



**THE CHINESE UNIVERSITY OF HONG KONG**  
Department of Information Engineering  
*Seminar*

**INDOOR POSITIONING SYSTEMS IN HOSPITALS AND  
IN EMERGENCY SCENARIOS**

**By**  
**Prof. Niki Trigoni**  
University of Oxford, UK  
Department of Computer Science

**Date : 16 October 2024 (Wednesday)**

**Time : 2:00pm – 3:00pm**

**Venue : Rm 833, Ho Sin Hang Engineering Building, CUHK**

*Abstract*

In this talk I will share experiences and lessons learnt from developing indoor positioning systems in two very different settings. I will start with the challenges of deploying infrastructure-free indoor location systems in hospital environments, as well as the benefits of using them for workflow optimisation and improved cross-team coordination. Moving from benign to emergency response settings, I will present new and unique challenges faced, including lack of signal maps and in certain cases physical maps, lack of representative training data, sensor failure, and limited visibility and connectivity. I will then present recent research directions that we have pursued in the area of robust multi-modal sensing to address the challenging problems of localization, mapping and semantic scene understanding.

*Biography*

Niki Trigoni is Professor at the Oxford Department of Computer Science, heading the Systems theme. She is also the Fellow of the Royal Academy of Engineering, United Kingdom. Her interests lie in the tight integration of sensing and machine intelligence for context inference, control and human-machine interaction. She has applied her work to a number of application scenarios, including mobile autonomy, asset monitoring, and localisation systems for emergency situations, as well as workforce safety and efficiency. Trigoni has founded and served from 2014-2019 as Director of the Centre for Doctoral Training on Autonomous and Intelligent Machines and Systems. Driven by her passion for research translation, in 2015, she founded Navenio Ltd, a deep tech Oxford spinout on infrastructure free indoor positioning, and a 2020 KPMB Best British Tech Pioneer. In 2020, she won the CTO of the Year award at the UK's Women in IT Awards, demonstrating impact from translating positioning tech to improve efficiency in the healthcare sector.

**\*\* ALL ARE WELCOME \*\***