



School of Physics & Astronomy

University of Manchester

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US HONOUR FOR MANCHESTER PHYSICIST

The following item appeared on the University website dated 20 Jan 2010.

The National Academy of Sciences (NAS) has honoured a ground-breaking Manchester physicist for his exceptional scientific achievements.



Andre Geim is one of 17 individuals who will receive awards in the areas of biology, chemistry, geology, astronomy and psychology.

Andre, Langworthy and Royal Society 2010 Anniversary Research Professor of Physics at the University of Manchester, is the recipient of the prestigious John J. Carty Award for the Advancement of Science.

The award is bestowed for noteworthy and distinguished accomplishments in any field of science within the charter of the NAS.

Andre, who is the only non-US recipient of an award, has been honoured for his experimental realisation and investigation of graphene, the two-dimensional form of carbon, which he discovered in 2004 with Kostya Novoselov.

Established by the American Telephone and Telegraph Co, the Carty Award – a medal and \$25,000 prize recognising noteworthy and distinguished accomplishment in any field of science – is being presented in the area of physics in 2010.

Previous winners of the award include Nobel Prize Winner Sir William Lawrence Bragg, who was appointed Langworthy Professor of Physics at the University of Manchester in 1919 and held this post till 1937.

An awards ceremony for Andre Geim and the other recipients will take place on 25th April during the Academy's annual meeting.

The US-based National Academy of Sciences is a private, non-profit honorific society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare.

Since 1863, the National Academy of Sciences has served to "investigate, examine, experiment, and report upon any subject of science or art" whenever called upon to do so by any department of the government.

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DATES FOR YOUR DIARY

3rd February	Astronomy & Astrophysics Seminar
3rd February	Particle Seminar
4th February	PSI Seminar
4th February	Theory Seminar
8th February	Exochemistry & Astromaterials Seminar
10th February	Astronomy & Astrophysics Seminar
10th February	Particle Seminar
10th February	EPS Open Meeting
12th February	Physics Open Meetings
17th February	Schuster Colloquium
22nd February	Exochemistry & Astromaterials Seminar
24th February	Particle Seminar
3rd March	Astronomy & Astrophysics Seminar
3rd March	Particle Seminar
3rd March	Theory Seminar
8th March	Exochemistry & Astromaterials Seminar
10th March	Astronomy & Astrophysics Seminar
10th March	Particle Seminar
12th March	President's Visit
17th March	Schuster Colloquium
22nd March	Exochemistry & Astromaterials Seminar
24th March	Astronomy & Astrophysics Seminar
24th March	Particle Seminar
31st March	Theory Seminar
19th April	Exochemistry & Astromaterials Seminar
21st April	Theory Seminar
28th April	Schuster Colloquium
5th May	Astronomy & Astrophysics Seminar
5th May	Particle Seminar
17th May	Exochemistry & Astromaterials Seminar
26th May	Particle Seminar

SCHOOL OF PHYSICS & ASTRONOMY

SCHOOL NEWS

School of Physics and Astronomy open meetings - Friday 12 February

Jodrell Bank, 10.00 am
Bragg Lecture Theatre, 2.00 pm

I will be holding open meetings on Friday 12 February, Jodrell Bank at 10.00 am and Schuster at 2.00 pm.

I will give a brief introduction that will summarise the performance of the School over the last few months, and the priorities for the future. This will include a summary of the budget as well as a brief overview of our key activities in teaching and research.

Diana Hampson, Director of Estate and Services, will attend the meeting at Jodrell Bank. Phillip Ashcroft, Faculty HR Manager (designate) will attend both meetings.

The majority of the meeting is to give all staff an opportunity to raise any issues they would like to with me in an open question and answer session, but if you feel that there are specific items that you would like me to address, or questions to answer that you would prefer to pose in advance you should do so at least a week before the meetings.

Helen Gleeson

Staff Changes

Dr Thorsten Wengler who was to be coming onto the staff in September 2010 has been offered a prestigious permanent research position at CERN and so will be officially resigning from May 2010.

Our very best wishes go with these staff in their new roles:

Following a 6 month probation period, the School has now confirmed Colin Baines' part time position as Deputy Head of School Administration until July 2012.

