UNIVERSITY OF CAMBRIDGE

Mathematics alumni

Helping prostate cancer patients make informed decisions

One in six men in the UK will be diagnosed with prostate cancer at some point in their lives: 47,000 men are given this news each year. More than half discover their cancer at an early stage, before it has spread.

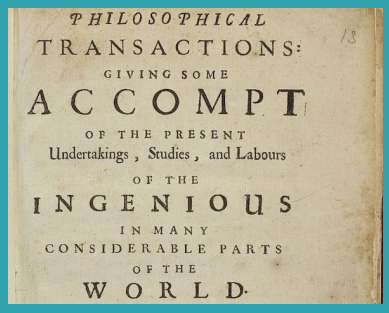
The Faculty's Winton Centre for Risk and Evidence Communication has collaborated with cancer researchers across Cambridge to develop a new online tool – described by one patients' group as 'game-changing' – to present the statistics on treatment outcomes. It helps give men with early-stage prostate cancer, and their doctors, a clear personalised picture of the potential risks and benefits of the different treatment options open to them.

Read more

Faculty insights: new Royal Society Fellows

Three Faculty members elected to Royal Society

Three members of the Faculty have been elected as new Fellows of the Royal Society. Professors Caucher Birkar, Peter Haynes and Richard Jozsa have been recognised for their substantial contributions to mathematics and theoretical physics.


PHILOSOPHICAL
TRANSACTIONS:
GIVING SOME
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Undertakings, Studies, and Labours
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OF THE
WORLD.

Read more

Exploring the future of quantum computation

Professor Richard Jozsa is widely regarded as a founder of the field of quantum computation and quantum information. We talked to him to discover more about the extraordinary consequences of the link between information and the laws of physics.

Read more

Into the stratosphere: modelling weather and climate change

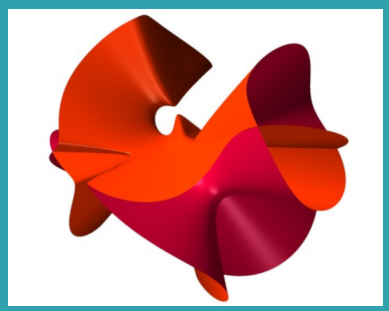
Professor Peter Haynes uses mathematical models to study dynamical processes in the Earth's atmosphere and oceans, and has made pioneering contributions to the field. We asked him more about his work, including exploring the role of the stratosphere in weather patterns and climate change.

Read more

Algebraic geometry and birational maps

Professor Caucher Birkar first hit international headlines in 2018 when he was awarded the Fields Medal for his contributions to algebraic geometry. This article, revisited from last year, gives an introduction to his ground-breaking work on the classification of mathematical objects called algebraic varieties.

Read more



High Energy Physics: the frontiers of discovery

Stretching the Standard Model

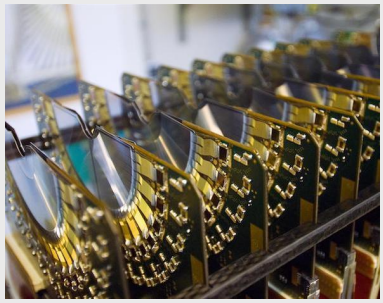
Dr Maria Ubiali works at the interface between theoretical and experimental particle physics. We talked to her to learn more about what might lie beyond the Standard Model, and how machine learning can help us discover the structure of the proton.

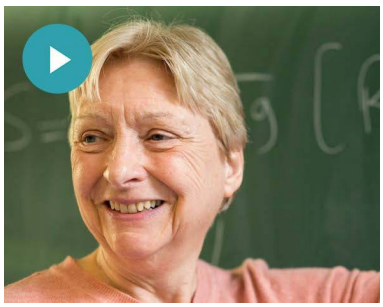
Read more

Predicted particle confirmed by new discovery

A new particle, discovered at CERN earlier this year, confirms theoretical predictions by the Department of Applied Mathematics and Theoretical Physics' Professor Ron Horgan and colleagues at the University of Glasgow. The research consolidates existing particle theory but also opens the door to new physics.

Read more

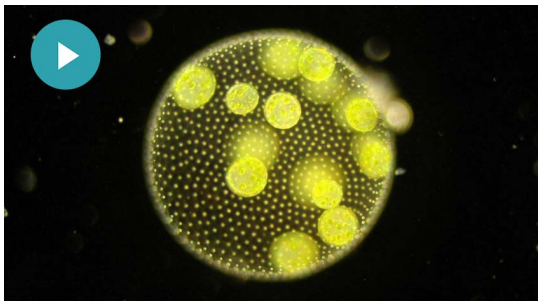




Honouring Professor Anne-Christine Davis

In May we hosted a conference in honour of Professor Anne-Christine Davis, the first female professor appointed in the Faculty, who retired at the beginning of the year. The event celebrated Davis' long and pioneering career in theoretical physics, her work supporting women in science, and her contribution to cosmology.

Read more



Synchronised swimming

Tiny green algae might seem unlikely to play a starring role in a mathematics department. Yet these organisms' penchant for synchronisation can help fluid mechanics researchers shed light on questions from evolution to the inner workings of the human body. Ray Goldstein, Schlumberger Professor of Complex Physical Systems, explains.

Read more

Mathematics and democracy

In 2011 Geoffrey Grimmett, Professor of Mathematical Statistics in the Department of Pure Mathematics and Mathematical Statistics, was approached by the European Constitutional Affairs Committee to look at methods for allocating the seats of the European Parliament to Member States. Eight years on the question is still just as relevant.

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.

Dear World... Yours, Cambridge

Faculty of Mathematics

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