

# NEWSLETTER

December 2008

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The branch newsletters are published by IOP Publishing, Dirac House, Temple Back, Bristol BS1 6BE, UK

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Printed by Warners (Midlands) plc, Bourne, Lincolnshire, UK.

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**Check  
out your  
branch  
website**

**http://  
anglia.  
iop.org**

## Branch tour takes in sights of Cambridge

The first East Anglia Branch day tour took place on 1 November, starting at the Cavendish Laboratory at 11.00 a.m. Everyone turned up early, which stirred up some interest from students attending their Saturday-morning lectures. The students were certainly interested in the tea and biscuits laid out for the participants.

The group had time to enjoy a conducted tour of the Cavendish Museum, a collection that includes early cloud chambers, J Clark Maxwell's desk, the tube in which JJ Thomson discovered the electron and other famous pieces of apparatus that feature in introductory physics courses.

The tour then moved to the centre of Cambridge for lunch at the University Centre – one of the best locations in the city to enjoy a meal and, in the summer, to watch activities on the river.

A short walk to the Fitzwilliam Museum was followed by an hour-long visit to the collection, which is a world-class assembly of artistic, historic and archaeological wonders. The tour guides were provided by Cambridge City Leisure, part of Cambridge City Council.

The last part of the day included a walking tour of the colleges and the city, where ancient buildings like the 11th-century tower of St Benet Church stand alongside with modern additions, such as the Chronophage – a large grasshopper-themed clock that was recently unveiled to the public at Corpus Christi College.

For those willing to brave the clouds glowering over the city,

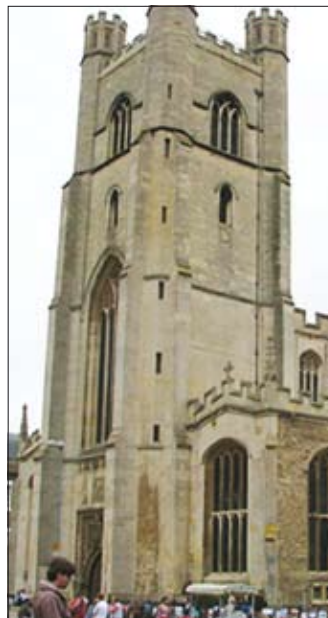


Image © The Fitzwilliam Museum

*Top left: research students at the Cavendish Laboratory in June 1897. JJ Thomson is fourth from the left, front row; Rutherford is first on the right, front row; and CTR Wilson is second from the left, back row. Above: a marble bust of Antinous (Roman, circa AD 130–140) at The Fitzwilliam Museum, Cambridge. Left: Great St Mary's is the university church in central Cambridge.*

a walk from the centre back to the Cavendish Laboratory, passing the university library, college gardens and the river, completed the day at 4.30 p.m.

It was a great day out for Institute members, their friends and family. Of the 53 attendees, the age varied from 5 to about 75 (impolite, even for a physicist, to ask for exact ages). Everyone had a pleasant time and had the opportunity to take in the sights at their own pace and to make or renew contacts

with other members.

The branch will be holding a number of these events in the coming year. If you want to get involved/suggest/organise or help out, then contact the branch secretary Jeannette Fine (e-mail jeannette.fine@finerandd.com).

Thanks to David Cresswell for signs, Alicia Kelleher for administration, Harry Druiff for tea, coffee and hospitality, and to Cambridge City Leisure and their tour guides.

# Nuffield Celebration offers students a chance to shine

The Nuffield Science Bursary Scheme gives students in the first year of their A-levels the opportunity to join a real research project in any area of science, technology, engineering and maths (STEM).

Projects run for four to six weeks during the summer holidays and students receive a bursary of £75 per week. On 21 October, the 2008 Nuffield Celebration, which enabled the participants in this summer's Nuffield scheme to showcase their work, was held at the Cavendish Laboratory in Cambridge.

The event ran from 4.00 p.m. to 7.30 p.m. and more than 100 people attended. Students

who are currently participating in the Nuffield Bursary Scheme, along with their parents and supervisors (from academia and industry), mixed with Institute of Physics representatives, teachers and other interested parties. The main speaker was Prof. Jonathan Shanklin of the British Antarctic Survey, who spoke about Antarctica, the weather and climate change, and its effect on everyday life.

The talk was followed by 12 presentations from Nuffield-supported students, four of whom had been supervised in the Cavendish Laboratory (SMF – Fracture Group). Those students who did not speak in the main

lecture theatre gave poster presentations. These were arranged in a colourful and informative way at the Cavendish Museum. As well as physics, there was plenty of biochemical and neurological research, emphasising the range of scientific disciplines that are open to the students.

