

Mathematical Outreach in Parliament

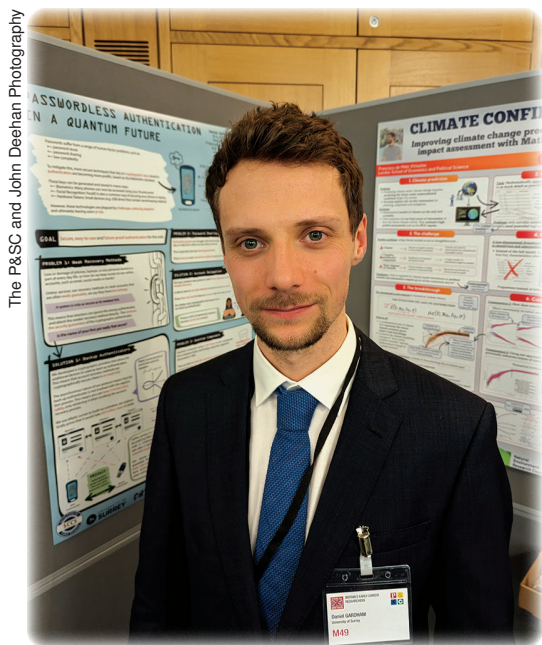
Congratulations to Daniel Gardham, Katherine Benjamin and Francisco de Melo Viríssimo AMIMA who won the Mathematical Sciences Awards at STEM for Britain. Their posters were presented to politicians and a panel of expert judges in the House of Commons on 4 March 2024.

Stephen Metcalfe MP, Chair of the Parliamentary and Scientific Committee (P&SC) which sponsors the mathematics awards, said:

These early career engineers, mathematicians and scientists are the architects of our future and STEM for Britain is politicians' best opportunity to meet them and understand their work.

Gold Medal – Daniel Gardham

Dr Daniel Gardham, an early-career Lecturer at the University of Surrey, hailing from Colchester, was awarded the Gold Medal at the competition, for the excellence of his mathematical research on *Passwordless Authentication in a Quantum Future*.

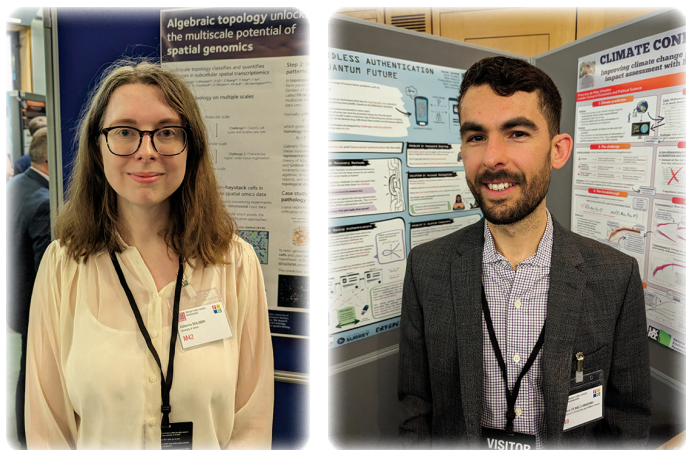


Gold Medal winner – Daniel Gardham with his poster (left)

Daniel said:

I really value scientific outreach, and I think it's a responsibility of researchers to be able to communicate the ideas that we're looking into. Obviously, this whole competition is a celebration of exactly that, so it was a natural decision to get involved. It feels absolutely brilliant to have won Gold. It's a bit of a surprise, but I see it as a positive affirmation of my ambitions to keep pursuing scientific outreach.

We also found out on Friday last week, that one of our industrial partners backed this project for standardisation with the IETF (Internet Engineering Task Force), so it's gone from academic research to being deployed as a standard in WebAuthn devices – such as phones and laptops. It's a long road ahead, but that's the next stage: to make this a reality.



Katherine Benjamin (left) and Francisco de Melo Viríssimo (right)

Silver Medal – Katherine Benjamin

Katherine Benjamin, a DPhil student of Mathematics at the University of Oxford, hailing from Hereford, was awarded the Silver Medal for *Multiscale Topology Classifies and Quantifies Cell Types in Subcellular Spatial Transcriptomics*. Katherine said:

I work on interdisciplinary science, so I like anything which involves bringing a lot of research together. In fact, we're still working on the project that the poster is based upon. We're trying to develop some of these to help create new ways in which maths can help with biology.

I'm shocked to have won the Silver Medal as there's so much amazing work here. I was not expecting it at all. I'm thrilled.

Bronze Medal – Francisco de Melo Viríssimo

Dr Francisco de Melo Viríssimo, a Research Fellow at The London School of Economics and Political Science, hailing from São Gotardo (Minas Gerais, Brazil), was awarded the Bronze Medal for *Climate Confidence: Improving Climate Prediction and Impact Assessment with Mathematics*. Francisco said:

I've known about this event for many years. Since my work has moved into environmental science and its applications – issues which are pressing and important for policy decisions – it's been a good opportunity to showcase my research to decision makers in government.

It was unexpected to win the Bronze Medal as there are hundreds of people who apply and only 20 that are selected for the finals here at Parliament. And all of those are absolutely excellent. So, in a way, it's just luck that I'm one of the winners – but it also highlights how mathematics can help us with the climate challenges we are facing. Mathematics really is an underpinning subject for climate science, and I think this prize reflects that.

I'm currently looking for my next position, so I'm looking forward to continuing my research and to lay down foundations in the study of this kind of dynamical system.

For more information, visit: stemforbritain.org.uk