



**Press release**

5 October 2010

**Nobel Prize in Physics goes to European Research Council grantee  
Prof. Konstantin Novoselov**

**The European Research Council (ERC) announces that one of its grantees, Professor Konstantin Novoselov, has today been awarded the Nobel Prize in Physics "for groundbreaking experiments regarding the two-dimensional material graphene". Professor Novoselov was awarded the ERC Starting Grant in 2007 for his project on the same material.**

Aged 36, Professor Novoselov, Russian and UK citizen, is one of the youngest Nobel Prize winners. He received both an ERC grant and now, together with his colleague Prof. Andre Geim, the Nobel Prize for his studies of "Graphene", a one-atom-thick crystal with unusual quantum conductive properties. It is tipped for a number of future applications in electronics and photonics.

This prestigious award demonstrates once more the trust and support the ERC gives to young top researchers and is also a recognition of the type of work funded by the ERC, focussed on research at the frontier of knowledge.

After the news was announced by the Nobel Committee today, the European Commissioner for Research and Innovation, Máire Geoghegan-Quinn, said "I am thrilled that the Nobel Prize for physics has gone to the holder of a European Research Council grant. My warmest congratulations to Professor Novoselov and to his colleague Professor. Andre Geim. Europe can be proud of them and of their work. This is a first for the European Research Council, and I hope more Nobel Prizes will follow as a result of this valuable European investment in the best scientists and in their innovative research in Europe."



ERC President Professor Helga Nowotny and ERC Executive Agency Director, Jack Metthey, wrote to this new Nobel Laureate: "On behalf of the European Research Council, we warmly congratulate you on the award of the 2010 Nobel Prize in Physics and we are proud of the support the Starting Grant Scheme provides to you. Today's announcement is truly exceptional in its recognition of the achievements of a scientist early in his career and a clear signal of the outstanding quality of the emerging generation of European scientists. It is also a good example of how funding frontier research supports work with enormous potential for applications."

### Links

Nobel Committee:

[http://nobelprize.org/nobel\\_prizes/physics/laureates/2010/](http://nobelprize.org/nobel_prizes/physics/laureates/2010/)

ERC website

<http://erc.europa.eu>

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### Background information on the ERC project

Principal Investigator:	Prof. Konstantin Novoselov
Project Acronym:	Graphene
Project Title:	Physics and Applications of Graphene
Host Institution:	University of Manchester, School of Physics and Astronomy
Duration:	60 months

### ERC Project summary

This proposal is based on the Principal Investigator's (PI's) recent work in which a conceptually new class of materials – two dimensional atomic crystals – was discovered. Such crystals can be seen as individual atomic planes “pulled out” of bulk crystals and were previously presumed not to exist in the free state. Despite being only one atom thick and unprotected from the immediate environment, these materials can be extremely stable. The PI's work has focused on graphene, a freestanding monolayer of graphite where carbon atoms are densely packed in a honeycomb lattice. Due to its high quality and unique electronic spectrum (electrons in graphene mimic relativistic quantum particles called Dirac fermions), graphene has become a gold mine for searching for new phenomena. Graphene also offers numerous applications from smart materials to future electronics. The general objective of the proposal is to exploit the PI's current lead in the emerging research area, so that no opportunity is missed to find new effects that are expected to be abundant in graphene, and to exploit possible applications. The project will cover three main directions, exploring most exciting features about graphene. First, the PI is planning to concentrate on graphene membranes and investigate properties



induced by the unique dimensionality of these one atom thick objects. Second, charge carriers in graphene mimic massless relativistic particles, and this exceptional property allows access to the rich and subtle physics of quantum electrodynamics in a bench-top condensed matter experiment. To this end, interaction and many-body effects will be investigated. Third, graphene is considered to be a realistic candidate for electronics beyond the "Silicon age", and one of the priorities of this project will be studies of graphene-based transistor applications. All these research directions combined should create a solid basis for a new internationally-leading research laboratory led by the PI.

### **European Research Council**

Set up in 2007 by the EU, the European Research Council (ERC) is the first pan-European funding organisation for frontier research. It aims to stimulate scientific excellence in Europe by supporting the very best, creative researchers of any nationality and age. The ERC also strives to attract top researchers from anywhere in the world to come to Europe. It funds both senior research leaders ("ERC Advanced Grants") and younger, early-career top researchers ("ERC Starting Grants"). The ERC operates according to an "investigator-driven", or "bottom-up", approach and is open to any field of research.

The ERC, the newest, pioneering component of the EU's Seventh Research Framework Programme, has a total budget of € 7.5 billion from 2007 to 2013. It is led by a Scientific Council, composed of 22 top scientists and scholars.