SEMINAR

專題演講

國立中央大學 太空科學與工程學系

Department of Space Science and Engineering, National Central University

Time

Friday, October 31, 2025
13:30 – 14:30

Place

健雄館(科四館)

S4-807 教室
Room S4-807,
Chien-Shiung Building

GNSS As Signals-of-Opportunity for Ionosphere, Atmosphere, Earth Surface Remote Sensing

Prof. Jade Morton
Helen and Hubert Croft Professor in the Ann and H.J. Smead Aerospace Engineering Sciences Department at the University of Colorado Boulder.

GPS/GNSS has impacted nearly every aspect of our modern society. Yet, it relies on extremely low power signals traversing a vast space to reach the Earth surface. Numerous factors interfere with the signals along their propagation path, including ionosphere plasma, moisture in the lower troposphere, multipath reflections from Earth surface, and intentional and unintentional radio frequency sources. These nuisance factors enable satellite navigation signals to function as signals-of-opportunity for low cost, distributed, passive sensing of the signal propagation environments. This presentation will discuss the latest research work in the Satellite Navigation and Sensing Lab at the University of Colorado Boulder in applying satellite navigation signals for space weather monitoring, atmospheric profiling, ocean wind retrieval, precision altimetry measurements over ocean, sea ice, inland water bodies, and land cover, and radio frequency interference detections. Both ground-based GNSS networks and spaceborne radio occultation and reflectometry receiver technologies will be covered.

Dr. Jade Morton is Helen and Hubert Croft Professor in the Ann and H.J. Smead Aerospace Engineering Sciences Department at the University of Colorado Boulder. Her research expertise lies at the intersection of satellite navigation technologies and remote sensing of the ionosphere, troposphere, and Earth surface. She received her PhD in Electrical Engineering from Penn State. Dr. Morton is a fellow of the IEEE, the Institute of Navigation, and UK's Royal Institute of Navigation.