During the event, all of the students received their certificates from the Nuffield Foundation – well-deserved after their eight-week-long summer projects.

Organisations that support the scheme include ARM, Babraham Institute, Babraham Biosciences Technologies, Cynosure, Innova, Inositide,

the Medical Research Council, Quotient Bioresearch and six University of Cambridge departments.

Specific thanks go to David Cresswell and Mark Threadgold for preparing the museum area and signs; Charles Harpur and colleagues for assisting with the buffet; David Dyson and colleagues for providing light refreshments; Harry Druiff for audiovisual support; and Natalie Barden and Ally Davies for photography.

For further details about the Nuffield Bursary Scheme, contact STEM TEAM Cambridgeshire (visit [www.stemteamcambridgeshire.org.uk](http://www.stemteamcambridgeshire.org.uk) or tel 01223 741 872).

## Are you ready for a new challenge?

Are you a teacher looking after a group of post-examination/pre-summer-holiday students? Are you a post-examination/pre-summer-holiday student looking after a tired teacher? If so, bring your ideas, your friends and your skills to bear on the “Make it so challenge”.

Next summer, the outreach office of the Cavendish Laboratory, in collaboration with the Institute's East Anglia Branch, will be holding a day-long problem-solving competition at the Cavendish Laboratory, Department of Physics, University of Cambridge. The day will involve

audiovisual displays complete with explosive demonstrations, hands-on experiments and the “Make it so challenge”.

As a team of up to four members you will be faced with solving three fiendishly difficult practical problems with limited time using a minimal toolkit, immense imagination and in-depth scientific knowledge.

In the words of a famous figure from the world of science fiction you will need to “make it so” and bring your ideas into science reality. No advance preparation is needed (or possible) – except that teams will need to make their own

travel arrangements.

Prizes will be given for the most effective, the most bizarre and the most entertaining solutions. All participants will receive an Institute-sponsored award. This is the first time that we are holding this event, so numbers are limited.

We will circulate more details nearer the time, in the Institute's *East Anglia Branch Newsletter* (but we will not tell you what the challenges are until the day).

For more information, contact Bill Proud (e-mail [wgp1000@cam.ac.uk](mailto:wgp1000@cam.ac.uk)) or Lisa Jardine-Wright (e-mail [ljw21@cam.ac.uk](mailto:ljw21@cam.ac.uk)).

## December Event will be a big one

Planning for Winning through Science (see p8) is racing along, and it's going to be a game to remember. The event will be held on Sunday 14 December (2.00p.m.) at the Cavendish Laboratory, Madingley Road, Cambridge CB30HE.

The first innings of the day will feature a lecture, entitled “Crisp-packet fireworks: how to create lively entertainment when it's too cold or wet to play outside”, given by David Ansell from the Naked Scientists.

The second innings will involve hands-on demonstrations that focus on the physics behind sport. There will be things to make (kept secret until the day) and things to do, so you not only participate in the game but also take home souvenirs. The planetarium will provide some “out-of-this-world” play, and there will be some sporting celebrities as well.

The day will end with “A question of physical activity”, where participants will try to decide which of the players are following the rules of physics.

## Got an idea for an East Anglia Branch event?

If so, e-mail [jeanette.fine@finerandd.com](mailto:jeanette.fine@finerandd.com)

# Pupils see physics in the flesh

From 16 to 18 September Cavendish Laboratory hosted the 24th annual Physics at Work exhibition. A total of 64 schools participated, including schools from London, Bedfordshire and Lincolnshire.

The aim of the exhibition is to stimulate interest and encourage wider participation in physics among 14–16-year-old students by showcasing the many and varied ways in which physics is used in the real world. The event is based on the interaction between active scientific researchers and potential scientists, to help to spread the excitement about modern physics research to students who will soon be making important examination and career choices.

The exhibition ran over three days, with two sessions per day, and with approximately 20 exhibitors. Some of them were from research groups within Cavendish Laboratory. Others were from industry, including companies such as Rolls-Royce, Domino Printing Services (DPS) and The Technology Partnership.

About 350 students participated in each half-day session. They split into small groups of about 15 and each group, accompanied by a teacher, visited six exhibits. These typically consisted of a short presentation, practical demonstrations, an opportunity for hands-on involvement and time for asking questions. A booklet of information was provided to support the exhibition, allowing teachers to take ideas back to their classrooms. This structured approach has developed over time and allows students to engage thoroughly with the science on display.

I could probably fill the rest of the newsletter with topics covered by the exhibitors, so I will just focus on a few that caught my eye.

There were some intriguing overlaps. Teams from Kodak and DPS talked about inkjet printing – DPS's team covered high-speed printing on irregular



*Liberty ships were the first all-welded, prefabricated cargo ships and were mass produced in the US. Some 2751 of these ships were built between 1941 and 1945. Only two now remain afloat; many were destroyed by cracking of the type shown above.*

objects, such as eggs and cans, and the Kodak team discussed colour printing.

