



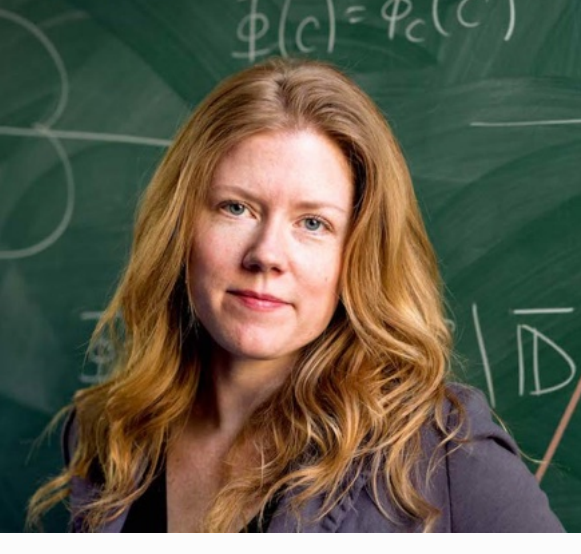
Eight Cambridge researchers among first Fellows of the Academy for the Mathematical Sciences

Eight members of the Cambridge Mathematics Faculty have been included in the first cohort of Fellows and Honorary Fellows of the UK's new Academy for the Mathematical Sciences.

The inaugural cohort of 100 Fellows brings together mathematicians across academia, education, business, industry, and government. They include members of both the Department of Pure Mathematics and Mathematical Statistics (DPMMS) and the Department of Applied Mathematics and Theoretical Physics (DAMTP). Professors Sir John Aston, Anne-Christine Davis, Richard Samworth, Carola-Bibiane Schödl, Sir David Spiegelhalter, Jack Thorne and Wendelin Werner become Fellows, while Professor David Abrahams has become an Honorary Fellow in recognition of his work towards the creation of the Academy.

The new Cambridge Fellows bring outstanding expertise across pure and applied mathematics, statistics and theoretical physics. They represent the breadth and diversity of the subject, covering areas from number theory and probability to cosmology, while the impact of their work ranges from applying mathematics in healthcare to providing advice for policymakers. Discover more in our article.

Meet the new Fellows



Professor Holly Krieger and the dynamics of numbers

Holly Krieger is Professor of Mathematics at the Department of Pure Mathematics and Mathematical Statistics. She works on arithmetic dynamics: an exciting and relatively young area of mathematical research where number theory and complex dynamics intersect. With over 11 million views for her appearances on Numberphile, she has also connected with a wide audience to share the beauty of the subject.

She talked to us about her research area, mathematical communication, and advice for people starting out on a career in maths.

Dynamic maths & discover more

How dark stars might shed new light on black holes

Gravitational waves, whose discovery was announced 10 years ago, have provided a wealth of information about what physicists believe are black holes. But could other objects be hiding in this data too?



Researchers in the Stephen Hawking Centre for Theoretical Cosmology at the Department of Applied Mathematics and Theoretical Physics are exploring this idea. Professor Ulrich Sperhake and PhD student Seppe Staelens explain more.

Gravitational waves and black holes



Providing the best evidence

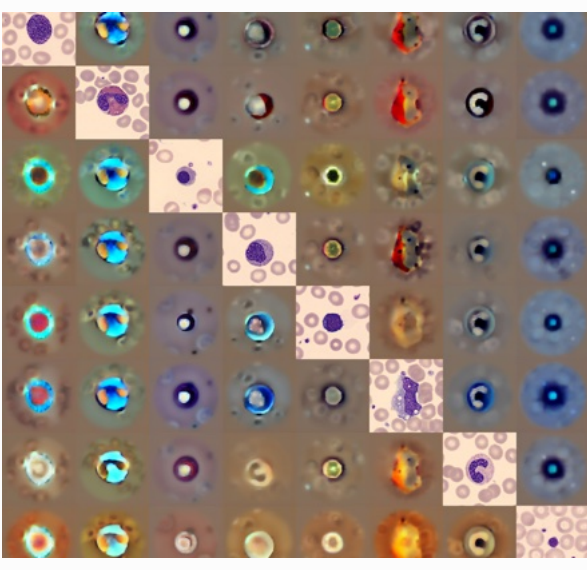
Vangelis Danopoulos is one of the researchers from the Department of Pure Mathematics and Mathematical Statistics who are working out how best to translate scientific evidence to inform policy makers & us when we make decisions that affect our lives.

Danopoulos is part of a research group led by Sir John Aston, Harding Professor of Statistics in Public Life. The team are developing cutting-edge techniques in statistics with the aim of helping policy makers and people in public life to use the best quantitative evidence available.

Discover more

AI tool could help improve diagnosis of conditions such as leukaemia

A team including researchers from the Cambridge Image Analysis group in the Department of Applied Mathematics and Theoretical Physics has created an artificial intelligence tool with promising potential to help improve the way conditions such as leukaemia are diagnosed.



Spotting subtle differences in blood cell size, shape and appearance is a cornerstone of diagnosing many blood disorders. The new tool uses generative AI to study the shape and structure of blood cells.

Developing tools to help improve diagnosis



AI: building bridges between academia and industry

James Fergusson is Professor of Theoretical Cosmology in the Department of Applied Mathematics and Theoretical Physics. He is also the Director of the Infosys Cambridge AI Centre, and is supporting the next generation of researchers through the University's innovative Master's programme in Data Intensive Science.

We talked to James to learn more about the potential for AI to drive forward scientific discovery, how industry and academia can work together, and training the researchers of the future.

Read our interview

A new gateway to research to solve real-world problems

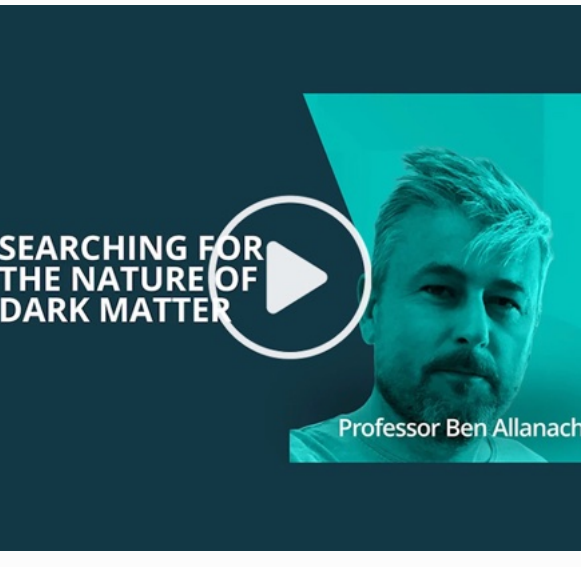
The new Cambridge Hub for Innovative Mathematics in Research and Applications (CHIMiRA) is designed as a gateway to research mathematics for those who need it to solve real-world problems.



“We are looking for hard problems from industry and academia to be attacked by some of the best mathematicians in the world,” said Dr Ewan Kirk, Entrepreneur in Residence at the Centre for Mathematical Sciences, at the launch event.

Discover more about CHIMiRA's mission and how it is applying innovative research in business, industry and the third sector.

Introducing CHIMiRA



Searching for the nature of dark matter – watch the webinar

Last month, researchers including Professor Ben Allanach from the Department of Applied Mathematics and Theoretical Physics were joined by an audience of Cambridge alumni for a live webinar discussing the latest research into dark matter.

Missed the event? You can now watch the recording, which also features questions from the audience.

Watch now