Darren Shepherd has moved from his current position as Mechanical Technician at JB to a similar permanent position in Schuster Mechanical Workshop.

Joanna Chesters will move from the School Recruitment & Admissions Team to a new position in the School as the Administrative Assistant of Nuclear Programmes.

What's On

There now is a "What's on" page on the school website:

<http://www.physics.manchester.ac.uk/aboutus/events/Whatson/>

EPS FACULTY NEWS

Faculty of EPS Open Meeting

Wednesday 10th February 2010, Renold Building, D7, 14.00 - 15.00

All members of staff in the Faculty of Engineering and Physical Sciences are invited to attend a Faculty Open Meeting with Professor Colin Bailey, the Vice-President & Dean on Wednesday 10th February, 2 - 3pm in Room D7, Renold Building.

At the meeting Colin will give a presentation outlining the Faculty's Five Year Strategic Plan. The remainder of the meeting will be given over to an open question and answer session on any matters of interest. There is no need to submit questions in advance of the meeting.

You do not need to need to reply to this invitation. All are welcome. Seats will be allocated on a first come, first served basis.

Fiona Campbell

Media Fellowships 2010

Want to know what it's like to be a science journalist?

If you do then the British Science Association Media Fellowships 2010 are for you.

Experience first hand how science is reported by spending 3-8 weeks with a national press, broadcast or internet journalist on a summer placement, working with them to produce accurate, well informed news pieces about developments in science.

Come away better equipped to communicate your research to the public and your colleagues. Learn to work within the constraints of the media and develop writing skills that could make journal articles and funding applications easier and more concise.

You are eligible to apply for the scheme if you:

- * are a scientist, clinician, social scientist or engineer
- * have a minimum of 2 years postgraduate experience in your field
- * are a resident of the UK
- * Work at any level in an academic or research institution, industry, civil service or any other similar organisation

Hosts have included The Guardian, Nature, BBC News and the Times.

For details about the scheme, including an online application form, visit

<http://www.britishtscienceassociation.org/mediafellows>

Application deadline: 2 March 2010

Time Travel

Jeff Forshaw filmed a piece on the theory of Time Travel with The One Show on Monday 18th January, due for transmission in March. As part of this, Jeff went through the theory by writing on the glass walls of the Visitor Centre in University Place - in non permanent marker! A DeLorean car also came onto campus and caused quite a bit of interest!



SCHUSTER COLLOQUIUM

Programme for Spring 2010

Wednesday 17th February
James Hough - Glasgow
The search for gravitational waves.

Wednesday 28th April
Do-Kyeong Ko - Gwangju Inst of Sci & Tech, Korea
Particle acceleration to GeV scales using ultrafast lasers.

Wednesday 17th March
Vlatko Vedral - Oxford
Quantum Biology: Do birds use quantum entanglement to see the Earth's magnetic field?

The above events will take place at 2.30 pm in the Rutherford Lecture Theatre and followed by tea in the foyer. All members of the School are encouraged to attend these talks, given by specialists but aimed at a general physics audience.

Schuster Colloquium: Nature's Raincoats

At the Schuster Colloquium on 9 December, Professor Julia Yeomans from the University of Oxford spoke about "Nature's Raincoats: Wetting and spreading on micropatterned surfaces".

Prof Yeomans showed, with the aid of some video and some superhydrophobic props, that if a water-repellent surface is roughened by patterning on a tiny length scale, it can become super-water-repellent. Small drops on these surfaces remain almost spherical, and slide with very little friction.

With recent advances in making small surface features it is now possible to construct surfaces with well-defined patterns of tiny needles, posts or hairs and to perform experiments with them. Prof Yeomans showed how the experiments can be backed up by theory and computer simulations.

Much of the inspiration for the research came from observing how plants and insects exploit surface patterning to deal with the water in their environment. As one example, butterflies have highly structured wings, often covered by triangular ridges, which act as ratchets, directing drops of water away from the insect's body. Motivated by this, simulations were made of drops moving across triangular posts. However the drops were found to move in the wrong direction, and this led to the discovery a new superhydrophobic state that can exist on the ratcheted surfaces. Patterned surfaces on which the shape of the posts can be used to control the direction of movement of drops or streams of liquids now have potential uses as fluidic valves in microfluidic devices.