The materials science and nanoscience departments from the University of Cambridge both covered nanotechnology. The materials science department was interested in making strong, light, stiff metals that don't crack (the picture shows what happens when something goes wrong in the microstructure); they looked towards controlling the large-scale properties of a material by understanding the small-scale arrangement of its atoms. Nanoscience at Cambridge was interested in the small-scale structures themselves, especially nanotubes (tubes of carbon that are nanometres in diameter). These nanotubes, which are many times stronger than steel but only about one-sixth of the mass, can be used for many things, from wires for electrical circuits to tennis rackets.

A team from BAA Stansted showed the physics that underlies their tracked transit system, which included

electricity and magnetism, frequency modulation for communication and chemical reactions for air conditioning. The Royal Air Force Police showed the physics behind the latest crime-fighting techniques. Electricity and magnetism also featured at the event.

Exhibitors were varied, ranging from the very academic to the very applied. They included BAA Stansted, the Transit Electronics Department; the British Antarctic Survey; the Cavendish Laboratory; Cavendish Astrophysics; the Biological and Soft Systems Group; the High-Energy Physics Group; the Optoelectronics Group; the Quantum Matter Group (Superconductivity); the Laboratory Safety Officer; the Semiconductor Physics Group; the Fracture and Shock Physics Group; Team Crocodile; the Theory of Condensed Matter Group; the Cambridge Computer Laboratory; the Department of Chemical Engineering; the Department of Earth Sciences and Carrack Measurement Technology; the Department of Material Science;

Domino Printing Sciences; Kodak (European Research Laboratories); LATEST, School of Materials; Mathworks; Nanoscience at Cambridge; the Royal Air Force Police; Rolls-Royce; The Technology Partnership; and the Wolfson Brain Imaging Centre.

Sponsors included the Cavendish Laboratory, the East Anglia Branch, the Institute of Physics Education Department, EPSRC (through the outreach programme of the Condensed Matter Theory Portfolio Partnership and the Novel Quantum Order in Interacting Electron Metals Portfolio Partnership), Carrack Measurement Technologies, Goodfellow Metals and The Technology Partnership.

It would not have been possible to run this event without the active participation of the exhibitors and the technical and support staff of the Cavendish Laboratory. We would like to take this opportunity to thank them again for all of the time and hard effort that they gave to the Physics at Work exhibition.

# Hoyle Day goes with a big bang

On Saturday 8 November St John's College, Cambridge, held its first Hoyle Day. More than 180 visitors came from across the country to view an exhibition of papers and artefacts in the college's 17th-century Old Library and to hear a fascinating talk about Hoyle's scientific legacy.

At the exhibition, visitors were enthralled by a range of artefacts illustrating Hoyle's life, career and interests. Highlights included: his boyhood telescope – a present from his family in 1925 – through which the architectural features of the library were viewed; parts of his childhood chemistry set (used to make gunpowder and phosphine gas, among other alarming substances); his 1972 letter of resignation from the university; drafts of science-fiction books; medals; photographs; and maps of his favourite mountain-climbing areas.

Dr Carolin Crawford of the University of Cambridge Institute of Astronomy gave a talk examining some of Hoyle's most significant pieces of scientific research: work with RALyttleton on the accretion of matter onto stars; the development of the steady-state theory of the continuous creation of matter with Hermann Bondi and Tommy Gold; and pioneering work on stellar nucleosynthesis with Geoffrey and Margaret Burbidge and Willy Fowler.



Visitors browse the Fred Hoyle artefacts that are archived at the Old Library in St John's College.

Prof. Sir Fred Hoyle FRS (1915–2001) was one of the most distinguished, creative and controversial scientists of the 20th century. He was a fellow of St John's College from 1939, and Plumian professor of astronomy and experimental philosophy from 1958 to 1972.

Hoyle became nationally famous in the 1950s after giving a series of talks, *The Nature of the Universe*, on BBC radio. He had a long and successful career as a science-fiction author. After his death in 2001, his library, papers and some artefacts were donated to the Old Library at St John's College by his widow, Barbara (Lady Hoyle).

Hoyle Day was the first event of the Fred Hoyle Project

at the library. This project is generously funded by the National Lottery Heritage Lottery Fund, the Friends of the Centre for the History of Physics, the American Institute of Physics and St John's College.

The aim of the project is to broaden knowledge of Hoyle's work by cataloguing his personal papers and making them accessible to the public via a series of outreach events.

