UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Enamel Protein Biochemistry, Faculty of Medicine and Health

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

Reference: MHDEN1158

Closing Date: 6 October 2019

Full-time, fixed term for 12 months, available immediately

Research Fellow in Enamel Protein Biochemistry
School of Dentistry
Department of Oral Biology

Are you interested in normal and pathological function of proteins involved in enamel biomineralisation? Do you have skills in protein biochemistry techniques and analyses? Would you like to join a multidisciplinary team using and developing protein purification and binding methods to investigate the role of amelogenin proteins in dental enamel biomineralisation?

This is an excellent opportunity for you to join a new team led by Professor Maisoon Al-Jawad to work on an exciting project in the Department of Oral Biology within Leeds School of Dentistry. As part of a multidisciplinary team you will be using methods for production and purification of recombinant amelogenin, and use *in vitro* biophysical techniques to explore protein binding and aggregation.

Previously, it has been shown that a point mutation (related to human X-linked Amelogenesis Imperfecta), causes amelogenin protein to aggregate intracellularly and fail to be expressed into the extracellular matrix where it is needed to fulfil its function during enamel biomineralisation. This project involves the use of *in vitro* methods to allow the determination of the mechanism by which this mutation causes excessive intracellular aggregation, and to explore how this aggregation affects protein-mineral binding.

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 biochemistry 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.

What does the role entail?

As a Research Fellow in Enamel Protein Biochemistry your main duties will include:

- Leading the production and purification of single-band purity recombinant amelogenin proteins;
- Developing a robust method for reliable and reproducible amelogenin protein adsorption/binding analyses;



- Interpreting *in vitro* amelogenin protein binding results in the context of established *in vivo* protein aggregation behaviour;
- Training postgraduate students, including assisting with the supervision of projects in areas relevant to the project;
- Writing and disseminating results of the research amongst the scientific community via publication in peer-reviewed, high-impact scientific journals;
- Presenting research 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;
- 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;
- Participating in general laboratory duties in-line with the Oral Biology department's good laboratory practice policy.

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 oral biology, protein biochemistry or a closely allied discipline; and a first degree in biochemistry or related discipline
- A strong background in enamel matrix chemistry and a demonstrable understanding of amelogenesis imperfecta disease mechanisms;
- Significant experience using protein purification techniques including chromatography methods and electrophoresis methods including preparative SDS-PAGE;



- Significant experience of protein characterisation including Western blotting and analytical SDS-PAGE, spectrophotometric methods, and fluorescent labelling;
- A proven track record of one or more relevant peer-reviewed publication(s) in high quality journal(s);
- Strong analytical skills, with the ability to work accurately and carefully, designing, executing and writing up research independently;
- Excellent communication skills, both written and verbal and the ability to communicate your research at national and international conferences;
- Excellent time management and planning skills with the skills to perform well whilst meeting deadlines;
- Self-motivation 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 protein binding assays;
- Experience in cell culture;
- Experience of pursuing external funding to support research or dissemination of research.

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

To explore the post further or for any queries you may have, please contact:

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

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

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.

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.