



# LSGI & RILS RESEARCH SEMINAR

## Integrated Navigation Technologies: State of the Art and Future Trends

 **24 APR 2025 (THU)**

 **4:00 - 5:30 PM**

 **Y303, POLYU**

 **ENGLISH**

**Dr Naser EL-SHEIMY**

*Professor*

*Department of Geomatics Engineering  
University of Calgary, Canada*



### ABSTRACT

Navigation has fascinated humans for millennia, evolving from observing landmarks and celestial bodies to advanced integrated systems. This presentation by Dr El-Sheimy from the University of Calgary will explore state-of-the-art navigation technologies and future trends. Emphasising sensors and technologies for all-weather, anytime navigation, it will cover applications in smartphones, autonomous vehicles, and drones. The focus will be on developing next-generation, low-cost, compact systems to meet the growing demands of autonomous vehicles and location services. Additionally, the presentation will highlight how advancements in sensor fusion, GNSS-aided and GNSS-denied navigation, and AI-driven processing are enhancing system accuracy, continuity, and resilience.

### BIOGRAPHY

Dr Naser El-Sheimy is a Professor and former Head of the Department of Geomatics Engineering at the University of Calgary, holding a Tier-I Canada Research Chair in Geomatics Multi-sensor Systems. His expertise includes GPS/INS integration and mobile mapping systems. A Killam Professor and Fellow of Canadian Academy of Engineering, Engineering Institute of Canada, and US Institute of Navigation (ION), Dr El-Sheimy has published over 500 papers and supervised over 100 graduate students. He has received numerous awards, including the ASTech "Leadership in Alberta Technology" Award and multiple teaching and research excellence awards. Moreover, he served as the president of Commission I on "Sensors and Platforms" of the International Society for Photogrammetry and Remote Sensing (ISPRS) and has organized numerous conferences. Currently, he is the Chief Editor of MDPI Geomatics and serves on several editorial boards.

**Moderator: Prof. George LIU, LSGI**

All are welcome! Please register now to join us on-site!

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