Future events will include hands-on explorations of Hoyle's science-fiction writings as part of the Cambridge Science Festival in March 2009, an exhibition of the history of astronomy at St John's College as part of the International Year of Astronomy 2009, visits

from school groups and further Hoyle Days.

Events will incorporate talks from astronomers and historians of science, practical activities for children and adults alike, and many more opportunities to view and handle items from the Hoyle collection.

For more information about the Fred Hoyle Project, visit [www.joh.cam.ac.uk/library/special\\_collections/hoyle](http://www.joh.cam.ac.uk/library/special_collections/hoyle). Anyone interested in participating in future events is particularly encouraged to contact the Fred Hoyle Project associate, Katie Birkwood (tel 01223 339 362; e-mail [kib21@cam.ac.uk](mailto:kib21@cam.ac.uk)).

**Katie Birkwood**

## Summer-school initiative demystifies physics

The Senior Physics Challenge (SPC) is a university access initiative aimed at students studying AS physics (or equivalent) in schools across the UK. It aims to demystify physics, making it and the transition to university physics more accessible to a wider range of students in the UK.

The SPC does this with a five-day summer school in Cambridge which, in 2009, will provisionally be from Sunday 28 June to Thursday 2 July. During this time, students will

participate in general physics/research lectures, practical laboratory classes, advice on how to get into universities and evening entertainment (including physics estimation).

Students will be accommodated as guests of a small number of colleges. Intensive tuition will emphasise developing problem-solving and experimental skills. The group will eat together in the evenings.

To attend the summer school, pupils must be nominated by their school. We invite teachers

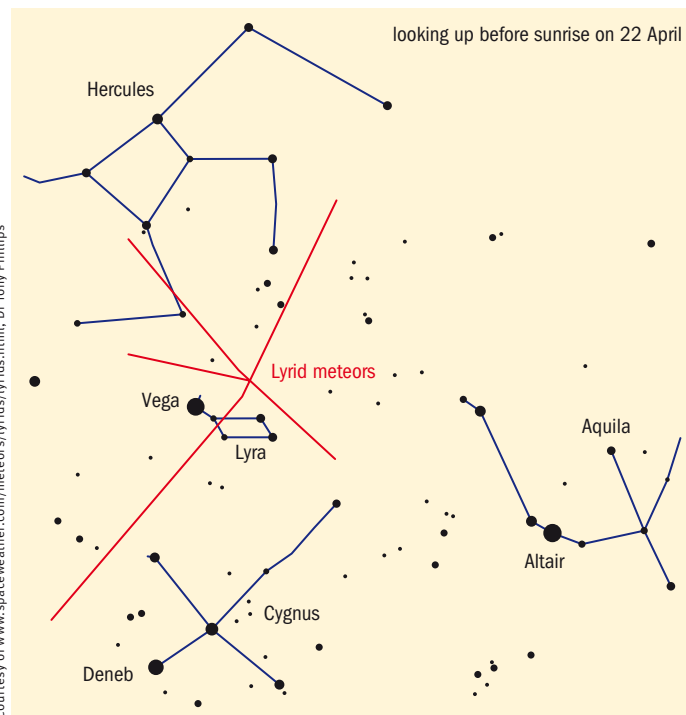
to recommend one or two of their students who have already shown some aptitude for physical and mathematical thinking. They should have demonstrated promise at GCSE and during their AS year, and must be taking physics and mathematics forward to A2. Further mathematics is not necessary because many schools do not offer it. If it is offered at your school, we assume that your chosen students will be taking it.

It should be made clear to

students that the SPC will be demanding, but also rewarding, for those who have a strong interest in physics and intend to continue it at degree level. We are aiming for the widest participation of students who are studying physics.

The initiative will open for applications in the new year. Keep an eye out for information posted at [www-spc.phy.cam.ac.uk](http://www-spc.phy.cam.ac.uk). For more details about SPC, contact Dr A Cheung or Dr L Jardine-Wright (e-mail [outreach@phy.cam.ac.uk](mailto:outreach@phy.cam.ac.uk)).

# Catch the April Lyrids in the Norfolk night sky



Courtesy of [www.spaceweather.com/meteors/lyrids/lyrids.html](http://www.spaceweather.com/meteors/lyrids/lyrids.html), Dr Tony Phillips

This schematic shows the apparent source of the Lyrid meteor shower.

If you live in west Norfolk and enjoy looking at the night skies, reserve alternate Mondays for the West Norfolk Astronomy Club, which is in its second year and has a full programme of events scheduled between now and May. Weather permitting, there is observation on all club evenings. The club has a Meade LX90 8-inch reflector and a pair of binoculars. People are encouraged to bring their own equipment – there is plenty of room. Remember, 2009 is the International Year of Astronomy.

