

2017 (US) Institute of Navigation Kepler Award

Professor Terry Moore FRIN

We send our congratulations to Professor Terry Moore, FRIN, of Nottingham University (Vice-President of the (UK) Royal Institute of Navigation on winning the ION Kepler Award for significant contributions to navigation.

The full citation reads: *‘In recognition of his outstanding contributions to the development of satellite navigation through a sustained and distinguished professional career devoted to research and teaching.’*

Professor Terry Moore has over 30 years of research experience in surveying, positioning and navigation technologies, and is a consultant and advisor to UK and European government organisations and industry.

He has taken a leading role in national and European initiatives aimed at integrating academic research and teaching activities in GNSS and interacting closely with industry.

Professor Moore is credited with extensive work on the introduction and implementation of WGS 84* as the standard reference systems for air and marine navigation, as well as the development of standard software tools for coordinate transformations and map projections used extensively through the aviation industry.

Additionally, he is known for the development of GRINGO software that pioneered the use of raw GPS code and carrier phase data from low cost Garmin receivers. His work has also includes the pioneering of novel methods and algorithms for GPS orbit relaxation; which led to reduced dynamic GPS-based orbit determination for LEO spacecraft, with a real-time implementation.

Moreover Professor Moore is the Director of the Nottingham Geospatial Institute (NGI) at the University of Nottingham where he has responsibility for all of NGI’s research and teaching. He is also the founding Director of GRACE, the GNSS Research and Applications Centre of Excellence, which was jointly funded by the University of Nottingham and East Midlands Development Agency, and targets knowledge transfer between the NGI and business. Additionally, he leads the university-wide Aerospace and Transport Technology Research Priority Area. He has supervised numerous research projects funded by industry, research councils, the European Space Agency and the European Commission, and has supervised over 30 PhD students.

Furthermore, Professor Moore is involved in the volunteer activities of numerous international professional and scientific bodies. He is currently a Royal Institute of Navigation (RIN) Vice-President (now also President Elect) and a member of their Technical Committee, while simultaneously serving on the ION Council as a Technical Representative and as a co-chair of the ION's Satellite Division's Technical Peer Review Committee. He has served on the ION's Satellite Division Executive Committee on numerous occasions and is a past ION GNSS+ program and general chair. Professor Moore is also a member of the Editorial Advisory Council of *GPS World*.

Finally, Professor Moore is a Fellow of both the (US) Institute of Navigation (ION) and the (UK) Royal Institute of Navigation (RIN). He is also a Fellow of the Chartered Institution of Civil Engineering Surveyors, a Fellow of the Royal Astronomical Society and an Associate Fellow of the Remote Sensing and Photogrammetry Society. In 1999 and 2008 he was awarded the RIN Richey Medal (for best paper in the RIN *Journal of Navigation*), in 2013 was awarded the RIN Harold Spencer-Jones Gold Medal (for outstanding contributions to navigation), and in 2016 the RIN JED Williams Medal (for contributions to the RIN).

He holds a BSc degree in Civil Engineering and PhD degree in Space Geodesy, both from the University of Nottingham, where he was promoted to the UK's first Chair of Satellite Navigation in 2001.

*Per UNOOSA, the Vienna-headquartered United Nations Office for Outer Space Affairs (<http://www.unoosa.org/>): WGS 84 is an Earth-centered, Earth-fixed terrestrial reference system and geodetic datum. WGS 84 is based on a consistent set of constants and model parameters that describe the Earth's size, shape, and gravity and geomagnetic fields. WGS 84 is the standard US Department of Defense definition of a global reference system for geospatial information and is the reference system for the Global Positioning System (GPS). It is compatible with the International Terrestrial Reference System (ITRS).