

Science

By Andrew Bounds



Another breakthrough in [research into graphene](#) – the superthin, superstrong material expected to transform many everyday products – has confirmed Manchester’s leadership in the field.

Russian-born scientists [Andre Geim](#) and Kostya Novoselov isolated the one atom thick carbon layer at Manchester university in 2004 and since then it has sought to use the discovery – and their 2010 Nobel Prize win – to close the gap with Britain’s “golden triangle” research institutions in Oxford, Cambridge and London.



More

ON THIS TOPIC

- [Humanities graduates star in business](#)
- [Business urged to help education exports](#)
- [Huawei and Imperial in 'big data' venture](#)
- [Top universities admitting fewer poor students](#)

IN SCIENCE

- [Oceans hold key as global warming slows](#)
- [Synthetic biology to get £60m state boost](#)
- [Capital has become a crucible for science](#)
- [NHS patients set for genetic check-up](#)

Manchester’s cross-disciplinary work has also attracted experts in associated fields. Kostas Kostarelos, an expert on nano materials, is bringing his Nanomedicine Laboratory with 15 scientists from University College London. The university is also home to Professor Brian Cox, the physicist and broadcaster, Sir John Sulston, the Nobel Prize winner who was involved in decoding the human genome, and Jeanette Winterson, the novelist.

The graphene research builds on a strong relationship with business. Professor Dame Nancy Rothwell, vice-chancellor, is a neuroscientist and non-executive director of AstraZeneca, the pharmaceutical group.

While Manchester’s homegrown multinationals such as Coats Viyella, the textiles maker, and Avro, the aircraft maker, may be long gone, Prof Bailey said the presence of leading science has brought businesses from around the world. “I have got 300 companies knocking on the door wanting to work with us.”

The university collaborates with more than 50 businesses, including Rolls-Royce, the engineering group, Areva, the French nuclear company, and Akzo Nobel, the Dutch chemicals group.

Prof Bailey said the university had won £200m in research funding in the first 10 months of the academic year, up 13 per cent on the year before. BP is supporting a £100m centre for advanced materials.

The university is the UK’s biggest by student numbers, with almost 40,000, and 11,500 staff. It attracted more than £270m in external research funding in 2011/12 and had income of £807m.

Manchester lies 40th in the Shanghai global ranking of universities, a position held for five years. It is aiming to reach the top 25 by 2020. Cambridge is fifth, Oxford 10th, UCL 21st and Imperial 24th.

Cambridge and Lancaster also have substantial graphene research operations and they have combined with Manchester on the EU’s €1bn Graphene Flagship Initiative, chaired by Professor Geim.

Manchester is determined not to miss out on commercialisation of the material – learning lessons from its failure to fully capitalise on pioneering work in computer science. The university developed the first stored program computer, Baby, in 1948, but lost its lead to the US. Manchester also split the atom and built the first radio telescope, at Jodrell Bank in Cheshire.

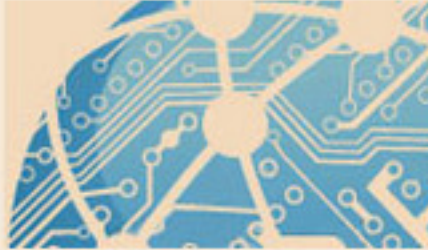
The university’s £32m spin-out fund is funding several attempts to find commercial uses for graphene, which has yet to be produced cheaply in large quantities.

Eric Schmidt, Google chairman, is among those who has observed the UK is “where inventions are born, but not bred for long-term success”. Geoffrey Owen, of the LSE, said such criticism was not always justified, citing innovation by companies such as GlaxoSmithKline and Rolls-Royce.

But he said new materials can take decades to find widespread applications. “I am slightly uneasy about the government jumping on graphene as creating a future bonanza. We have to be realistic about these inventions.”

EDITOR'S CHOICE

TECH BLOG



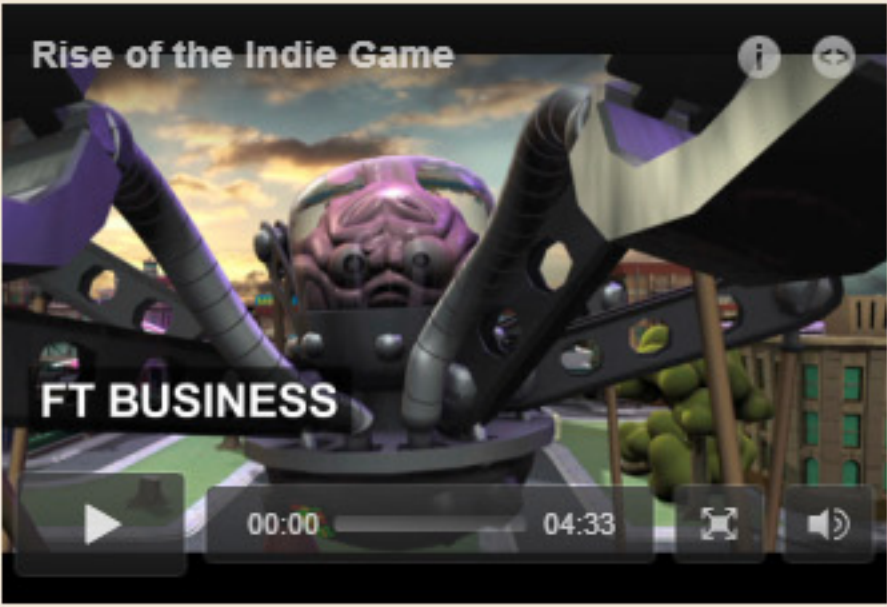
FT experts around the world share their views

PERSONAL TECHNOLOGY



Chris Nuttall reviews the latest trends in tech

COMPANIES VIDEOS



- Rise of the Indie Game**
- Crossover smartphones war begins**
- BT and Sky do battle over sports TV**

Sign up for daily FT Alphaville email briefings now ▶

We live in FINANCIAL TIMES®

HIGHLIGHTS

HOWTOSPENDIT.COM



High-octane pre-fall fashion in a monochromatic palette

FT FUNDS



Research and compare funds for your portfolio

Apply online for September 2013.

US University of Sussex

LATEST HEADLINES FROM CNBC

'Battle-hardened' Summers for Fed head: Altman
So-so summer: Job growth disappoints; rate drops
Stock futures slip in choppy trading on jobs data
US yields drop as jobs data falls short of hopes
Paging Carl Icahn: Dell in deal with Michael Dell

FINANCIAL TIMES JOBS

Enter job search here... Search

- Chief Executive Officer**
Carbon Tracker Initiative

Financial Analyst – Client
Assets and Money
Financial Services
- Financial Controller**
Retail and FMCG

Interim Senior Operations Lead
Healthcare / NHS

Register for free to receive the latest executive jobs by email

TOOLS & SERVICES

Multimedia

Video

Quick links

FT Live