

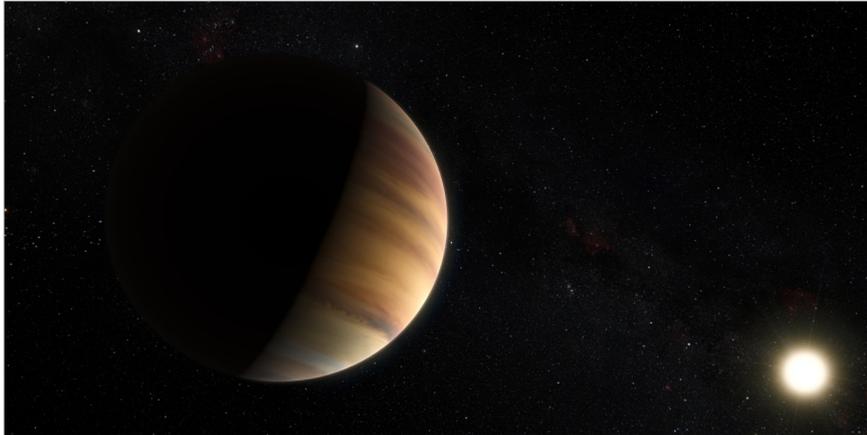


# INSTITUTE OF ASTRONOMY PUBLIC OPEN EVENING

— 9 OCTOBER 2019 —



## Cambridge's Professor Didier Queloz wins 2019 Nobel Prize



*An Artist's impression of the exoplanet, orbiting the star 51 Pegasi discovered Prof. Queloz*

Professor Didier Queloz from the University of Cambridge has been jointly awarded the 2019 Nobel Prize in Physics along with Professor James Peebles and Professor Michel Mayor for their pioneering advances in physical cosmology, and the discovery of an exoplanet orbiting a solar-type star.

Queloz is Professor of Physics at the University's Cavendish Laboratory. He leads the Cambridge Exoplanet Research Centre. In 1995, along with Michel Mayor, Queloz made the first discovery of a planet outside our solar system, an exoplanet, orbiting the star 51 Pegasi. Queloz becomes the 109th affiliate of the University of Cambridge to be awarded a Nobel Prize.

"It's an incredible honour and I'm still trying to digest it," said Queloz. "When we discovered the first exoplanet, it was pretty obvious that this was something important, even though not

everyone believed us at the time. Back then, exoplanet research was a very small field. I think there were about fifty of us and we were seen as weirdos. Now there are probably over a thousand people working in the field.

"It's a hot topic at the moment, so I'm really happy that the field of exoplanets has been recognised with a Nobel Prize," Queloz said. "When you are working so passionately at your research, it can be very disruptive to your family. My family has always been there for me and I'm grateful of their support. This Nobel Prize is also an acknowledgement of their incredible patience!"

Today, many regard the discovery of 51 Pegasi b by Queloz and Mayor at the University of Geneva in 1995, as a moment in astronomy that forever changed the way we understand the universe and our place within it.

### TONIGHT'S SPEAKER



Matt Bothwell

The Biggest Galaxy in the Universe?

### Our weekly welcome

**W**ELCOME to our weekly public open evenings for the 2018/19 season. Each night there will be a half-hour talk which begins promptly at **7.15pm**. Please note that the talk will be recorded and archived for online streaming.

The talk is followed by an opportunity to observe if (and only if!) the weather is clear. The IoA's historical Northumberland and Thorrowgood telescopes, along with our modern 16-inch telescope, will be open for observations. In addition, the **Cambridge Astronomical Association** will provide a floorshow outdoors on the Observatory lawns, relaying live images from their telescopes and providing a commentary. If we're unlucky and it's cloudy, we'll offer you a conciliatory cup of tea after the talk (with perhaps some more astro-information in the lecture theatre for those who want to stay on).

If you have any questions, suggestions or comments about the IoA Open Evenings please contact Matt Bothwell at [bothwell@ast.cam.ac.uk](mailto:bothwell@ast.cam.ac.uk).

The talk schedule for this term can be viewed at: [www.ast.cam.ac.uk/public](http://www.ast.cam.ac.uk/public)

## 20 new moons found orbiting Saturn



A team of US astronomers have discovered a haul of 20 new moons around Saturn -- meaning that Saturn overtakes Jupiter as the planet in our Solar System with the most moons, with a total of 82,

All 20 of the new moons are tiny, at just 5km across. And 17 of the twenty orbit backwards around Saturn (in what's known as 'retrograde' orbits). These retrograde moons are far from their parent planet, taking over an Earth year to complete one orbit.

"Studying the orbits of these

moons can reveal their origins, as well as information about the conditions surrounding Saturn at the time of its formation," said Dr Scott Sheppard (Carnegie Institution for Science in Washington DC), who authored the work.

The new moons seem to be clustered into three main groups, based on their orbital properties. The authors believe that each of these groups is the remnant of an ancient collision which destroyed a larger moon.

"This kind of grouping of outer moons is also seen around Jupiter, indicating violent collisions occurred between moons in the Saturnian system or with outside objects such as passing asteroids or comets," said Sheppard.

Excitingly, the team is asking for suggestions for what to name these moons. Names need to come from mythology, and you can enter by tweeting @SaturnLunacy from now until Dec. 6. Include your reasoning and the hashtag #NameSaturnsMoons.

## Milky Way's Black Hole has violent past



*Our Milky Way's centre. Credit: Atlas/2MASS/UMass/Caltech*

The supermassive black hole at the centre of our Milky Way galaxy -- known as Sagittarius A\* -- is rather quiet these days. But a team of astronomers have discovered evidence for an ancient eruption, which would have been extreme enough to see from Earth.

Around 3.5 million years ago, the black hole ejected an enormous flare of radiation, which left a characteristic imprint on a cocoon of gas surrounding the

Milky Way (known as the Magellanic Stream). 3.5 million years might sound like a long time, but it is amazingly recent on galactic timescales.

The event, known as a Seyfert flare, would have created two beams of high-energy radiation which blasted through the galaxy. And it seems like this isn't the only time this has happened: the activity may well have been flickering on and off for billions of

years.

The discovery, made by Professor Joss Bland-Hawthorn and his team at the University of Sydney, completely changes our view of our galaxy's supermassive black hole, which has been dormant since observations began. These new findings suggest that, in galactic terms, our nearest supermassive black hole might be rather explosive.

The light show would have even made it to Earth. If one of our hominid ancestors looked into the sky around 3.5 million years ago, the energy shooting out from our galactic centre would have been brighter than any star.

## Joke of the Week

Why does Moon-rock taste better than an Earth-rock?  
Because it's a little meteor.