

Allison Levick Lecture 2022

Speaker Bios

Professor Fred Watson (DISR)



Fred Watson is Australia's first Astronomer-at-Large in the Commonwealth Department of Industry, Science, Energy and Resources, having worked at both of Britain's Royal Observatories before joining the Australian Astronomical Observatory as Astronomer-in-Charge in 1995. Recognised internationally for helping to pioneer the use of fibre optics in astronomy during the 1980s, Fred is best known today for his award-winning radio and TV broadcasts, books, music, and dark-sky advocacy. In 2003, he received the David Allen Prize for communicating astronomy to the public, and in 2006 was the winner of the Australian Government Eureka Prize for Promoting Understanding of Science. In January 2010, Fred was made a Member of the Order of Australia for service to astronomy, particularly the promotion and popularisation of space science through public outreach. Fred's books include *Stargazer - the Life and Times of the Telescope*; *Why is Uranus Upside Down? - and Other Questions About the Universe* (which won the 2008 Queensland Premier's Literary Prize for Science Writing); and *Star-Craving Mad - Tales from a Travelling Astronomer*, featuring highlights from his science tours around the world. His most recent books are *Cosmic Chronicles - a user's guide to the Universe*, and *Spacewarp - Doomsday Comets and other Cosmic Catastrophes*, aimed at the 10+ age group.

Professor Xavier Barcons (ESO)



Professor Xavier Barcons is the Director General of the European Southern Observatory since 2017. Over his career at ESO he has dedicated significant effort to help progress major projects including the radio telescope, known as ALMA and the 30-meter-class, Extremely Large Telescope.

Xavier was awarded a PhD in statistical physics in 1985 from the University of Cantabria, Spain. He took up the role of Senior Research Scientist at the Spanish Council for Scientific Research in 1993. His research has been focused on astronomy at X-ray wavelengths and, until the late 1990s, Quasi-Stellar Object and the intergalactic medium. He has both participated in and led a number of research projects, some of which have provided the backbone for XMM-Newton space telescope surveys. His research has unveiled faint Active Galactic Nuclei in the distant Universe, and how these mysterious objects evolve in time.

Professor Linda Tacconi (ESO)



Professor Linda Tacconi completed her PhD at the University of Massachusetts, USA, in 1988 and later worked at the Netherlands Foundation for Research in Astronomy, before starting her career at the Max Planck Institute for Extra-terrestrial Physics in 1991. In 2012, she received the Lancelot M. Berkeley New York Community Trust Prize in recognition of her contributions to the field of astronomy, in particular for her work on cold gas in massive star-forming galaxies in the young universe.

Linda has been strongly involved with the European Southern Observatory for a number of years, including in Council and as chair of the Scientific Technical Committee. She currently serves on the ALMA Board and chairs the Senior Committee for the European Space Agency's Voyage 2050, a programme to define the agency's space science roadmap for 2035–2050.

Professor Rob Ivison (ESO)



Professor Rob Ivison is the Director for Science at the European Southern Observatory (ESO). He was previously Professor of Astrophysics at the Institute for Astronomy (IfA), University of Edinburgh, a research scientist at the UK Astronomy Technology Centre, a PPARC Advanced Fellow (Ernest Rutherford Fellowships nowadays) at the IfA, and a lecturer at University College London.

From 2013-18 he held an Advanced Grant, COSMICISM, from the European Research Council, which aimed to study the formation and evolution of galaxies, mainly via observations at far-infrared, submillimetre and radio wavelengths. He currently leads science projects with the Atacama Large Millimetre/Submillimetre Array (ALMA) in Chile and the National Radio Astronomy Observatory's Jansky Very Large Array (JVLA) near Socorro in New Mexico. His time is split between managing the Directorate of Science at ESO, supervising PhD students, writing

proposals to use or build telescopes, analysing data, and writing papers - 36 and 53 refereed papers as first and second author, respectively.

Associate Professor Richard McDermid (Macquarie University)



Associate Professor Richard McDermid is Director of the Macquarie University Research Centre for Astronomy, Astrophysics and Astrophotonics (MQAAAstro), and Leader of the Macquarie University Node of the Australian Research Council (ARC) Centre of Excellence for All-Sky Astrophysics in 3 Dimensions (ASTRO 3D). He is also on the executive board of the Australasian Dark Sky Alliance – a non-profit registered charity working to raise awareness of light pollution and its broad impacts. Following research positions at Leiden University in Holland, and Gemini Observatory in Hawai'i, Richard came to Australia in 2013 as a joint lecturer at Macquarie University and the Australian Astronomical Observatory, and was awarded an ARC Future Fellowship in 2016. Richard's research interests involve using the world's largest telescopes to measure the motions and chemistry of stars in order to understand how galaxies form and evolve over cosmic time, as well as

weighing the supermassive black holes that lurk in the centres of galaxies. Richard is the lead scientist for the international consortium developing a new instrument called "MAVIS" that Australia is building for the European Southern Observatory (ESO) in Chile, and which will allow astronomers to see the Universe in even sharper detail than with the James Webb Space Telescope.

Dr Devika Kamath (Macquarie University)



Dr. Devika Kamath is a Stellar Astrophysicist and a Senior Lecturer in Astronomy & Astrophysics at Macquarie University. She is internationally recognised for her work on observational studies of dying stars. She was awarded the prestigious ARC DECRA fellowship in 2019 to tackle a long-standing question in astrophysics: 'How are chemical elements in the Universe produced?'. She is also a 2020-2021 Superstar of STEM and the recipient of a 2021 NSW Young Tall Poppy Award. Dr Kamath is a highly vigorous leader and communicator in STEM outreach who uses her work and broad astronomical knowledge to encourage more young people into STEM careers. As a child, her evenings included spending hours with her grandfather, pretending to navigate through oceans using the night sky, a sextant, and a telescope. Fascinated by stars, she decided to become an astronomer at the age of 13.