

Citation for the 2019 RAS George Darwin Lectureship: Professor Christine Done

The 2019 George Darwin Lecture in Astronomy is awarded to Professor Christine Done.

Professor Christine Done is an international leader in observations of accretion onto black holes, and their associated jets and winds. Her contributions are made all the stronger for her tying these observations to theoretical frameworks that she has had a major role in building.

Professor Done's research spans all black hole masses – from galactic X-ray binaries and ultra-luminous X-ray sources to active galactic nuclei (AGN) and quasars, and her work incorporates a wide range of physics, from radiative transfer to general relativity, to understand the phenomenology of these diverse astrophysical sources.

Professor Done's research has shown that the accretion disk luminosity of X-ray binaries follows the T^4 relation predicted in Shakura-Sunyaev alpha-disc models, and has provided strong evidence that black holes do indeed possess event horizons and an innermost stable orbit, and induce Lense-Thirring precession, as predicted by Einstein's General Relativity. She also has an outstanding record as a public speaker, having given a TEDx talk and having appeared on BBC Radio 4.

For these reasons, Professor Christine Done is awarded the George Darwin Lecture.