

Citation for the 2019 RAS 'A' Gold Medal: Professor Robert Kennicutt

Professor Robert Kennicutt receives the 2019 Gold Medal in Astronomy for his fundamental contributions to understanding star formation in galaxies and for the accurate determination of the Hubble constant.

Robert Kennicutt was Plumian Professor at the Institute of Astronomy, University of Cambridge, until 2017 and is currently a Faculty Fellow in the Hagler Institute for Advanced Study at the Texas A&M University. He is a Fellow of the Royal Society and a member of the US National Academy of Sciences. Professor Kennicutt is one of the most respected astronomers in the world and has made fundamental contributions to the field of star formation in galaxies, encapsulated in the famous Kennicutt-Schmidt law.

In a series of papers he established the empirical relationship between the star formation rate surface density in galaxies and the surface density of cold gas. The impact of this work is manifest, for example, in the remarkable number of citations to his single-author papers.

He was awarded the Gruber Prize in 2009 for his co-leadership of the Hubble Space Telescope's programme to tie down the value of the Hubble Constant, which was accomplished to an accuracy of 10%. Over the last 15 years he has led a series of international collaborations to obtain comprehensive multi-wavelength observations of nearby galaxies; the calibration methods he established are now widely used in this field.

He has published over 400 refereed papers with an extraordinary 53,000 citations, including a paper in 1998 on star formation in galaxies in the Annual Review of Astronomy and Astrophysics, which attracted the second-highest number of citations of all time from that journal. He served as Editor-in-chief of the Astrophysical Journal from 1999-2006, Director of the Institute of Astronomy at Cambridge and as its Head of the School of Physical Sciences.

His work in leading international collaborations and his legacy to the field of both star formation in galaxies and the accurate determination of the Hubble Constant establish him as a true giant in astronomy.

For these reasons, Professor Kennicutt is awarded the Royal Astronomical Society's Gold Medal.