Black Holes and Revelations
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Using the amazing power of the ALMA telescope, astronomers have unlocked some of the mysteries surrounding supermassive black holes that lie at the centre of galaxies. But what are they and how are they different from ordinary black holes? Well, supermassive black holes are the largest type of black hole.

They are hundreds of thousands to billions times the mass of our Sun. We measure the mass of stars and black holes in 'solar masses', and our Sun is one solar mass. Astronomers are almost certain that we have a supermassive black hole at the centre of our own galaxy, the Milky Way. In fact, it is now widely accepted that there is a supermassive black hole at the centre of most galaxies.

Not all black holes behave in the same way though, which has confused astronomers for some time. Peering into these centres of galaxies is the most powerful tool we have to increase our understanding of them. Using the ALMA telescope, astronomers have recently captured this picture. It's the best view yet of material flowing into a black hole at the centre of a galaxy called NGC 1433.

Black holes don't just pull in material, they often release it, too, sending it shooting out from above and below in the form of powerful jets. New observations through the ALMA telescope have caught the smallest such outflow ever observed in a galaxy other than our own.

Only by peering closer and capturing higher quality images can we unlock the mysteries at the heart of galaxies. And the power of the ALMA telescope will play a leading role in helping us to better understand how black holes like this are fuelled.

▲ COOL FACT!

The ALMA telescope collects light that our eyes can't detect. The light waves our eyes can see are tiny, so tiny that they are measured in a unit called 'nanometres', which are one million times smaller than a millimetre. The ALMA telescope collects light waves that are several millimetres in length, which is much longer than the light our eyes can detect.