

# BLACK HOLES & WARPED SPACETIME

One hundred years ago, Albert Einstein produced one of the greatest intellectual achievements in physics, the General Theory of Relativity. General Relativity predicts that orbiting pairs of super-dense stars known as black holes and neutron stars will create ripples in spacetime known as gravitational waves. These stars enter a death spiral with an accompanying burst of gravitational waves.

With advances in detector sensitivity, scientists first discovered in September 2015 gravitational waves from two coalescing black holes. In August 2017 a pair of neutron stars were observed and the interaction resulted in a rare type of explosion seen by observatories around the globe.



## ENGAGE

IN EXCEPTIONAL RESEARCH  
AND SCIENTIFIC DISCOVERY



## INSPIRE

YOUNG PEOPLE TO TAKE UP CAREERS  
IN SCIENCE AND TECHNOLOGY



## LEAD

WORLD-CLASS RESEARCH  
EDUCATION AND TRAINING



ARC Centre of Excellence for Gravitational Wave Discovery



OzGrav

**"THE IMPORTANT THING IS  
NOT TO STOP QUESTIONING.**

**CURIOSITY HAS ITS OWN REASON FOR EXISTING."**

ALBERT EINSTEIN



ARC Centre of Excellence for Gravitational Wave Discovery

[WWW.OZGRAV.ORG](http://WWW.OZGRAV.ORG)