28 January 2013

# Graphene wins huge European funding boost



28 January 2013

By **Elizabeth Gibney**

Projects focussing on graphene and research into the human brain have won what the European Commission has called "the largest research excellence award in history".

Following a two-year competition, the winning projects will each receive up to €1 billion (£855 million) over 10 years under the Future and Emerging Technologies (FET) programme.

The scheme is intended to take research from academic laboratories into industry and society through large European networks of academics and companies, each involving at least 15 European Union member states and nearly 200 research institutes.

Nine of the 74 partners in the graphene "flagship" project are from the UK, including the universities of Cambridge, Lancaster, Manchester, Oxford and University College London. However, the project will be led by Jari Kinaret, head of the Condensed Matter Theory group at Sweden's Chalmers University.

The collaboration will seek to investigate and exploit the unique properties of the carbon-based material, discovered by scientists at the University of Manchester in 2004.

Cambridge, which led the original "science and technology roadmap" of the bid, will guide on the development of opto-electronic devices based on graphene, as well as work on flexible electronics, nano-composites, energy and large-scale production of the material.

Meanwhile, the Human Brain Project, which describes itself as a "Cern for the brain", aims to create the world's largest experimental facility for developing detailed models of the brain in an effort to better diagnose brain diseases, understand their underlying mechanisms and to speed up the search for new treatments.

Led by Henry Markram of the École Polytechnique Fédérale de Lausanne, researchers from 14 UK organisations will be involved in the project, including Seth Grant, personal chair in molecular neuroscience at the University of Edinburgh, who will head the molecular research team for the project.

His team will aim to decipher the molecular structure of the human brain and map the circuits of its nerve cells as the foundation for supercomputer models of the organ.

Research commissioner Máire Geoghegan-Quinn told Times Higher Education that a role of the flagships and the "huge" amount invested in them was to show how serious Europe is in developing technologies in these areas.

"Graphene is a technology that can revolutionise the world...it is worrying that those that seem to be stepping up to that challenge are very often in the Far East and in particular South Korea.

"That's why the European Commission has decided that this FET was really worthwhile investing in and that investment should be substantial," she added.

Work on the projects will begin this year using €54 million in funding from the EC's ICT 2013 Work Programme. The remainder of funding will come from the EU's next framework for research funding for 2014 to 2020, Horizon 2020, alongside contributions from universities, members states and industry.

"The flagship race has fostered collaboration on a new scale and duration," said a Commission statement.

"Instead of the usual two to four-year funding cycles, the 10-year duration and the massive financial incentive has driven the level of science in the project proposals to a much higher level, which will deliver greater benefits to Europe over the long term, including new technologies and faster innovation."

Funding for Horizon 2020 is currently being negotiated in the European Council and Parliament.

*elizabeth.gibney@tsleducation.com*

## Readers' comments

- **No to Europe?** 28 January, 2013

  Here's a thought - let's quickly pull out of Europe so that we won't be part of these schemes in future. Then we'll be much better off.