Planned talks include “In search of the Winged Messenger and the April Lyrids” on 27 April. The Lyrids is a meteor shower

lasting from 16 to 26 April each year. The radiant of the meteor shower is located in the constellation Lyra, peaking on 22 April – hence, they are also called the Alpha Lyrids or April Lyrids. The source of the meteor shower is the periodic Comet C/1861 G1 Thatcher.

The venue is the Tottenhill and Wormegay Village Hall. Meetings start at 7.30 p.m. Non-members are welcome, for a fee of £3.00. Children under 16 are also welcome but must be accompanied by an adult.

See the events programme for more planned talks. For further information, contact Larry Peters (tel 01366 383 109).

## CUPS keeps the physics fun coming

Following an extremely successful Michaelmas term lecture series, Cambridge University Physics Society (CUPS) offers more entertainment this winter.

So far this academic year we have hosted talks such as “Black holes at the Large Hadron Collider?”, attended by more than 200 people, and a successful conference to help students find summer work in academia and in industry.

The new year brings the prospect of Dr Pete Vukusic, recipient of the Biotechnology and Biological Sciences Research Council Communication of Science grant and Lord Kelvin Award lecturer. His work on Nature’s use of light has been featured on TV in *Tomorrow’s World*.

Continuing the theme of communicating science, we

relish a visit from Dr Mark Lewney, winner of the first NESTA FameLab. His musical introduction to superstrings is likely to prove inspiring.

We hope to join Cambridge University Astronomy Society in welcoming BBC documentary presenter Prof. Jim Al-Khalili in February (however, this has yet to be confirmed).

CUPS talks are free to members, £2 for non-members, and take place in the pharmacology department on Tennis Court Road, Cambridge. Each talk is followed by a drinks reception and everyone is invited to attend.

See the branch events programme for further details. Remember to check online at [www.srcf.ucam.org/physics](http://www.srcf.ucam.org/physics) for details of any changes to events before you attend.

**Hamish Gordon**, CUPS

## Forensics give the lowdown on drugs

On Thursday 4 December, Dr Phil Yates of the Forensic Science Service, Huntingdon Laboratory, will give a lecture entitled “Forensic science: all you ever wanted to know about drugs, but were afraid to ask”.

Have you ever wondered what makes something a “controlled drug”, legally speaking? Are you confused about the legal status of cannabis? Ever pondered how to make crack cocaine using your kitchen microwave oven? Could you get arrested if you discover magic mushrooms growing wild in your back garden? What about those opium poppies growing in your front garden? Is heroin really “cut” with brick dust?

The more commonly encountered controlled drugs, such as heroin, cocaine,

amphetamine and cannabis will be reviewed. How are such drugs made? Where do they come from? How are they identified in a forensic science laboratory? What are the current trends in drug abuse? All of these questions will be answered in this brief overview of the way in which drugs are legally controlled in the UK.

Cambridge Physics Centre lectures are held at 6.00 p.m. in the Pippard Lecture Theatre, Cavendish Laboratory, Madingley Road, Cambridge. There is no need to book a place. More lecture titles can be found in the winter events programme.

For further details about the talk, contact the educational outreach officer of the Cavendish Laboratory (e-mail [outreach@phy.cam.ac.uk](mailto:outreach@phy.cam.ac.uk)).

## The deadline for your contributions to the next issue of this newsletter

### Friday 30 January

### E-mail your material to [jeannette.fine@finerandd.com](mailto:jeannette.fine@finerandd.com)

# Winter events programme

## 3 December

### Black holes for beginners

Kim Bayliss

7.15 p.m. Institute of Astronomy, Madingley Rise, Cambridge

For more information, contact Carolin Crawford (e-mail [csc@ast.cam.ac.uk](mailto:csc@ast.cam.ac.uk), tel 01223 337 510).

## 4 December

### Forensic science: all you ever wanted to know about drugs, but were afraid to ask

Phil Yates

6.00 p.m. Pippard Lecture Theatre, Cavendish Laboratory, JJ Thomson Avenue, Cambridge

A Cambridge Physics Centre lecture. For more information, visit [www-outreach.phy.cam.ac.uk/cpc](http://www-outreach.phy.cam.ac.uk/cpc).

## 8 December

### Astrophotography

Nik Szymanek, internationally renowned astrophotographer

7.30 p.m. Tottenhill and Wormegay Village Hall, Whin Common Road, Tottenhill PE33 0RS

A West Norfolk Astronomy Society lecture. For more information, contact Larry Peters (tel 01366 383 109).

## 9 December

### Horizon Seminar: Materials

Material Science Department, Cambridge University

Horizon Seminars are organised by the Research Services Division, University of Cambridge, with support from Cambridge Enterprise. They are one-day meetings to bring together academics and industry in exciting areas of research. For more information, visit [www.rsd.cam.ac.uk/events/horizon/sixthseries/index.html](http://www.rsd.cam.ac.uk/events/horizon/sixthseries/index.html).

