

Physics in Perspective

An enrichment course for sixth-formers and college students

University of Bradford, 13 February 2014



IOP Institute of Physics

Programme

Thursday 13 February 2014

University of Bradford

9.30 a.m. Doors open

9.50 a.m. Welcome

10.00 a.m. **The maths and physics of computer games and special effects**
Dr Jon Purdy, School of Computing Informatics and Media,
University of Bradford

From calculating the angle that a ball bounces off a wall to modelling the frictional forces on a rally car, physics and maths have always played a part in the development of computer games and special effects. In recent years the drive for more realistic environments has resulted in the implementation of some quite advanced simulations in computer games software. This lecture gives a brief overview of some of the maths and physics used to make computer games and is illustrated by demonstrations and examples.

11.00–11.20 a.m. Break

11.20 a.m. **Astrobiology – the hunt for alien life**
Dr Lewis Dartnell, UK Space Agency Research Fellow,
University of Leicester

‘Astrobiology’ is a brand new field of science, encompassing research into the origins and limits of life on our own planet, and where life might exist beyond the Earth. But what actually is ‘life’ and how did it emerge on our own world? What are the most extreme conditions terrestrial life can tolerate? And where in the cosmos might we reasonably expect to find ET? Join Dr. Lewis Dartnell on a tour of the other planets and moons in our solar system which may harbour life, and even further afield to alien worlds we’ve discovered orbiting distant stars, to explore one of the greatest questions ever asked: are we alone...?

12.20 p.m. Lunch and networking with STEM Ambassadors

- 1.30 p.m. **Living in a quantum world**
Dr Yvette Hancock, Department of Physics, University of York
- Quantum physics is as amazing as it is bizarre. This lecture will bring quantum to life using imaginative demonstrations to illustrate key concepts. The ultimate challenge will be whether the audience themselves can become quantum particles living in a quantum world.
- 2.30 p.m. Once the lectures finish at 2.30 p.m. groups may depart or stay for some informal workshops that will run until 3.45 p.m.
- They are listed as follows:**
- Physics and Maths activities from the University of Bradford STEM team
 - Thinking of University: courses, undergraduate life and finance
- 3.45 p.m. End of day

Booking the course

The course is open to groups of students, individual students, teachers and parents (each teacher accompanying a minimum of five students will be admitted free of charge). The cost of admission is £5 per person. Book your place today, go to www.iop.org/pip.

Why book online?

- A quick and easy method to reserve your places on the course.
- Instant confirmation of your booking.
- Payment options will include by cheque, credit/debit card or invoice (for schools only).

Deadline for bookings

The closing date for bookings is **Friday 31 January 2013**. After this date, if you wish to be notified of unsold tickets or of last-minute cancellations, please contact Alex Brabbs (details below).

For further information, please contact:

Dr Alex Brabbs, Regional Officer Yorkshire & North East
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Physics in Perspective

Aimed at sixth formers and college students, *Physics in Perspective* offers insights into many different aspects of modern physical science.

This one day event is a Northern spin out of the popular three day *Physics in Perspective* that takes place in London on 16–18 February 2014.

The speakers are all chosen for their ability to make physics come alive, to illustrate its impact on our lives and to explore its potential for shaping the future world with engineering and technology.

STEM at Bradford

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For more information contact STEM@bradford.ac.uk

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