



CHAIRMAN

Dr Robert Giles

Lichfield Science & Engineering Society

PATRON

Mr Ian Dudson CBE

HM Lord Lieutenant of Staffordshire

LICHFIELD **GARRICK**
Theatre & Studio

PRESIDENT

Professor Peter A Lambert

8:00 pm on Thursday, 15th February 2018
in the Studio Theatre of the Lichfield Garrick, Lichfield, WS13 6HR

GRAVITATIONAL WAVES

Dr Christopher Berry

Postdoctoral Research Fellow

Gravitational Wave Group, School of Physics and Astronomy
University of Birmingham

Gravitational waves are a new method of performing astronomy. Following a multi-decade international effort, their first direct observation came in September 2015. The signal came from two coalescing black holes, each about 30 times the mass of our Sun and about a billion light-years away. This was our first observation of such a binary black hole system; subsequently we have found several more, revealing a family of black holes. In 2017 gravitational waves were observed from two coalescing neutron stars; this time the gravitational waves were accompanied by light, and astronomers from around the world rushed to observe this event. Combining gravitational wave measurements with traditional astronomy gives new insights into the lives of massive stars, the evolution of the Universe and the nature of gravity itself.

Christopher Berry completed his PhD at the Institute of Astronomy, University of Cambridge on the use of gravitational waves to teach us about gravitation and astrophysical black holes. In 2013 he joined the University of Birmingham and started working as part of the international LIGO Scientific Collaboration. In 2015 he was part of the team who made the first direct observation of gravitational waves, a discovery for which the LIGO founders Barry Barish, Rainer Weiss and Kip Thorne were awarded the 2017 Nobel Prize in Physics. Within the LIGO Scientific Collaboration, Christopher works on analysing gravitational-wave signals to infer the properties of their sources.

For further information, please see our website at www.LSES.org.uk
Students and Members Free.

Visitors £5.00. Tickets are not issued in advance, please pay at the door.

Members must sign in. Those signing in before 7:50 pm will have precedence over all visitors.

This lecture is expected to finish by 10.00 pm.