When superhydrophobic surfaces were first made there was speculation about their widespread use as self-cleaning, stay-dry materials for windows and windscreens. However, it was soon realised that the patterning is fragile and easily damaged or clogged up. Plants are not troubled by this as they continually renew the surfaces of their leaves. Niche applications are slowly appearing, such as self-cleaning solar panels, stay-dry materials for swimsuits (a sample was available for all to try), no-drip decanters (unfortunately no sample was available) and showers for astronauts.

The next Schuster Colloquium, "The Search for Gravitational Waves", will be given by Professor James Hough FRS FRSE, from the University of Glasgow, on 17th February at 14.30 in the Rutherford Lecture Theatre. All members of the School, staff and students, are invited to attend. In 2004 Prof Hough famously placed a £25 bet with Ladbrokes, at odds of 100/1, that gravitational waves would be discovered by 2010. A subsequent betting flurry saw Ladbrokes cut the odds to 2/1. This is the year. Will Prof Hough win his bet?

The return of the doughnuts with the tea and coffee after the last colloquium proved to be very popular, and they will be there again.

George Lafferty

ASTRONOMY & ASTROPHYSICS

Phil Diamond

On 31st May 2010 I shall be stepping down as Director of the Jodrell Bank Centre for Astrophysics. I will be taking a 3-year leave of absence from the University to take up the post of Chief of CSIRO Astronomy and Space Science (CASS).

CASS is a new division within CSIRO which brings together, for the first time, all CSIRO astronomy and space science activities under one umbrella. CASS will run the ATNF (ATCA, Parkes and Mopra), the Australian SKA Pathfinder (ASKAP) and the deep space communications centre at Tidbinbilla. It will also be responsible for developing a strong space science activity following a recent Australian Government funding initiative.

The Head of School and the Dean have decided that an international search will start immediately to identify my successor as Director of JBCA; meanwhile, Ralph Spencer will continue as Interim Director until a replacement is in post.

I shall be returning from Perth on March 23 and will work with Ralph and the Head of School to hand over my various responsibilities at that time.

I must emphasise that my decision to take the position at CSIRO is not related in any way to the current funding difficulties for physics and astronomy in the UK. As you all know, I have been a strong proponent of radio astronomy, e-MERLIN and the SKA and, in general, these areas have been treated relatively kindly in the recent STFC prioritisation. So, I enter my leave of absence in the knowledge that UK radio astronomy remains strong and that the SKA is one of the high priorities for the future.

- Phil

Bug Nebula

A press release on the Bug Nebula was published and it attracted a fair amount of attention, world-wide. The article can be found at:

<http://www.jb.man.ac.uk/news/2009/BugNebula/>

Seminars – Spring 2010

Wednesday 3rd February
Simon Casassus - Chile
PNe and Anomalous dust.

Wednesday 10th February
Serena Viti - UCL
Molecules and Starformation.

Wednesday 3rd March
Melvin Hoare - Leeds
The red MSX source survey.

Wednesday 10th March
Joanna Dunkely - Oxford
TBA

Wednesday 24th March
Katherine Blundell
Episodic jet activity in quasars and radio galaxies.

Wednesday 5th May
Jane Greeves - St Andrews
Planet formation.

All seminars take place in the Sir Bernard Lovell Seminar Room (3.225) in the Alan Turing Building at 3 pm unless otherwise stated. Refreshments are served at 2.45 pm. Seminar Website:

<http://www.jb.man.ac.uk/news/events/seminars.html>

Exochemistry and Astromaterials Seminars

The Exochemistry and Astromaterials seminars are being held on every other Monday, 13:00 – 14:00 in the Lovell Seminar Room in the Turing Building (3.225). An up-to-date schedule is at the following website: <http://www.jb.man.ac.uk/~cmk/exochemistry.html> and currently the schedule includes:

Monday 8th February
10 minute talks - please see webpage for full details.

Monday 22nd February
Jamie Gilmour - SEAES
Iodine and Xenon in Presolar Nanodiamonds.
Time & Venue: 1 pm in Neils Bohr Common Room.