## 10 December

### Massive stars in their death throes

John Eldridge

7.15 p.m. Institute of Astronomy, Madingley Rise, Cambridge

For more information, contact Carolin Crawford (e-mail [csc@ast.cam.ac.uk](mailto:csc@ast.cam.ac.uk), tel 01223 337 510).

## 12–13 December

### The outer solar system

Dave Cook

7.30 p.m. Seething Observatory, Norwich Astronomical Society

Admission: non-members, £2.50 for adults and £1.50 for children; members, £1.50 for adults and £1 for children. For more information, contact Dave Balcombe (tel 01953 602 624, e-mail [drbalcombe@tiscali.co.uk](mailto:drbalcombe@tiscali.co.uk)).

## 14 December

### The East Anglia Branch December Event: Olympics – The Physics of Winning

Cavendish Laboratory, JJ Thomson Avenue, Cambridge 2.00–3.00 p.m.

Crisp-packet fireworks  
Lecture by David Ansell

## 3.00–4.00 p.m.

Hands-on demonstrations and planetarium

## 4.00–5.00 p.m.

Panel game: Call my sporting bluff

For more information, visit [www-outreach.phy.cam.ac.uk/cpc](http://www-outreach.phy.cam.ac.uk/cpc) or see the advert on p8.

## 17 December

### Time travel: fact or fiction?

Harold Kozak, a NASA/JPL solar system ambassador from New York

7.15 p.m. Institute of Astronomy, Madingley Rise, Cambridge

For more information, contact Carolin Crawford (e-mail [csc@ast.cam.ac.uk](mailto:csc@ast.cam.ac.uk), tel 01223 337 510).

## 17–18 December

### TechnologyWorld08

Ricoh Arena, Coventry

“Speed meeting” for high-technology firms, organised by UK Trade International. For more information, visit [www.cambridgenetwork.co.uk/news/article/default.aspx?objid=50792](http://www.cambridgenetwork.co.uk/news/article/default.aspx?objid=50792).

## 9–10 January

### Comets

Mark Turner

7.30 p.m. Seething Observatory,

## Norwich Astronomical Society

Admission: non-members, £2.50 for adults and £1.50 for children; members, £1.50 for adults and £1 for children. For more information, contact Dave Balcombe (tel 01953 602 624, e-mail [drbalcombe@tiscali.co.uk](mailto:drbalcombe@tiscali.co.uk)).

## 12 January

### The Moon and observing it

7.30 p.m. Tottenhill and Wormegay Village Hall, Whin Common Road, Tottenhill PE33 0RS

A West Norfolk Astronomy Society lecture, followed by an observing session. For more information, contact Larry Peters (tel 01366 383 109).

## 13 January

### The remains of recent exploding stars in our galaxy

Dr Dave Green

6.00 p.m. Pippard Lecture Theatre, Cavendish Laboratory, JJ Thomson Avenue, Cambridge

A Cambridge Physics Centre lecture. For more information, visit [www-outreach.phy.cam.ac.uk/cpc](http://www-outreach.phy.cam.ac.uk/cpc).

## 21 January

### Title to be confirmed

Dr Pete Vukusic

8.00 p.m. Pharmacology Department, Tennis Court Road, Cambridge

A Cambridge University Physics Society event. Free to members, £2 for non-members. The lecture is followed by a drinks reception. Check online at [www.srcf.ucam.org/physics](http://www.srcf.ucam.org/physics) for details of any changes before attending.

## 23 January

### CUPS lecture: Making light of mathematics

Prof. Sir Michael Berry, Bristol University

8.00 p.m. Pharmacology Department, Tennis Court Road, Cambridge

Members free, £2 for non-members. The talk is followed by a drinks reception. For more information, contact Hamish Gordon (e-mail [hg264@cam.ac.uk](mailto:hg264@cam.ac.uk)).

## 26 January

### The winter constellations

7.30 p.m. Tottenhill and Wormegay Village Hall, Whin Common Road, Tottenhill PE33 0RS

A West Norfolk Astronomy Society lecture, followed by an observing session. For more information, contact Larry Peters (tel 01366 383 109).

## 28 January

### The fuzzy universe

Andrew Pontzen

7.15 p.m. Institute of Astronomy, Madingley Rise, Cambridge

For more information, contact Carolin Crawford (e-mail [csc@ast.cam.ac.uk](mailto:csc@ast.cam.ac.uk)).

