

UNIVERSITY OF
BIRMINGHAM

School of Physics and Astronomy Community

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THE EPS COMMUNITY



Spring 2016

Greetings

There are few modern scientific discoveries that have the potential to change our understanding of the Universe as the discovery of Gravitational Waves. The LIGO Scientific Collaboration and LIGO Project (of which the Birmingham Gravitational Wave Group is a member) announced on 11 February the detection of gravitational waves from a binary black hole. This observation confirms Einstein's description of gravity and the nature of space as he predicted close to 100 years ago.

The Birmingham Group can claim a substantial part of the credit for this discovery: they developed and built hardware for LIGO, led the search for gravitational waves from binary systems and the physics and astrophysics interpretation, pioneering and leading science into a new era. The School are extremely proud of the Gravitational Waves Group's contribution and the discovery has been marked by a number of public events. In turn the University has made Birmingham Heroes of Professors Vecchio and Freise – look out for their poster if you enter the Underground Station at London Euston!

Building work has commenced on the development of a new Birmingham Semiconductor Detector Centre, linked to the appointment of Professor Phil Allport in 2015. Phil is a world expert in this area and this new development will allow Birmingham to make a significant contribution to the upgrade of the ATLAS detector (the Higgs-finder) at the Large Hadron Collider, CERN. This development has been further supported by the appointment of Laura Gonella, an expert in silicon detector technology. The work is due to be completed in the next few months and we would be delighted to show you round when you next visit.

These are exciting times for our students as many of them come to the end of their time at Birmingham and their final exams. It is enormously pleasing that so many have already managed to secure jobs even before completion. The University runs a mentoring

scheme, where alumni may mentor present undergraduates. If you would like to get involved, we would be delighted to hear from you.

With best wishes,

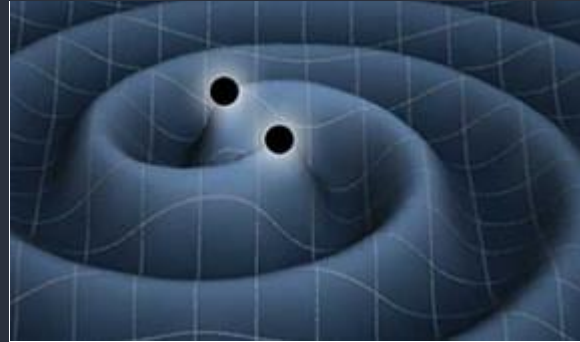
Professor Martin Freer
Head of School



Observation of nonlinear rotational Doppler effect of light

Birmingham physicists, in collaboration with the University of Paderborn, have proved experimentally for the first time the rotational Doppler effect in nonlinear optics nearly 50 years after its theoretical prediction by the Dutch Nobel Laureate Nicolaas Bloembergen.

[FIND OUT MORE >](#)



Gravitations Waves

The recent gravitational waves announcement reached an estimated 15,259,103, with major coverage including the [BBC](#), BBC Radio 5, BBC World Service, [The Independent](#), [Guardian](#), [Nature](#) and The Times of India to name a few.

The Astrophysics and Space Research Group held an Astronomy in the City special on 17 February to mark this historic. Watch our highlights [here](#).

[FIND OUT MORE >](#)

Your Physics and Astronomy Reunion

Join us on Saturday 18 June for our annual Physics and Astronomy Reunion. Whether you graduated five or 50 years ago we invite you to get together with old friends and former classmates to reminisce and celebrate your experiences and friendships from the University of Birmingham. While we do celebrate milestone anniversaries, all alumni are welcome to attend this special Reunion Day regardless of your graduation year.

Take a trip down memory lane with a tour of Physics and Astronomy and explore our beautiful campus to see what has changed, and indeed what has stayed the same, since your time at Birmingham. Why not get a group of friends together? We are happy to help contact those you have lost touch with.

50th and Golden Anniversary tickets cost £45 and include a two-course formal lunch. All other tickets are £42 and include a hot buffet lunch. All bookings made before Friday 22 April 2016 are eligible for a £5 early booking discount.



[FIND OUT MORE >](#)



EPS Societies' Awards 2016

Were you a member of a student society during your time at Birmingham? Or have you been impressed reading about the activities of our [current student societies](#)? Why not nominate them for this year's Societies' Awards?

These Awards celebrate the lengths



Societies' News

It's been a busy term for our societies! Adam Butcher, newly elected President of [PPS](#), Alice Perry new Chair of [AstroSoc](#), and the [WISE](#) committee tell us about their activities over the past few months, from industrial events to sporting competitions, public lectures and introducing their new committees. This term we also welcome four new societies to our community: [Drone](#)

our students go to make the University a better place to work and play. Join our celebrations by nominating your society for these Awards. Maybe your former society will win the much coveted *Society of the Year*.

They need your help!

[FIND OUT MORE >](#)

[Soc](#), [Games Development](#), [SATNAV](#) and [oSTEM](#).

The College of Engineering and Physics Sciences is home to 24 student societies. Each does fantastic work to promote employment opportunities, industrial visits, guest speakers and, of course, social events.

