



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Sustainable Cements,
Faculty of Engineering and Physical Sciences



Salary: Grade 7 (£37,099 – £44,263 p.a.)

Reference: EPSCV1142

Location: Main Campus (with scope for hybrid working)

Closing date: Wednesday 24 July 2024

Fixed term until 31 July 2025

We are open to discussing flexible working arrangements

Research Fellow in Sustainable Cements, School of Civil Engineering.

Are you an early career researcher looking for your first challenge? Do you have a background in Cement and Concrete Research? Do you want to further your career in one of the UK's leading research-intensive universities?

The overarching aim of this research project is understanding the production and hydration of novel polyphase cements/clinkers. The ideal candidate will be experienced in cement chemistry, inorganic materials characterisation, and writing of scientific/technical publications and reports.

The role involves studying the hydration kinetics of monophase and polyphase cements produced in the presence of mineral and chemical additives. You will study the microstructure and pore solution of hydrated cement materials over a period as well as conduct leaching experiments (in accordance with standards) to determine the mobilisation of minor elements from a solid product; this will demonstrate the safety of cement products produced from wastes, resolving any questions of potential ecotoxicity, and enable safe disposal of hazardous wastes using novel cements.

What does the role entail?

As a Research Fellow, your main duties will include:

- Advancing the understanding of cement-based construction materials and their production processes;
- Designing and implementing an experimental programme to produce and test cement materials;
- Managing data collection and storage on a day-to-day basis, and maintaining comprehensive, accurate and tidy records of research work;
- Recording and analysing research data and presenting findings to the PI and other members of the research group as required;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;



- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own research;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals and by presentation at national and international meetings;
- Working independently and as part of a larger team of researchers, both internally and externally, to develop new research links and collaborations and engage in knowledge transfer activities where appropriate;
- 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.

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 have submitted your thesis before taking up the role) in construction materials science or a closely allied discipline;
- A strong background in Cement and Concrete Research;
- Knowledge and experience of relevant materials characterisation techniques such as SEM, XRD, XRF, or other solid-state analysis methods;
- Experience in writing of scientific/technical publications and reports;
- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- A developing track record of peer-reviewed publications in international journals;
- Excellent communication skills both written and verbal, and the ability to communicate your research at national and international conferences;
- A proven ability to work well both independently and in a team;
- A strong commitment to your own continuous professional development.



You may also have:

- Experience of pursuing funding to support research;
- Ability to develop and recognise research outputs with potential commercial value;
- Knowledge and experience of:
 - relevant systems, policies, legislation, and quality standards;
 - thermodynamic, process, and/or geochemical modelling;
 - organising meetings, seminars, conferences, or public engagement activities;
- Potential to develop leadership and management skills appropriate to take on a supporting role within the research group.

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:

Professor Theodore Hanein, Professor of Construction Materials Science

Email: T.Hanein@leeds.ac.uk

Additional information

Please note: If you are not a British or Irish citizen, you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Faculty and School Information

Further information is available on the research and teaching activities of the [Faculty of Engineering & Physical Sciences](#), and the [School of Civil Engineering](#).



A diverse workforce

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Engineering and Physical Sciences we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Engineering and Physical Sciences are proud to have been awarded the Athena SWAN [Silver](#) Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our [equality and inclusion webpage](#) provides more information.

Working at Leeds

We are a campus-based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our [Working at Leeds](#) information page.

Information for disabled candidates

Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at hr@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.