## 4 February

### The solar system beyond Neptune

Mark Booth

7.15 p.m. Institute of Astronomy, Madingley Rise, Cambridge

For more information, e-mail [csc@ast.cam.ac.uk](mailto:csc@ast.cam.ac.uk).

## 4 February

### Rock guitar in 11 dimensions

Dr Mark Lewney

8.00 p.m. Pharmacology Department, Tennis Court Road, Cambridge

A Cambridge University Physics Society event. Free to members, £2 for non-members. The lecture is followed by a drinks reception. Check online at [www.srcf.ucam.org/physics](http://www.srcf.ucam.org/physics) for details of any changes before attending.

## 6 February

### CUPS lecture: The history of high-speed photography

Dr Bill Proud, Fracture and Shock Physics Group, Cavendish Laboratory, University of Cambridge

8.00 p.m. Pharmacology Department, Tennis Court Road, Cambridge

Members free, £2 for non-members. The talk is followed by a drinks reception. For more information, contact Hamish Gordon (e-mail [hg264@cam.ac.uk](mailto:hg264@cam.ac.uk)).

## 9 February

### Saturn: observing the second

### **largest planet in the solar system**

7.30 p.m. Tottenhill and Wormegay Village Hall, Whin Common Road, Tottenhill PE33 0RS  
A West Norfolk Astronomy Society lecture, followed by an observing session. For more information, contact Larry Peters (tel 01366 383 109).

### **10 February**

#### **Measuring biological cells with the force of light**

Dr Pietro Cicuta  
6.00 p.m. Pippard Lecture Theatre, Cavendish Laboratory, JJ Thomson Avenue, Cambridge  
A Cambridge Physics Centre lecture. For more information, visit [www-outreach.phy.cam.ac.uk/cpc](http://www-outreach.phy.cam.ac.uk/cpc).

### **13 and 14 February**

#### **Astronomy versus astrology**

Mark Shepherd  
7.30 p.m. Seething Observatory, Norwich Astronomical Society  
Admission: non-members, £2.50 for adults and £1.50 for children; members, £1.50 for adults and £1 for children. For more information, contact Dave Balcombe (tel 01953 602 624, e-mail [drbalcombe@tiscali.co.uk](mailto:drbalcombe@tiscali.co.uk)).

### **18 February**

#### **Title to be confirmed**

Prof. Jim Al-Khalili  
8.00 p.m. Pharmacology Department, Tennis Court Road, Cambridge  
A joint Cambridge University Astronomy Society and Cambridge University Physics Society event (to be confirmed).

### **20 February**

#### **CUPS lecture: Molecular gastronomy – the science of taste and flavour**

Prof. Peter Barham, University of Bristol  
8.00 p.m. Pharmacology Department, Tennis Court Road, Cambridge  
Members free, £2 for non-members. The talk is followed by a drinks reception. For more information, contact Hamish Gordon (e-mail [hg264@cam.ac.uk](mailto:hg264@cam.ac.uk)).

### **23 February**

#### **Galileo: his contribution to astronomy**

Dr Mick Weston  
7.30 p.m. Tottenhill and

Wormegay Village Hall, Whin Common Road, Tottenhill PE33 0RS

A West Norfolk Astronomy Society lecture, followed by an observing session. For more information, contact Larry Peters (tel 01366 383 109).

### **4 March**

#### **Update on progress at the Large Hadron Collider**

Dr Chris Lester  
8.00 p.m. Pharmacology Department, Tennis Court Road, Cambridge  
A Cambridge University Physics Society event. Free to members, £2 for non-members. The lecture is followed by a drinks reception. Check online at [www.srcf.ucam.org/physics](http://www.srcf.ucam.org/physics) for details of any changes before attending.

### **5 March**

#### **CUPS lecture: A critical point for science?**

Prof. Brian Josephson, University of Cambridge  
8.00 p.m. Pharmacology Department, Tennis Court Road, Cambridge  
Members free, £2 for non-members. The talk is followed by a drinks reception. For more information, contact Hamish Gordon (e-mail [hg264@cam.ac.uk](mailto:hg264@cam.ac.uk)).

### **6 and 7 March**

#### **Astronomy in the 21st century**

Dave Balcombe  
7.30 p.m. Seething Observatory, Norwich Astronomical Society  
Admission: non-members, £2.50 for adults and £1.50 for children; members, £1.50 for adults and £1 for children. For more information, contact Dave Balcombe (tel 01953 602 624, e-mail [drbalcombe@tiscali.co.uk](mailto:drbalcombe@tiscali.co.uk)).

### **9 March**

#### **The spring constellations**

7.30 p.m. Tottenhill and Wormegay Village Hall, Whin Common Road, Tottenhill PE33 0RS  
A West Norfolk Astronomy Society lecture, followed by an observing session. For more information, contact Larry Peters (tel 01366 383 109).