[FIND OUT MORE >](#)

News Round-Up

There have been a number of appointments in the School over the past few months. Read a summary of our new staff [here](#).

Professor Dave Charlton, Spokesperson for the ATLAS Collaboration at CERN, delivered the latest [EPS Distinguished Lecture on the future of the world's largest scientific instrument](#).

Luxury crystal designers [Swarovski has collaborated with researchers](#) from the Birmingham Solar Oscillations Network (BiSON) project to develop a soundscape inspired by the sun.

As UK astronaut Tim Peake made his landmark flight to the International Space Station, [Professor Mike Cruise provided daily updates](#) from the launch site, Baikonur Cosmodrome in Kazakhstan.

Astrophysicists have used data from the NASA Kepler space telescope to discover a class of [extrasolar planets whose atmospheres have been stripped away by their host stars](#) and shrink due to radiation.

Andreas Lampis has been awarded third place in the Equipment category of the [Engineering and Physical Sciences Research Council photography competition](#) for his photo "Investigating light-matter interaction using a high-finesse optical ring cavity and cold atoms".

The [decommissioning of nuclear facilities](#) is growing worldwide, creating job opportunities at all educational levels.

Professor Mike Cruise discusses [the forgotten moon landing](#) that paved the way for today's space adventures.

At a critical point in the life of [a star like the Sun its rotation stops 'slowing down'](#), according to research published in the journal Nature



Micro-Volunteering Day, 15 April

To mark international Micro-Volunteering Day on 15 April there's a whole range of opportunities to support Birmingham – all in fifteen minutes or less.

These bite-sized tasks can have a big impact – from offering advice to students or celebrating with the University's newest alumni by sending in your graduation memories. In Physics and Astronomy we are particularly keen to hear what you've been up to since graduating and how your careers have progressed so we can share your inspirational stories with our students.

[FIND OUT MORE >](#)



Alumni News

Emelia Galkowska (MSci Physics 2015) tells of life after graduation and getting a graduate job at BAE Systems.

If you would like to share your story we would love to hear from you.

Simply fill complete our [online career profile](#) or [email us](#) to tell us more.

[FIND OUT MORE >](#)

Events

EPS Inaugural Lecture Series

For information on upcoming lectures in the EPS Inaugural Lecture Series please visit our [website](#).

Friday 6 May

Mathematics in Railway Industry

Join the Birmingham Centre for Railway Research and Education for this free workshop on mathematics in the railway sector, including a technical visit to the newly refurbished Birmingham New Street Station.

Time: 9:30am-6pm

Venue: Gisbert Kapp Building, Edgbaston Campus

Friday 13 May

Alumni Reception in Singapore with the Vice-Chancellor

Join the Vice-Chancellor, Professor Sir David Eastwood, for an alumni reception in Singapore.

Time: 6:30pm-8:30pm

Venue: The Ritz-Carlton, Millenia Singapore

Tuesday 17 May

Birmingham Heroes Lecture: Unlocking the immune system

In the fifth Birmingham Heroes lecture, Professor Gary Middleton, Professor of Medical Oncology at the University's Institute of Immunology and Immunotherapy, will present the research and work being undertaken by the Cancer Immunology and Immunotherapy Centre at Birmingham, and how they are developing treatments to protect, harness and enhance the immune system's response to cancer.

Time: 6:45pm-8:45pm

Venue: 10-11 Carlton House Terrace, London

Wednesday 8 June 2016

EPS Societies' Awards

Celebrate with your student society as we recognise their extraordinary achievements with a gala, black-tie evening.

Time: 7pm-11pm

Venue: Edgbaston Campus

Saturday 18 June 2016

EPS Alumni Reunion

As a graduate of one of the nine schools in the College of Engineering & Physical Sciences, you are invited back to campus for a Summer Reunion to get together with your fellow alumni to celebrate your experiences, accomplishments and friendships at the University of Birmingham.

Time: 9.30am-6pm

Venue: Edgbaston Campus

Thursday 23 June London

[Professional Network 2016](#)

This popular network is the perfect opportunity to enhance your portfolio of contacts and to meet alumni working in related professions, whilst enjoying wine and canapes.

Time: 6:30pm-8:30pm

Venue: The Royal Academy of Arts, London

Sunday 16 July

[IUPAP International Conference on Women in Physics](#)

The International Union of Pure and Applied Physics (IUPAP) is delighted to announce that the 6th conference in this series will be hosted by Birmingham, UK. The conference will be held in July 2017 at the University of Birmingham, organised in partnership with the Institute of Physics (IOP) and the Universities of Nottingham and Warwick. Having all been awarded Juno Champion status by IOP, the three universities' physics departments are strongly committed to promoting diversity and look forward to being fully involved in the conference.

Time: 9am-5pm

Venue: Edgbaston Campus

Global Alumni Gatherings

The University of Birmingham has alumni groups all over the world organising local events.

A full listing of international events is available on our [website](#). To join a group and see details of upcoming please visit the [webpage](#) and select your location



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