Monday 8th March
TBA

Monday 22nd March
Bob Gehrz - Minnesota
The Stratospheric Observatory for Infrared Astronomy (SOFIA)

Monday 19th April
TBA

Monday 17th May
TBA

PARTICLE PHYSICS GROUP

Thorsten Wengler

Senior Research Fellow Thorsten Wengler, who is based at CERN, was featured recently in ATLAS E-news at:

http://atlas-service-enews.web.cern.ch/atlas-service-enews/2009/profiles_09/profiles_wengler.php

Terry Wyatt

Terry Wyatt has recently joined the editorial board of the European Physical Journal C. This is one of the principal international journals in experimental and theoretical particle physics.

Seminars - Spring 2010

Wednesday 3rd February
Alan Watson - Leeds
Energy Cosmic Rays

Wednesday 10th February
Andreas Papaesfsthathiou - Cambridge
Effects of QCD radiation on global inclusive variables.

Wednesday 24th February
Steve King - Southampton
TBA (Neutrinos).

Wednesday 3rd March
Henrique Araujo - Imperial College
Direct dark matter searches with ZEPLIN-III and beyond.

Wednesday 10th March
Maria Ubiali - Edinburgh
First global NNPDF analysis.

Wednesday 24th March
Edmond Iancu - Saclay
TBA

Wednesday 5th May
Jon Butterworth - UCL
TBA.

Wednesday 26th May
Jonathan Anderson - Zurich
TBA.

All seminars take place in the Moseley Lecture Theatre at 2.00 pm, unless otherwise stated. Seminar website: http://www.hep.man.ac.uk/seminars_meetings.html

Particle Group Newsletter

The Particle Group produces its own newsletter and the latest copy can be found at:

<http://www.hep.manchester.ac.uk/newsletters/2009/December09.pdf>

PHOTON SCIENCE INSTITUTE

Seminars - Spring 2010

Wednesday 4th February

Alan Dunbar - Sheffield

Polymer thin films as solar cells: understanding the processes that determine morphology and hence the efficiency of polymer solar cells..

Seminars will be held in the Lovell seminar room of the Alan Turing Building (Room 3.225) from 1 - 1.50 pm, except where indicated. Please see www.manchester.ac.uk/psi for further details. Tea, coffee and biscuits will be provided. For further information contact Dr Matthew Halsall (matthew.halsall@manchester.ac.uk, 0161 306 3184).

THEORETICAL PHYSICS

Theory Seminars – Spring 2010

Thursday 4th February

Andrea De Martino—Roma, La Sapienza

Constraint-based models of cellular metabolism: experiments, theories and the gap between them.

Time 2.30 - 3.30 pm at venue to be announced.

Wednesday 3rd March

Mauro Mobilia - Leeds

Fixation in evolutionary games under non-vanishing selection.

Time: 4.30 - 5.30 pm at venue to be announced.

Wednesday 31st March

Jasper van Wezel - Cambridge

Towards observing gravity's influence on quantum physics in a nano-scale experiment.

Wednesday 21st April

Benedict Rogers

TBA.

All seminars take place in the Niels Bohr Common Room at 2.30 pm, unless otherwise stated. Seminar website: <http://www.theory.physics.manchester.ac.uk/index.php?doc=seminars>

ADVERTISEMENTS

Services

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JUST FOR FUN

The Sudoku puzzle below is classed as 'Tough'.

		1	5					6
				8		1	2	
			9	3	1		4	
6	5						8	
				9				
	2						6	9
	9		8	5	3			
	3	4		2				
8					4	9		

5	3	4	7	1	8	9	6	2
9	7	6	3	2	5	1	4	8
1	8	2	9	6	4	7	5	3
2	6	9	1	8	3	4	7	5
3	4	5	2	9	7	8	1	6
7	1	8	5	4	6	2	3	9
6	9	7	8	5	1	3	2	4
4	2	1	6	3	9	5	8	7
8	5	3	4	7	2	6	9	1

BULLETIN

I will really be interested in anything you want to see included in the Bulletin, any observations – good or bad – and of course any articles that you want included. I will be happy to consider anything for inclusion; you may want to send a quiz, advertise articles/services for sale or wanted, personal announcements, social events, alongside the news specifically relating to the School.

Please could you let me know by 15th February 2010 anything you want including for the March/April issue by emailing me on: sheila.downes@manchester.ac.uk. Please feel free to phone or visit me and note my working days are Monday and Wednesday each week.