

# Dr Pratap Misra Receives Prestigious Kepler Award



The Institute of Navigation® (ION) Satellite Division awarded Dr Pratap Misra its Johannes Kepler Award on 12 September 2014 at the ION GNSS+ Conference (Tampa, Florida, USA) for his contributions to satellite navigation education, the understanding of GLONASS, and receiver-autonomous integrity monitoring.

Dr Misra is credited with tracking GLONASS satellites using the AF Deep Space Tracking Network to determine their orbits in the coordinate frame used by GPS, while the satellites broadcast their positions in the Soviet coordinate frame. Dr Misra is recognised for his ground-breaking work on navigation with combination of GPS and GLONASS signals and is the Western world's leading expert on what's now the Russian satellite navigation system. He was a technical advisor to the FAA for many of the bilateral and multi-lateral

committees that worked on the development of GPS/GLONASS spectrum sharing and avionics.

Additionally Dr Misra has worked on receiver autonomous integrity monitoring (RAIM), and contributed a novel approach that does not require the simplifying assumption of Gaussian errors. He was also the first to provide a RAIM algorithm that leveraged the receiver clock to put a bound on the vertical position error. These algorithms are expected to play a significant role in the upcoming multi-constellation environment.

Dr Misra is currently at Tufts University where he is a research associate professor of Mechanical Engineering. He is a well-known as a gifted speaker and devoted teacher, well known for the textbook that he co-authored with Professor Per Enge of Stanford University: *Global Positioning System: Signals, Measurements and Performance*. Dr Misra is a past chair of the Satellite Division and has held numerous volunteer positions within the ION, most recently focusing on the support of student programmes. He is both an ION Fellow (2003) and IEEE Fellow (2007).

The Kepler Award recognises and honours an individual for sustained and significant contributions to the development of satellite navigation. It is the highest honour bestowed by the ION's Satellite Division.