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Katie Bouman: the 29-year-old whose work led to first black hole photo

**Bouman is a post-doctoral fellow at MIT whose algorithm led to an image of a supermassive black hole**

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 Katie Bouman was among a team of 200 researchers who contributed to the breakthrough. Photograph: MIT CSAIL

This week, the world laid eyes on an image that previously it was thought was unseeable.

Black hole picture captured for first time in space breakthrough

The first visualisation of a black hole looks set to revolutionise our understanding of one of the great mysteries of the universe. And the woman whose crucial algorithm helped make it possible is just 29 years old.

Dr Katie Bouman was a PhD student in computer science and artificial intelligence at the Massachusetts Institute of Technology (MIT) when, three years ago, she led the creation of an algorithm that would eventually lead to an image of a supermassive black hole at the heart of the Messier 87 galaxy, some 55m light years from Earth, being captured for the first time.

[Bouman Reaction.](https://twitter.com/spectatorindex/status/1116132518544035840?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1116132518544035840&ref_url=https%3A%2F%2Fwww.theguardian.com%2Fscience%2F2019%2Fapr%2F11%2Fkatie-bouman-black-hole-photo) (Twitter)

Bouman was among a team of 200 researchers who contributed to the breakthrough, but on Wednesday, a picture of her triumphantly beaming as the image of the black hole materialised on her computer screen went viral, with many determined that Bouman’s indispensable role was not written out of history – as [so often has been the case for female scientists and researchers](https://www.theguardian.com/science/2018/oct/03/donna-strickland-nobel-physics-prize-wikipedia-denied).

The data used to piece together the image was captured by the Event Horizon telescope (EHT), a network of eight radio telescopes spanning locations from Antarctica to Spain and Chile. Bouman’s role, when she joined the team working on the project six years ago as a 23-year-old junior researcher, was to help build an algorithm which could construct the masses of astronomical data collected by the telescope into a single coherent image.

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**1:47**

 Astronomers reveal first-ever picture of a black hole – video

Though her background was in computer science and electrical engineering, not astrophysics, Bouman and her team worked for three years building the imaging code. Once the algorithm had been built, Bouman worked with dozens of EHT researchers for a further two years developing and testing how the imaging of the black hole could be designed. But it wasn’t until June last year, when all the telescope data finally arrived, that Bouman and a small team of fellow researchers sat down in a small room at Harvard and put their algorithm properly to the test.

With just the press of a button, a fuzzy orange ring appeared on Bouman’s computer screen, the world’s first image of a supermassive black hole, and astronomical history was made. In [a post](https://www.facebook.com/katie.bouman.3?fref=nf) on social media, Bouman emphasised the collaborative efforts that had made the imaging of the black hole possible.

“No one algorithm or person made this image, it required the amazing talent of a team of scientists from around the globe and years of hard work to develop the instrument, data processing, imaging methods, and analysis techniques that were necessary to pull off this seemingly impossible feat,” said Bouman. While their discovery was made in June, it was only presented to the world by all 200 researchers on Wednesday.

Bouman, who is currently a post-doctoral fellow at MIT, is due to take up a post as an assistant professor at the California Institute of Technology, but intends to keep working with EHT.

Speaking in a 2016 TED talk, Bouman said: “I’d like to encourage all of you to go out and help push the boundaries of science, even if it may at first seem as mysterious to you as a black hole.”