### **18 March**

#### **Relativity for beginners**

Adrienne Leonard

7.15 p.m. Institute of Astronomy, Madingley Rise, Cambridge

For more information, contact Carolin Crawford (e-mail [csc@ast.cam.ac.uk](mailto:csc@ast.cam.ac.uk), tel 01223 337 510).

### **19 March**

#### **Science Week Lecture: A flash of lightning in creating the most exciting electric sports car on the planet**

Arthur Wolstenholme  
6.00 p.m. Pippard Lecture Theatre, Cavendish Laboratory, CU, JJ Thomson Avenue  
For more information, visit [www-outreach.phy.cam.ac.uk/cpc](http://www-outreach.phy.cam.ac.uk/cpc).

### **23 March**

#### **The Virgo cluster of galaxies and some of its gems**

7.30 p.m. Tottenhill and Wormegay Village Hall, Whin Common Road, Tottenhill PE33 0RS  
A West Norfolk Astronomy Society lecture, followed by an observing session. For more information, contact Larry Peters (tel 01366 383 109).

### **3 and 4 April**

#### **Mysteries of the Moon**

Mark Thompson  
7.30 p.m. Seething Observatory, Norwich Astronomical Society  
Admission: non-members, £2.50 for adults and £1.50 for children; members, £1.50 for adults and £1 for children. For more information, contact Dave Balcombe (tel 01953 602 624, e-mail [drbalcombe@tiscali.co.uk](mailto:drbalcombe@tiscali.co.uk)).

### **13 April**

#### **West Norfolk Astronomy Society open evening**

7.30 p.m. Tottenhill and Wormegay Village Hall, Whin Common Road, Tottenhill PE33 0RS  
Observing session, with instructions for beginners. For more information, contact Larry Peters (tel 01366 383 109).

### **27 April**

#### **In search of the Winged Messenger and the April Lyrids**

7.30 p.m. Tottenhill and Wormegay Village Hall, Whin Common Road, Tottenhill  
A West Norfolk Astronomy Society lecture, followed by an observing session. For more information, contact Larry Peters (tel 01366 383 109).



*Astronomers gather to observe the night sky in Cambridge.*

## **Free astronomy talks planned**

If you are a Cambridge resident, you don't have to go as far as Norwich or King's Lynn to observe the night sky. The Institute of Astronomy of the University of Cambridge is offering open evenings every Wednesday from now until March (except 24 and 31 December). Each evening event features a half-hour talk given at a fairly accessible level, starting at 7.15 p.m.

Observation starts at 7.45 p.m., weather permitting, through the historical Northumberland and Thorowgood telescopes, as well as modern 8- and 14-inch telescopes. The latter has a video-projection facility and expert commentary will be given on what is observed. If there is nothing to be seen, then a cup of tea is offered as recompense.

Scheduled talks include "Time travel: fact or fiction?" by Harold Kozak, a NASA/JPL solar system ambassador, visiting from New York on 17 December.

These events will be held at the Institute of Astronomy on Madingley Rise, just off Madingley Road. If you know where the Cavendish Laboratory is, the institute is close, but on the other side of Madingley Road. There are three car parks nearby so there is plenty of parking space available.

Entrance is free and children are welcome. However, not all of the talks will hold a child's attention, so check the schedule ([www.ast.cam.ac.uk/public/public\\_observing/0809/timetable.html](http://www.ast.cam.ac.uk/public/public_observing/0809/timetable.html)).

For more information, contact Carolin Crawford (e-mail [csc@ast.cam.ac.uk](mailto:csc@ast.cam.ac.uk), tel 01223 337 510), or visit the Institute of Astronomy's website at [www.ast.cam.ac.uk/public/public\\_observing](http://www.ast.cam.ac.uk/public/public_observing).

# Olympus Physics and Sport: Winning through Science

**Cavendish Laboratory, Cambridge**

**Sunday 14 December 2008**

**2.00–5.30 p.m.**



**Programme:**

- “Crisp-packet fireworks” by David Ansell of the Naked Scientists: **2.30 p.m.**
- “A question of physical activity” audience-interaction panel game: **4.30 p.m.**

**Highlights include:**

- sporting celebrities
- activities for all abilities
- hands-on physics
- make and do
- planetarium



**For parking and travel directions, visit [www-outreach.phy.cam.ac.uk/DecEvent/2008/index.php](http://www-outreach.phy.cam.ac.uk/DecEvent/2008/index.php) and [www-outreach.phy.cam.ac.uk/directions.php](http://www-outreach.phy.cam.ac.uk/directions.php).**

Sponsored by the East Anglia Branch of the Institute of Physics, the Naked Scientists and the Cambridge Science Festival.