

October 2012						
M	T	W	T	F	S	S
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29	30	31				

November 2012						
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December 2012						
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31						

February 2013						
M	T	W	T	F	S	S
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18	19	20	21	22	23	24
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March 2013						
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April 2013						
M	T	W	T	F	S	S
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May 2013						
M	T	W	T	F	S	S
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20	21	22	23	24	25	26
27	28	29	30	31		

SSRC Surface Science Research Centre

CLT Chadwick Lecture Theatre

LMI Liverpool Medical Institution

4 October 2012 18:30 **SSRC**
IOP for Africa
Laurie Mansfield

11 October 2012 18:30 **CLT**
Weathering Solar Storms
Dr Jim Wild

16 October 2012 18:30 **SSRC**
Radiotherapy – an advanced modern treatment for cancer
Dr Philip Mayles

8 November 2012 18:30 **SSRC**
**Bullets, Particles, Photons, Politics:
The Saga of X-rays in the North West**
Prof. Ian Munro

13 November 2012 18:30 **SSRC**
The Science of Taste and Flavour
Prof. Peter Barham

5 December 2012 14:30 **CLT**
6th Form Xmas lecture:
Dark Energy: Probing the Universe with Exploding Stars
Dr Phil James

5 February 2013 18:30 **CLT**
The First Galaxies
Prof. Jim Dunlop
John Porter Memorial Lecture

28 February 2013 18:30 **LMI**
Medicine and Physics: Case Studies in Cancer
Prof. Sir Michael Brady
Joint meeting with the Liverpool Medical Institution

5 March 2013 18:30 **SSRC**
Measurements on Antimatter, Alpha Experiment
Dr William Bertsche

12 March 2013 18:30 **SSRC**
Energy and the Electrochemical Interface
Prof. Chris Lucas

19 March 2013 18:30 **SSRC**
Engaging with the UK Parliament
Chris Blanchett

30 April 2013 18:30 **SSRC**
Engineering, Art, Mathematics and the Nude
Dr Allan McRobie
Details still under review

30 May 2013 18:30
Members' visit to BAE Broughton A350

20 June 2013 18:30
Physics Teachers Conference

Please use the website overleaf to check for any late changes.

Welcome to the **Merseyside Branch Programme for 2012–2013**. We offer a wide ranging and exciting programme with talks by scientists who are established leaders in their field. Evening events normally start at 18:30 with tea and coffee available from 18:00. All are welcome. Only school events and visits require advance booking. We have used a simple code to advise members on the suitability of talks. † = suitable for all, †† = anyone with an interest in physics, ††† = some prior knowledge may be useful. It would be useful if teachers planning to bring small groups of interested students to evening events would contact one of the branch officers in advance. The locations used include:

CLT = Chadwick Lecture Theatre, Liverpool University (building 207 on university plan)

SSRC = Surface Science Research Centre (building 210 on university plan). For parking arrangements see www.liv.ac.uk/maps

LMI = Liverpool Medical Institution, 114 Mount Pleasant, Liverpool (www.lmi.org.uk/Map.aspx)

More details of the programme can be found at www.iop.org/activity/branches/north_west/merseyside/index.html

IOP for Africa[†]

Laurie Mansfield

IOP for Africa is a campaign to raise the profile and raise funds for IOP's Physics for Development programme. Through the programme, IOP challenges the obstacles to physics education in some of the poorest countries in the world and aims to support local communities towards greater opportunities for the future.

Weathering Solar Storms[†]

Dr Jim Wild

The Earth is constantly buffeted by the solar wind. Changes in the space environment, so-called "space weather", can have an impact upon man-made technologies under, on and above the surface of the Earth. Jim Wild looks at the science behind space weather and considers some of the implications of living with a star.

Radiotherapy – an advanced modern treatment for cancer^{††}

Dr Philip Mayles

Radiotherapy is often thought of as the last ditch treatment for cancer. This was misleading but in the past the side-effects of treatment were a limiting factor. Recent technical developments in treatment techniques are making significant improvements that sometimes make radiotherapy preferable to surgery as the definitive treatment.

Bullets, Particles, Photons, Politics: The Saga of X-rays in the North West[†]

Prof. Ian Munro

From their discovery in 1895, groups in Liverpool and Manchester set out to understand X-rays and explore their scientific benefits. This led eventually to the construction at Daresbury Laboratory of the first ever high brilliance source of X-rays to be wholly dedicated to studying the properties of materials and that would help stimulate a shift in physics research from the atomic, to the macromolecular.

The Science of Taste and Flavour[†]

Prof. Peter Barham

What gives food its flavour? What makes some foods taste really good while others can be mediocre or even disgusting? How far can science go in answering these (and other) questions that are so important for domestic cooks and chefs alike? In this demonstration lecture we will try to find some answers to these and other questions.

6th Form Xmas Lecture:

Dark Energy: Probing the Universe with Exploding Stars[†]

Dr Phil James

The idea that the expansion of the universe is accelerating is just one of the results of supernova science in recent years. Phil James will look at new discoveries in this area, and the many mysteries that remain concerning both these violent stellar deaths, and what they tell us about the nature of our universe.

The First Galaxies[†]

Prof Jim Dunlop

John Porter Memorial Lecture

I will describe how recent advances in observational astronomy have enabled us to look back in time to within one billion years of the Big Bang, and directly observe the emergence of the first galaxies. I will also explain how the next generation of facilities can be expected to further clarify how today's highly structured and beautiful universe emerged from the chaos of the Big Bang.

Medicine and Physics: Case Studies in Cancer^{††}

Prof. Sir Michael Brady

Joint meeting with the LMI

Prof. Brady will present examples of his group's work in cancer that has led them to develop and then deploy physics models. These allow clinicians to better understand the information in PET and novel MRI images by making the information quantitative.

Measurements on Antimatter, Alpha Experiment^{††}

Dr William Bertsche

To find current information please visit the website.

Energy and the Electrochemical Interface^{††}

Prof. Chris Lucas

Improvements in the fundamental understanding of electrochemical interfaces have begun to revolutionise the development of materials that can solve the challenging problems of clean energy production, conversion and storage. Chris Lucas will describe how it is possible using modern synchrotron X-ray sources to probe the atomic structure at the solid–liquid interface. This enables the rational design of new materials.

Engaging with the UK Parliament[†]

Chris Blanchett

This talk is suitable for a range of people wanting to understand and engage more with parliament. I will talk about the basics of parliament (work and role) but then move onto a more in-depth discussion about effectively engaging with the process and procedures of the institution. I am happy to try and answer questions of any level or subject.

Engineering, Art, Mathematics and the Nude[†]

Dr Allan McRobie

A gentle look at how the mathematics that is used to study the stability of ships, oil rigs and building columns can not only be used to weigh distant galaxies but, rather unexpectedly, can also give new insights into art, and particularly the portrayal of the nude.