

# SCIENCE & INNOVATION AWARD: CARBON CAPTURE FROM POWER PLANT AND ATMOSPHERE



The EPSRC (EP/F034520/1 and EP/F034482/1) and the Scottish Funding Council have awarded the University of Edinburgh £3.45 million and Heriot-Watt University £1.08 million to address issues relating to the capture of carbon dioxide (Oct 2008 to Sep 2013). The SFC provided funding of £418,000.



The SCIENCE & INNOVATION AWARD is a very prestigious, long-term grant. Its aim is to build capacity in research areas that are of national strategic importance in the UK, with a particular focus on supporting new research leaders.

## AIMS

**1** To create a UK centre of university expertise in the capture of CO<sub>2</sub> from power plants.

**2** The centre will focus on investigating new technologies of CO<sub>2</sub> separation by:

- (i) adsorption onto nanoporous material
- (ii) permeation through selective membranes
- (iii) membrane and adsorption separation processes for carbon capture applications.



**3** To setup the UK biochar research centre ([www.biochar.org.uk](http://www.biochar.org.uk)) as an entirely new centre of university expertise, focusing on using biomass from agriculture, forestry and waste to make biofuel to replace fossil sources, and to pyrolyse the residues to form charcoal.



## PEOPLE

The AWARD has funded several PhD students/postdocs, and the creation of **6 new academic positions**:

- **3** in BIOCHAR at the School of Geosciences, UoE ([www.biochar.org.uk](http://www.biochar.org.uk))
- **3** in CARBON CAPTURE FROM POWER PLANTS (2 at the School of Engineering at UoE; and 1 at the School of Engineering & Physical Sciences at HW).



Dr Hyungwoong Ahn is the Science & Innovation Award Lecturer in the area of adsorption and separation processes. He teaches the course "Separation Processes for Carbon Capture" as part of the first UK MSc programme on Carbon Capture and Storage.



Dr Maria-Chiara Ferrari is the Science & Innovation Award Lecturer in Membranes for Carbon Capture. She is developing the MSc course "Gas Separation Using Membranes" that is planned to begin in January 2012.



Dr Humphrey Yiu has recently been appointed as a lecturer at Heriot-Watt University. His background is in chemical sciences and his main research interests are in nanomaterials.