

## Mathematics alumni

Dear alumnus/na,

Welcome to the first in what will become a regular series of Mathematics alumni newsletters.

As a discipline Mathematics has perhaps never been more important, with spectacular breakthroughs in research accompanying an ever-growing range of new applications affecting almost every aspect of life. At the same time, the challenge of educating the next generation of mathematicians and raising public awareness of the importance of our subject remains as pressing as ever.

As a member of the Cambridge Mathematics family, we hope you will enjoy reading about just some of the many exciting things that are happening here at the moment. We would be delighted to hear from you, particularly with feedback about this newsletter, so do please feel free to get in touch using the contact details at the bottom of this email.

With best wishes,

Gabriel Paternain, Head of Department of Pure Mathematics and Mathematical Statistics  
Nigel Peake, Head of Department of Applied Mathematics and Theoretical Physics  
Grae Worster, Chair of the Faculty of Mathematics

## Gravity and Black Holes: Stephen Hawking's 75th Birthday Conference



In July 2017 the Faculty was proud to host Professor Stephen Hawking's 75th Birthday Conference. Organised by the Centre for Theoretical Cosmology, the celebration of Professor Hawking's extraordinary career included a scientific conference bringing together international researchers and a public symposium which was broadcast live online and watched by millions.

Speaking at the conference, Hawking described himself as lucky to have worked during a glorious time to do research in theoretical physics. The conference reflected the impact of Hawking's contributions to the field, exploring recent advances in gravitational physics and cosmology, and the exciting future opening up with gravitational wave astronomy. "The fact that we ... have been able to come this close to an understanding of the laws governing us and our Universe is a great triumph", Hawking said. "I want to share my excitement and enthusiasm about this quest."

[Read more](#)



## 'My Life in Physics' - watch Stephen Hawking's public talk

The Department of Applied Mathematics and Theoretical Physics (DAMTP) has been Stephen Hawking's home for most of his career. Over the half-century since he first came to Cambridge, Hawking's ground-breaking work has helped to change our view of the Universe. In this public talk from his 75th Birthday Conference, Professor Hawking reflects on his life in physics.

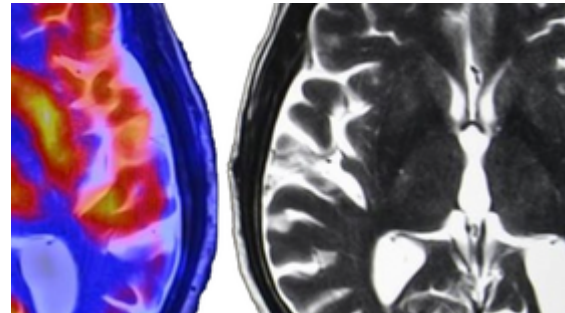
[Watch video](#)



## Winton Centre for Risk and Evidence Communication: changing the way we communicate risk

Every day every one of us has to deal with statistics - but the way these numbers are communicated is vital. Professor Sir David Spiegelhalter, Chair of the Winton Centre for Risk and Evidence Communication, and Dr Alexandra Freeman, the Director, explain how this new multidisciplinary research centre aims to improve the way quantitative evidence is communicated and to empower the public to understand the statistics that shape their lives.

[Read more](#)



## Taming big data: the Cantab Capital Institute for the Mathematics of Information

The Faculty of Mathematics has launched a new institute researching the mathematics of information. Led by Dr Carola-Bibiane Schönlieb, the Cantab Capital Institute for the Mathematics of Information will explore fundamental mathematical problems and methodology for understanding, analysing, processing and simulating the mass (and sometimes mess) of data that arises from the modern world.

[Read more](#)



## The Post-Masters Placement Scheme: an adventure in interdisciplinary collaboration

Every year the Faculty sends bright young Cambridge mathematicians to spend the summer with host partners in industry and other academic disciplines as part of the Post-Masters Placement scheme. We talked to students, their hosts and those who founded this scheme to discover how it benefits both the individuals and organisations involved, and mathematics as a whole.

[Read more](#)



## Challenge, collaboration and finding confidence: what's it like doing a PhD at Cambridge?

The University of Cambridge is an outstanding place to do a PhD in mathematics, attracting students from all over the world. But what is it really like to undertake a doctorate here, and what does the future hold for those who do? We asked Ellen Powell, who has just completed her PhD in Analysis through the Faculty's Cambridge Centre for Analysis (CCA) programme.

[Read more](#)



## Spacetime shivers: LIGO detects gravitational wave

In June 2017, media headlines announced the detection of a new gravitational wave caused by the collision of two black holes around three billion light years away from Earth. The wave was detected by LIGO, an international collaboration including researchers from the Relativity and Gravitation Group in DAMTP. "We have opened our ears to the Universe in a waveband in which we have been 100% deaf up to now," says DAMTP's Dr Ulrich Sperhake. "It's a bit like winning the FA Cup final."

[Read more](#)

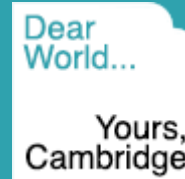


## Mathematics at the Cambridge Science Festival

Over 400 visitors of all ages explored the diversity and scope of mathematical research in engaging and accessible ways on a sunny Saturday in March, as the Centre for Mathematical Sciences opened its doors for the annual Cambridge Science Festival. With the help of a range of imaginative hands-on activities, visitors to the Faculty's Maths Public Open Day discovered more about what the researchers in this beautiful building get up to in their working lives.

[Read more](#)

Our campaign for the University and Colleges of Cambridge is raising funds to attract the brightest minds, create the finest facilities and give the freedom to create more world-changing ideas. To do this, we need your help.



Faculty of Mathematics

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