Citation

For pioneering contributions in the research and development of wireless local area network technologies

Dr. John D. O'Sullivan

Position and Organization :
Honorary Fellow CSIRO Astronomy and Space Science

Degree : Ph.D. (1974, University of Sydney)

Date of Birth : April 15, 1947

Brief Biography :

1967 BSc, University of Sydney
1969 BE (Hons 1, University Medal), University of Sydney
1974 Ph.D, University of Sydney
1974 Netherlands Foundation for Radioastronomy, Research Scientist and Laboratory Head
1983 CSIRO Division of Radiophysics – Digital Signal Processing Program Leader, Deputy Chief of Division, Founder Program for LANS and Networking Technology
1995 News Corporation, News Technology Group, VP Asia Pacific
2000 Radiata Communications, CTO and VP Systems
2001 Cisco Systems, Leader WLAN chip development group
2004 G2 Microsystems, Signal Processing Lead
2007 Taggle Systems, Systems Engineer and Board Director
2013 Morse Microsystems, Systems Engineer
2005 CSIRO Astronomy and Space Science – Project Scientist Australian Square Kilometer Array Pathfinder
2011 Honorary Fellow CSIRO Astronomy and Space Science

Main Awards and Honors:

1992 CSIRO Medal (FFT Technology)
2009 Australian Prime Minister's Prize for Science
2009 CSIRO Chairman's Medal (Wireless Network team)
2010 Clunies-Ross Medal
2012 European Inventor Award (Non European Countries)
2013 MA Sargent award of Engineers Australia
2015 CSIRO Chairman's medal (ASKAP Phased Array Team)
2017 IEEE Masaru Ibuka Award
2010 Elected Fellow of the Australian Academy of Science
2011 Elected Fellow Institute of Engineers Australia
2012 Elected Fellow Australian Academy of Technological Science and Engineering Australia
2010 Honorary Doctor Science. Curtin University
2012 Honorary Doctor Engineering, Sydney University

Main Achievements :

Dr. John D. O'Sullivan has had an extensive career in wireless, signal processing and radiophysics in both research and commercial contexts. After receiving his PhD from the University of Sydney, he was a research scientist with the Netherlands Foundation for Radioastronomy leading a team developing a broadband receiver/digital correlator system for the Westerbork Radiotelescope. On return to Australia to CSIRO (Australian Government's Commonwealth Scientific and Industrial Research Organisation) he led research programs in signal and image processing and wireless network communications at the Division of Radiophysics. One significant effort he initiated and led was a Fast Fourier Transform single chip for tasks such as radar and imaging processing. The research program into wireless networks he later started drew on this to combat multipath interference of wireless signals. The resulting patent underpinned the Wi-Fi wireless networks that are now ubiquitous.

He was also Deputy Chief of the CSIRO Division of Radiophysics responsible for a large team covering research ranging from electromagnetics, GaAs fabrication for mm-wave devices through to algorithm and high speed dedicated signal processor development. He left CSIRO for several years, whereupon his career extended also to roles in various companies ranging from large (News Corp and Cisco) to several technology startups (Radiata, G2, Taggle, Morse Micro) involved in chip development for a range of applications. Radiata, where he was Chief Technical Officer and VP Systems, in 2000 produced the first working chip set meeting the new standards later to become known as Wi-Fi. After this, Radiata was acquired by Cisco where he went on to lead the WLAN chip development group. Subsequently, CSIRO successfully defended the patent and received royalties from all significant commercial vendors of the Wi-Fi invention.

Later, he returned to technology research for radio astronomy with CSIRO as a project researcher. He was for a period project scientist on the Australian pathfinder for the next generation international Square Kilometer Array radio telescope (ASKAP). ASKAP pioneered the use of phased array feed technology and data processing methods to achieve a radio telescope with wide field survey capability.

Dr. O'Sullivan has received numerous awards, including the 2009 Australian Prime Minister's Prize for Science, the 2012 European Inventors Award, and the 2017 IEEE Masaru Ibuka Consumer Electronics Award. He has been elected a Fellow of the Institute of Engineers Australia the Australian Academy of Science and the Australian Academy of Technological Science and Engineering and has Honorary Doctorates at Curtin University and Sydney University.

In recognition of his pioneering contributions to research and development of wireless LAN technologies, Dr. John D. O'Sullivan is hereby awarded the Okawa Prize.