

## Collaborative projects

Birmingham works closely with national and international academic partners creating research teams that are of international significance in the quality of their work.

### Midlands Energy Consortium

(<http://www.midlandsenergyconsortium.org>) The **Midlands Energy Consortium** (<http://www.midlandsenergyconsortium.org>) consists of the universities of Birmingham, Loughborough and Nottingham. It draws on many existing collaborations and recognises the synergies between the three institutions' research activities.



Our three universities have long invested significantly in energy research. Each has now integrated this activity by establishing interdisciplinary schools and institutes which draw on capabilities in engineering, physical and social sciences. Each interdisciplinary organisation is lead by a director, who provides co-ordination for all energy related research within that university, and who collaborates closely within the consortium.

In September 2007 we were chosen to act as host to the Energy Technologies Institute (ETI). The role of the ETI is to lead the UK's efforts in establishing a low-carbon economy based on a secure, affordable supply of energy. The ETI is a public/private partnership, backed by companies BP, Caterpillar, EDF Energy, E.ON, Rolls-Royce and Shell. The institute will manage a 10-year collaborative R&D programme with a potential investment fund of £1.1bn. Bids to host the Institute were judged on energy research capability, reputation and culture; space, facilities and accessibility; and commitment to the ETI.

The Midlands Energy Consortium has over 200 academics working in all areas of energy related research.

Our key research themes are:

- Fuel cells, hydrogen production and storage
- Solar, wind and biomass energy
- Clean fossil fuels and carbon abatement technologies
- Demand reduction and management in buildings
- Power electronics and electrical networks
- Sustainable societies: economics, policies, practices and impacts
- Sustainable transport, advanced engines and systems

The Consortium received £3m from the Higher Education Funding Council to set up the **Midlands Energy Graduate School (MEGS)**. (<http://www.megs.ac.uk>) MEGS aims to help meet the growing demand in the UK for more highly trained low carbon technology researchers.

### Manufacturing Technology Centre

In another pan regional collaboration with Loughborough and Nottingham, Birmingham is a founding partner of the Manufacturing Technology Institute. The **Manufacturing Technology Centre** (<http://www.the-mtc.org>), currently under construction, will offer large scale manufacturing facilities and attract some of the world's leading high quality engineering companies. The alliance of researcher and manufacturer will support the development of more sophisticated, efficient and high quality manufacturing functions which will improve the longevity, function and reliability of the end product. Working with partners including Rolls Royce and Airbus, this project has international impact.

### Birmingham Science City Alliance

This major regional initiative uses science and technology to improve the posterity and quality of life in the West Midlands region, and deliver research of UK and international significance. Birmingham and Warwick Universities are working together in the **Birmingham Science City** (<http://www.birminghamsciencecity.co.uk/>) Alliance on a series of demonstrator projects across three academic areas:

- Energy
- Advanced materials
- Translational Medicine

### The Guangzhou Biobank Cohort Study

The Guangzhou Cohort Study is a collaborative research project between the Universities of Birmingham and Hong Kong, and The Guangzhou Occupational Diseases Prevention and Treatment Centre in China.

The study commenced in October 2003 and is recruiting men and women over the age of 50, from a city in southern China (Guangzhou) - a population that has undergone rapid economic transition. So far about 25,000 participants have been recruited, with plans for a final sample size of 40,000. Participants undergo detailed baseline characterization and phenotypic assessment, with storage of their genetic materials.

The main long term aim of the study is to examine the effects of genetic and environmental influences on health and chronic disease development (particularly circulatory disease, chronic respiratory disease, cancer and dementia).