

Science for 6th Formers

**A One-Day Science Conference
“Science at the Cutting Edge;
Implications in Daily Life”**

2 July 2016, 9.30am-5pm

**Venue: Queen Mary University of London
Mile End Road, London E1 4NS**

**A collaborative programme between
North London Collegiate School
and School of Biological and Chemical
Sciences, Queen Mary University of
London**

In Aid Of The Flying Angels School In Zambia



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Science for 6th Formers

Background

This event is primarily aimed at 6th Form students studying Pure and Applied Sciences but is open to anyone interested in learning more about a variety of fascinating scientific topics. It aims to explore the broad spectrum of scientific disciplines, covering Biology, Chemistry, Physics and Medicine, and how advances in these fields impact our everyday life.

Research in Quantum Physics now has direct applications in telecommunications and medicine, while Genetic Engineering is modernising fields as disparate as agriculture and modern therapeutics. The birth of Biochemistry several decades ago and subsequently Biophysics reflects how universities have tailored courses to meet these developments.

The symposium will aim to explore our expanding knowledge in all areas of science, from infectious diseases to particle physics, as well as demonstrate how recent advances in these fields show an integration of scientific disciplines. It is our aim to show science not as a collection of individual niches but as a holistic subject which will greatly expand opportunities and create new careers for our generation.

We have organised this event to support the building of the first science lab at the Flying Angels School in Zambia, where we are lucky enough to be teaching this summer. For the school to become certified as a centre where their students can sit their important national exams, they must build a science lab. Currently the older students at Flying Angels must be transported, at great expense, to far off centres in order to take their exams.



The funds raised in this campaign will go directly towards building this science lab, in order to help progress the educational community of Flying Angels and the local area. As well as allowing the students to take their exams at their own school, a science lab would be a fantastic facility to galvanise interest in science in the local community and to allow the Zambian children to experience the wonders of scientific experimental practices.

Tickets

Tickets for the event are free (limited space available) to book a place please visit: www.ticketsource.co.uk/scienceforsixthformers or to donate to the building of the Science Lab at the Flying Angels School please visit: www.gofundme.com/ttt3gsnr

For further inquiries, contact Laila Shah and Megan Wilson at scienceforsixthformers@gmail.com

Information for the Day

- **Directions to Queen Mary University of London:**
- **Queen Mary University of London**, is easily accessible via public transport, with two Underground stations only five minutes walk away and several bus routes stopping at the campus.
- **Stepney Green Tube Station** is on the District and Hammersmith & City lines. Turn left out of the station and walk along the Mile End road for approximately 5 minutes until you reach the East Gate on your left.
- **Mile End Tube Station** is on the Central line. Turn left out of the station, cross over the junction, go under the bridge and along Mile End road for approximately 2 minutes. You will see the East Gate on the opposite side of the road.
- **The East Gate** will be recognisable by a big 'Queen Mary' banner on the wall next to it.
- **Parking:** Please note that we have no general parking available on our campus and the surrounding area is a controlled parking zone. We strongly recommend you arrive by public transport.
- **Food and Refreshments:** Please note that no lunch will be provided, but tea, coffee and water will be offered throughout the day. There is a Sainsbury's nearby, but we believe it will be easier for you to bring your own lunch.

Science for 6th Formers Programme Saturday 2 July 2016

- 9.00: **Registration and Refreshments**
- 9.30 - 9.45: **Opening Remarks**
Duncan Selbie, Chief Executive, Public Health England
- 9.45 - 11.00: **The Sex Life of Quarks, Gluons and the Higgs Boson**
Professor Fred Loebinger, Chair in Particle Physics, School of Physics and Astronomy, University of Manchester; ATLAS Experimenter at the Large Hadron Collider at CERN
- 11.00 - 11.50: **A Brief Chemistry of Time**
Professor Claire Vallance, Professor of Physical and Theoretical Chemistry, University of Oxford
- 11.50 - 12.40: **Linking Physics to Medicine: Bioimpedance and Nanotechnology to develop Point of Care Biosensors**
Professor Richard Bayford, Director of Biophysics, Middlesex University Hon. Senior Lecturer, Department of Electrical and Electronic Engineering, University College London
- 12.40 - 13.10: **Visions of Science through Art**
Dr Odra Noel MD PhD, Scientific Artist and Head of Specialised Scientific Disciplines, European Medicines Agency
- 13.10 - 14.00: **Lunch**
- 14.00 - 14.50: **Virtuous or Vicious: Inflammation, a Two-Edged Sword**
Professor Robert Wilson MD FRCP, Consultant Physician at the Royal Brompton Hospital and Adjunct Professor, Imperial College
- 14.50 - 15.40: **Genomics; Expectations and Boundaries**
Professor Saheer E. Gharbia, Head of Genomic Research, Public Health England
- 15.40 - 16.40: **How Deep Evolutionary History Can Affect Human Health**
Dr Nick Lane, Reader of Evolutionary Biochemistry, Department of Genetics, Evolution and Environment, University College London
- 16.40 - 17.10: **Mechanobiology - New Biomedical Engineering strategies for the treatment of arthritis**
Prof Martin Knight, School of Engineering and Materials Science, Professor of Mechanobiology, Queen Mary University of London
- 17.10 - 17.20: **Summary, Discussion and Closing Remarks**



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email: scienceforsixthformers@gmail.com

Queen Mary University of London

Queen Mary University of London (QMUL) is a public research university located in London, United Kingdom and is one of the largest colleges in the University of London federation with roots dating back to 1785.

Its main campus is situated in the Mile End area of Tower Hamlets, with other campuses in Holborn, Smithfield and Whitechapel. It has 21,187 students and 4,000 staff. Queen Mary is organised into three faculties – the Faculty of Humanities and Social Sciences, the Faculty of Science and Engineering and Barts and The London School of Medicine and Dentistry – within which there are 21 academic departments and institutes. It is one of the largest colleges of the University of London.

Queen Mary is a member of the Russell Group of leading British research universities, it is also a member of the Association of Commonwealth Universities and Universities UK. It is a major centre for medical teaching and research and is part of UCL Partners, the world's largest academic health science centre. There are six Nobel Laureates amongst Queen Mary's alumni and current and former staff.

The Faculty of Science and Engineering

Queen Mary has a distinguished tradition in science and engineering, and was one of the first UK universities to establish engineering, computer sciences, chemistry, and materials departments.

The Faculty today provides research and teaching excellence across engineering, science and mathematics in five academic Schools (Biological and Chemical Sciences, Physics and Astronomy, Electronic Engineering and Computer Science, Engineering and Materials Science, and Mathematical Sciences), with diverse teaching programmes (See the undergraduate and postgraduate sections for programme details.)

With major investments in internationally recognized research and teaching the Faculty is committed to establishing itself as one of the leading science and engineering faculties in the UK.