



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學



**The Hong Kong Polytechnic University  
Research Institute for Land and Space (RILS)  
RILS Public Lecture Series  
Featured BDS and Future PNT system**

**Date & time:** Wednesday 30 November 2022  
3:00pm – 4:00pm

**Speaker:** **Prof. Yuanxi Yang**  
Academician of Chinese Academy of Sciences  
Professor of Xi'an Research Institute of Surveying

**Moderator:** **Prof. Xiaoli Ding**  
Director of RILS

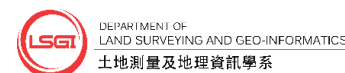
**Location:** Online via Zoom

**Registration link:** [https://polyu.zoom.us/webinar/register/WN\\_yttrRP6jQe2Q2CQ9g8kLkA](https://polyu.zoom.us/webinar/register/WN_yttrRP6jQe2Q2CQ9g8kLkA)

All are welcome to attend.  
An e-certificate of participation will be sent to participants upon request.

**Contact us:** Ms Cathy Kwok (RILS Secretary)  
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Co-organisers:



# RILS Public Lecture Series

## Featured BDS and Future PNT system



**Prof. Yuanxi Yang**

### **Presentation Title**

Featured BDS and Future PNT system

### **Abstract**

On July 31, 2020, the global BeiDou navigation satellite system (BDS-3) was formally commissioned and started providing global positioning, navigation and timing (PNT) service. BDS-3 adopts a series of creative designs such as the modulation of BDS-3 signal and the inter-satellite link. These creative designs not only help BDS-3 to perform better in the standard PNT service, but also support the realization of six featured services, which will create a broader global market for BDS. The successful BDS-3 is not the end of Chinese PNT infrastructure construction. In the future, a comprehensive PNT system based on different physical principles will be built to provide seamless service for users from the deep space to the deep ocean.



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### **Biography of Prof. Yuanxi Yang**

Prof. Yuanxi Yang, Professor at Xi'an Research Institute of Surveying and Mapping, is an Academician of Chinese Academy of Sciences and the deputy chief engineer of the Chinese BeiDou navigation satellite system. He has been elected as the IAG Fellow in 2007 and the ION Fellow in 2018, and won the Ho Leung Ho Lee Award in 2011. He serves as the Chief Editor of *Satellite Navigation* (since 2020) and *Acta Geodaetica et Cartographica Sinica* (since 2014).

Prof. Yang has been dedicated to the research of geodesy and satellite navigation technology. As the creator of the theories of robust estimation for correlated observations and the adaptively robust navigation, he built the bifactor equivalent weights model, and developed the robust covariance estimation algorithm and the adaptively robust estimation algorithm. As the deputy chief engineer of BDS, he made a lot to breakthrough in key technologies such as the model of BDS contribution on global PNT users, the optimal combination model for BDS triple-frequency signals, and the adaptively autonomous orbit determination algorithm. Besides, he initiated the research on comprehensive PNT and resilient PNT supporting the construction of the national PNT system.

Prof. Yang has published more than 400 peer-reviewed papers, including 60 plus SCI papers, and many of them are highly cited, with the total citations of more than 14000. He is among the world's top 2% scientists list named by Stanford University in 2021 and 2022.



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## Featured BDS and Future PNT system

### Programme

Time	Title
3:00pm – 3:50pm	<b>Featured BDS and Future PNT system</b>  Prof. Yuanxi Yang <i>Academician of Chinese Academy of Sciences</i> <i>Professor of Xi'an Research Institute of Surveying</i>
3:50pm – 4:00pm	<b>Q &amp; A Session</b>