As a Research Fellow in Mineralized Tissues your main duties will include:

- Leading the development and implementation of novel synchrotron X-ray scattering and absorption techniques in dental enamel and dentine multi-scale structural studies;
- Developing optimised data analyses for batch processing large volumes of 2D datasets;
- Writing and submitting synchrotron beamtime applications, and carrying out synchrotron experiments at Diamond Light Source, European Synchrotron



Radiation Facility, and any other relevant international synchrotron radiation facilities;

- Co-ordinating and designing synchrotron X-ray diffraction, tomography and ptychography experiments to study dental enamel structures;
- Liaising with collaborators at the University of Leeds and internationally;
- Writing and disseminating results of the research amongst project collaborators, and among the wider scientific community via publications in peer-reviewed, high-impact scientific journals and presentations at national and international scientific conferences;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project;
- Continually updating your understanding of the field, applying this knowledge to your research;
- Building contacts and participating in networks for the exchange of information and to form relationships for future collaboration;
- Helping to prepare proposals for funding in collaboration with others within the Department of Oral Biology.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

## What will you bring to the role?

As a Research Fellow you will have:

- A PhD (or close to completion, meaning, submitted initial version of thesis at point of application) in physics, bioengineering, biomedical physics, biological physics, biomaterials, dental physical sciences or a closely allied discipline; and a first degree in physics, bioengineering, biomedical sciences or related discipline.
- A strong background in synchrotron X-ray scattering of mineralized tissues;



- Programming skills using scientific software development frameworks such as MATLAB, python or within Image J;
- A proven track record of one or more relevant peer-reviewed publication(s) in high quality journal(s);
- Willingness to travel internationally for synchrotron X-ray scattering experiments, conferences, meetings with international collaborators, and any other project related travel;
- Experience of working in a collaborative multidisciplinary research environment;
- Excellent written and verbal communication skills including presentation skills;
- Excellent time management and planning skills with the skills to perform well whilst meeting deadlines;
- Self-motivated with the skills to work both independently, without the need for close supervision, and also as part of a larger team;
- A commitment to a positive, inclusive and equal working environment.

You may also have:

- Experience of X-ray absorption/tomography measurements of mineralized tissues
- Experience of pursuing external funding to support research or dissemination of research (e.g. travel bursaries);
- A track record of being involved with the development of open source data analysis software.

## How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

## Contact information

Informal enquiries regarding the post should be directed to:

**Professor Maisoon Al-Jawad, Dept of Oral Biology, School of Dentistry**

Email: [m.al-jawad@leeds.ac.uk](mailto:m.al-jawad@leeds.ac.uk)

If you have any specific enquiries about your online application please contact:





**Samantha Pye, Business Management Support Officer**

Tel: +44 (0)113 343 8277, Email: [s.j.pye@leeds.ac.uk](mailto:s.j.pye@leeds.ac.uk)

## **Additional information**

Find out more about the [School of Dentistry](#).

Find out more about the [Faculty of Medicine and Health](#).

Find out more about [Athena Swan](#) in the Faculty.

### **Working at Leeds**

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our [Working at Leeds](#) information page.

### **Candidates with disabilities**

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at [disclosure@leeds.ac.uk](mailto:disclosure@leeds.ac.uk).

## **Criminal record information**

### **Rehabilitation of Offenders Act 1974**

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information page.

