

Imperial College London

Department of Materials

Research Associate (Full Time)

Understanding Radiation Damage and Noble Gas Accommodation in Ceramics for Inert Matrix Fuels and Plutonium Disposition

Salary in the range £25,310 to £36,880 per annum

Fixed term appointment for up to 24 months in the first instance

*Imperial College is ranked the fifth best university in the world
(Times Higher QS World University Rankings 2007)*

Applications are invited for a Research Associate position that will investigate the mechanism of noble gas (He, Kr, Xe) accommodation, migration and accumulation in UO₂ and ZrO₂ based ceramics for inert matrix fuels and Pu disposition. The retention of these species is an important issue for the safe interim and long term storage of such materials. A combination of advanced TEM, synchrotron spectroscopic, ex situ ion implantation techniques and materials simulation methods, will be employed to characterise and understand the role of dislocation loops, grain boundaries, voids/bubbles and metamictisation in facilitating the accommodation and diffusion of noble gas species. We will develop this approach to link our understanding of these processes at the nanoscale with macroscale behaviour such as volume swelling and cracking.

The project will be supervised by Professors Bill Lee and Robin Grimes in the Department of Materials at Imperial College London.

This is an EPSRC funded post to be held at the Department of Materials, Imperial College London and as part of the large university consortium: DIAMOND (Decommissioning Immobilisation And Management of Nuclear Wastes for Disposal). You will be a conscientious, innovative and experimental scientist who has successfully completed a PhD (or equivalent) in Materials or other science/engineering subjects.

Experience in the following areas is desirable: transmission electron microscopy, ceramic processing and microstructural characterisation.

You should also possess a proven publication record. You will work within a team of dynamic students and Research Associates in extensively newly-refurbished laboratories on the South Kensington Campus and interact with several academic collaborators. In addition to the state-of-the-art facilities within the department, you will also have access to the facilities at the London Centre for Nanotechnology.

Excellent communication and organisational skills are essential.

Application forms can be downloaded from <http://www3.imperial.ac.uk/employment/research>.

Further particulars and an application form can also be obtained from Darakshan Khan, Department of Materials, Imperial College London, South Kensington campus, London SW7 2AZ, e-mail d.khan@imperial.ac.uk tel. +44 (0) 20 7594 6775 to whom 2 copies of the completed applications (with curriculum vitae and the names and contact details of two referees) should be sent. Please quote **RAIDiamond** on all correspondence.

Closing date: 30 June 2008

Valuing diversity and committed to equality of opportunity