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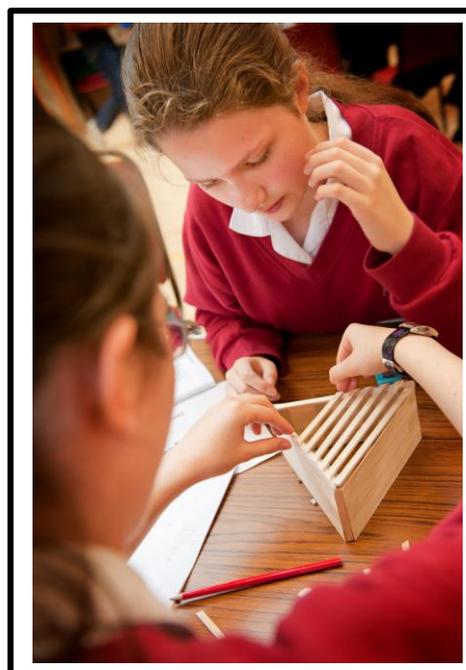
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Cracking Feats of Engineering at AWE's Schools Engineering Challenge 2011



How to save an egg from destruction was the challenge facing ten school-groups from across the South East when they arrived at the AWE engineering challenge in Tadley.

The task, which was put together by a team of AWE's engineering graduates, saw the young engineers design and build a structure to protect an egg from some fiendishly devised tests. In reality this saw their efforts tested to destruction by dropping heavy masses on the unsuspecting structures.

This time around both the **Institute of Chemical Engineers** and the **Institute of Physics** were invited to join in the cracking fun at the community centre. Each year the challenge represents not only an exciting way to get students engaging in science, but also the ideal opportunity to start young people thinking about the career they could have if they choose to study a STEM subject at university

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In the morning session materials were provided to build the devices. This consisted of wooden planks of varying lengths and thickness, with some sticky tack thrown in for good measure. The catch was that all the items were priced, and the students charged according to what materials they had used. To win it was important not only to build a durable case to protect the egg from bombardment, but also to spend the least amount of money possible.

After the frenzied building of the morning had stopped and the scissors were put away, tension mounted as the students gathered round to watch the graduates start the testing. There were three rounds in total with each seeing the mass and height increase until 6kgs were dropped from one metre. As if that wasn't enough, the egg shelters also had to withstand a sideward impact in each round. As you can imagine, there was carnage and destruction a plenty as the scene started to resemble that of an accident in a pastry chef's kitchen. After all that only one team made it through to the final round, although once budgets were taken into account it was St Bartholomew's School in Newbury that came out on top, but who had actually crashed out in an earlier round. They received a trophy and £750 to spend on scientific or technical equipment for their school.

To show just how difficult the challenge was and for fun a team of teachers and a team of exhibitors respectively (IOP was part of the latter) took part in the challenge. Even though the exhibitors' team did reasonably well and working on the project was enjoyable, the real satisfaction came when talking to the students about what they can do if they follow a science career path. Judging from the enthusiasm on the day there is little doubt that some of the UK's future scientist took part in AWE's Schools Engineering Challenge 2011.

Lee Crouch
Regional Officer, South East
Institute of Physics

Physics returns to the top ten

A-level results published this morning, Thursday 18 August 2011, by the Joint Council for Qualifications show an increase for the fifth consecutive year in the number of students sitting examinations in physics and, for the first time since 2002, physics is back in the top ten most popular subjects.

The total number of students entered for physics A-level has increased by 6.1%, from 30,976 in 2010 to 32,860 in 2011.

Professor Sir Peter Knight, incoming-President of the Institute of Physics (IOP), said,

"Year on year we are seeing increases in the number of students choosing to sit physics A-level. As physics has enjoyed popular rejuvenation - thanks, in no small part, to the 'Brian Cox effect' and the excitement surrounding the Large Hadron Collider - we're sure that many students are also responding to calls from university leaders, businesses and the Government for students to choose subjects which will provide the skills our country needs.

"The incremental increases each year have led to a significant long-term trend. Over the last five years, the number of A-level exams taken across all subjects has risen 7.7% but the growth in the number entering for physics is far stronger - a 19.6% increase over the last five years. Students across the country are hearing the cry for more scientists and rising to the challenge!"

The encouraging result at A-level is supported by a continued increase in AS-level numbers, with the number of entrants increasing from 45,534 last year to 58,190 this year. The 27.8% increase is partly explained by a change to funding rules for maintained schools in England, but far outstrips the average increase across all subjects of 17.9%.

The striking gender divide in the subject still persists. Despite total number increases in the number of both girls and boys sitting the exam, the gender divide remains at approximately 1 girl for every 4 boys achieving A level physics. This is an issue that schools receiving support through the IOP's Stimulating Physics Network are working on.

Clare Thomson, Curriculum and Diversity Manager, pre-19 at IOP, added, "When the target of 35,000 students entering physics A-level by 2014 was first announced, many doubted it could be achieved. The work undertaken by governments, universities, businesses and learned societies to turn the tide is paying off.

"There is, however, still much work to do – girls and boys alike need to continue seeing the excitement of physics and be helped to understand how physics is relevant to their lives and is the subject providing the toolkit for rising to the most significant challenges of the Twenty First Century."

Joe Winters
IOP senior press officer

MYIOP UPDATED !

New Look, New feel and much easier to operate

My IOP Messages IOP Events **Networks** Blogs Forums Videos Photos Knowledge Centre Files

Networks My Groups

London and South East Branch

Public Access Settings Invite

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Navigation

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- Files

News

IOP Institute of Physics
London and South East Branch

The Branch Chair is Dr Barbara J Gabrys CPhys FInstP of the Department of Materials University of Oxford

Click here for the Branch Committee

Network Information

Description:
Branch physics activities in London and the South East

Access:
Public

Members:
10038

Network Admins

- London & South East Branch (Owner)
- Caitlin Watson
- Robert Boutland

Upcoming Events

There are no events in the next 30 days.

