

その他セッション「文科省原子力研究開発事業について 廃炉国際共同研究を中心に」

Outline of MEXT competitive funds for nuclear technology
- International Collaboration on Decommissioning -

UK-Japan Nuclear Research and Programme

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Background:

The UK and Japan have a long established co-operation in the field of civil nuclear energy, originating in the 1960s. The UK supplied Japan's first commercial nuclear power reactor, based on the Magnox design, which operated on the Tokai site from 1966-1998 generating in excess of 27.7 billion KWh. Nuclear fuel from this reactor, and later light water reactors in Japan, was reprocessed under contract to British Nuclear Fuels and its successors, from mid 1970s onwards. Following the Great East Japan Earthquake, on 11 March 2011, leading to partial melt down of three boiling water reactors at the Fukushima Daiichi site (Units 1-3), the UK and Japan have established a strong collaboration in the field of nuclear decommissioning and waste management. The Governments of UK and Japan recognise the importance of stronger collaboration and co-operation in the field of civil nuclear energy, to address the challenges of legacy decommissioning and waste management, and exploitation of nuclear fission technology as a safe, affordable, low carbon energy supply. Accordingly, a Japan – UK framework for Civil Nuclear Co-operation was established in 2012, leading to an annual UK – Japan Nuclear dialogue to strengthen bi-lateral co-operation in civil nuclear energy.

Overview of the EPSRC - MEXT joint research programme:

The overarching aim of this programme is: to advance

nurture the UK and Japan academic communities in civil nuclear energy, leading to the collaborative development of novel methodologies and tools, to address common challenges in decommissioning and waste management, reactor safety and regulation, nuclear energy policy, public communication and engagement, and environmental safety. The programme is in its third phase and running total of 6 projects under the themes of severe accident, environmental safety, removal of fuel debris, and waste management. An independent UK-Japan joint panel will meet at the end of August to assess the new proposals for 2016-2019. See below table for projects underway.

	Research Organisation	Grant Title
UK Partner	Imperial College London	Reactor core-structure re-location modelling for severe nuclear accidents
Japan Partner	University of Tokyo	
UK Partner	University of Birmingham	Novel restoration materials for clean-up of radionuclides in the environment
Japan Partner	JAEA	
UK Partner	University of Sheffield	Development of solidification technique with minimised water content for safe storage and disposal of secondary radioactive aqueous wastes in Fukushima
Japan Partner	JAEA	
UK Partner	University of Lancaster	Technology development to evaluate dose rate distribution in PCV and to search for fuel debris submerged in water
Japan Partner	Nagaoka University of Technology	
UK Partner	University of Sheffield Imperial College London	Advanced Waste Management Strategies for High Dose Spent Adsorbents
Japan Partner	Kyushu University	
UK Partner	University of Bristol	An ultrasonic measurement system and its robotic deployment into vessels for the combined assessment of debris condition and water leakage
Japan Partner	Tokyo Institute of Technology	

The session will briefly describe the main areas of nuclear research in the UK, and will identify opportunities for collaboration with international programmes.

For further information, please visit <https://www.epsrc.ac.uk/research/ourportfolio/themes/energy/>