You may have been put off using MYIOP in the past but if so it may be time to look again. As the above picture shows the look is now more up to date. The branch page allows access to branch files; click the files icon on the page. The new events leaflet produced by Michelle Supper, our media representative, will be here once it becomes available. The newsletter archive of the printed newsletters is also available in E-format and of course the current newsletters; branch reports & other documents are also there. Suggestions as to the content of the page are welcome.

Click the photo's icon and some photographs from branch events are there. Bob Boutland, newsletter editor, is pleased to have photographs for inclusion in the newsletter and on the branch MYIOP page.

The L&SE Branch page can be found by clicking the networks tab and looking on page 5, (the list is now alphabetical!). Once you find a network you'd like to join you can click 'Sign-up for this Group'. Networks that you are a member of will display on your page under My Groups. It is usually a good idea to bookmark a page you are interested in as well.

Currently the branch is not using the calendar or RSVP system for events. Please book for events as directed on our branch page.

As with all networking sites remember to look at your privacy settings which you can do from your own page. Log in details can be obtained from memberservices@iop.org if you have forgotten your details.

Welcome to MyIOP

Privacy Settings
Controlling what others can see about you.

Alerts
Managing alerts from MyIOP.

IOP Groups & Branches
See Networks above or [click here for details](#).

Contact Information
Updating your data with IOP.

Searching
Finding people.

General Help
Using MyIOP

Don't forget to look at using MYIOP.

Do you inspire others with your
enthusiasm for Physics?



The Very Early Career Physics Communicator Award

seeks to recognise excellence in communication skills of physicists who are at the beginning of a career in physics.

Eligibility

Applicants do not need to be a member of the IOP, but should be one of the following:

- An undergraduate physicist
- A person involved in an appropriate postgraduate study within a few years of a degree qualification (not more than 5 years)
- A person working as a physicist in UK or Eire within the first 5 years of their physics career

Application: Submission of a report of their communication activities which should be no more than 1500 words long. Further details and application form available from

<http://www.iop.org/activity/groups/subject/physcom>

Submission deadline: 15th September 2011

Where: All entries should be submitted by email to the Physics Communicators Group secretary, David Smith: david.smith@brunel.ac.uk

Prize: The winner will receive £250 and an award certificate at an IOP Physics Communicators Group event in November. As well as providing recognition of the winner's work through the prize money, the process will also facilitate networking opportunities for all participants.

Award Ceremony: November 8th at IOP, Portland Place, London

IOP Institute of Physics

London & South East Branch Dinner

Dear L&SE Branch Member,

The 2011 Branch dinner will be held in the ornate Herschel Room at the Institute of Physics, 76 Portland Place, London W1B 1NT at 8.00 p.m. on Wednesday 16th November 2011 after the evening lecture given by Professor Sir Peter Knight. The menu will be:

- + Chalk Farm smoked salmon, scrambled duck egg and Caviar
- + Beetroot Risotto, thyme and parmesan (V)

- + Free range chicken breast with sage crust , wild mushroom stew and herb broth
- + Sea Bass with wilted spinach and clam cream
- + Savoy cabbage stuffed with portobello mushrooms and wild truffle cream (V)

- + Apple tart tatin with Devonshire clotted cream

- + Coffee & Petit Fours
- + Wine - Tarabilla Sauvignon and Tarabilla Tempranillo

Jugs of iced water included. Vegetables in season will accompany the main course. The cost of the dinner (including wine) will be £34.00 per head. Guests are most welcome. Tickets will not be issued so please include your e-mail address or a self-addressed prepaid envelope so that your booking can be confirmed. Dinner attendees will be automatically added to the list of potential attendees for the evening lecture. Bookings (and cancellations) can be made up to midday on Wednesday 9th November 2011. Since numbers are limited, late bookers should enquire about availability.

If you would like to attend please complete the form below and e-mail, or post, it to:

Dr Mark Telling (Treasurer, L&SE Branch),
Rm 1-49, R3,
ISIS Facility,
OXON, OX11 0QX

E-mail: mark.telling@stfc.ac.uk.

We look forward to seeing you,

The L&SE Branch Committee

I wish to attend the Branch dinner on Wednesday 16th November 2011.

I will be accompanied by ____ guests.

Please state each diner's requirements:

Full Name	Starter: Salmon	Starter: Risotto	Main: Chicken	Main: Fish	Main: Savoy

Special dietary requirements: _____

If possible, I/we would like to sit near: _____ or _____

I enclose my cheque, made payable to "The Institute of Physics", for ____ persons @ £34.00 per head. Total = £ _____

I enclose a self-addressed, prepaid envelope for acknowledgement of this booking (please tick)

Name: _____

Contact telephone no. (in case of queries) _____

E-mail address: _____

This e-newsletter has been produced by The London & South East Branch IOP

The contents do not necessarily represent the views or policies of the Institute of Physics, except where explicitly stated.

The Institute of Physics,
76 Portland Place, London
W1B 1NT, UK.
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Fax 020 7470 4848.

Upcoming Events At [The IOP](#), 76 Portland Place at 6.30pm

5 October 2011

The Turin Shroud – a physicist's view.
Book at londonsoutheast@physics.org

Upcoming Events At [The Open University](#) Berrill Lecture Theatre at 7:30pm.

11 October 2011

Planets around other Stars: Do we live in a Star Trek Universe?

Upcoming Events At [The University of Kent](#) at 7.30pm
Rutherford Lecture Theatre 1

11 October 2011

Hybrid Imaging: A Multidisciplinary Imaging Technique Of The 21st Century.