



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

**Optical Wireless Communications for IoT Applications**

**By**  
**Prof. Fary Ghassemlooy**  
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**Date : 27 August 2024 (Tuesday)**

**Time : 9:30 am – 10:30am**

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



*Abstract*

The next generation wireless communication networks (i.e., 6G and beyond) will seamlessly connect people, devices and systems together, enabling the collection, preparation, processing, storing and decision making of vast amounts of information. It is anticipated that such wireless networks will utilise different technologies for use in smart environments, including homes/buildings/cities, manufacturing, agriculture, health care, transportation systems, etc., for improving productivity and the quality of life through the efficient and sustainable resources management and use. 6G will need the convergence of different wireless technologies, assisted by machine learning to solve flexibility and scalability issues. This talk will give an overview of the emerging integrated wireless technology focusing on optical sensing, positioning and data communication within the context of 6G wireless networks and beyond, using common spectrum, device, transmission and network infrastructure to improve both spectral and energy efficiencies.

*Biography*

Fellow of OPTICA; Fellow of IET; Senior Member of IEEE; Member of IAENG, CEng. Google Scholar: Citation of 23537, h-index of 65 and i10-index of 441. BSc (Hons.), Manchester Metropolitan Univ., UK, (1981), MSc (1984), and PhD (1987) Manchester Univ., UK. 2004-14 Associate Dean for Research, School of Eng., School of Computer, Eng. and Information Sciences, and Faculty of Eng. & Env., Northumbria Univ., UK, and currently is the Head of Photonics Technology Laboratory and Optical Communications Research Group. Vice-Chairs of EU Cost-Action IC1101 (2011-16) and Cost Action CA19111, 2020-24. IEEE ComSoc Distinguished Lecturer 2024-25. **Research interests:** optical wireless communications (OWC), free space optics, visible light communications, optical camera communications, hybrid RF-OWC, with many funded research projects from UK Research Council, UK Space Agency, European Union (including 3 Marie Curie DT Network Programmes in the last 4 years), and industries in collaboration with international research centres. Over 1024 publications [437 journals (IEEE, IET, IoP, OPTICA, Elsevier, etc.), 8 books, 25 book chapters, 33 invited papers, and 3 White Papers on OWC] with a total download of over 120,000 at IEEE xplora. 16 awards and prizes (including best papers) and 115 keynote/invited talks. Supervised 13 Research Fellows and 76 PhDs. Founding Head of the European Collaborative Research Network since 2020. Chief Editor of International J. of Optics and Applications (2015-24), Associate Editor of several journals (IEEE, IET, etc.), Guest/Co-guest Editor of special issues (18 in total) on OWC in IEEE, IET, etc., and members of Editorial boards of many journals. Chair/vice-Chair of 16 international conferences; co-founder/organiser of 25 international events including Workshop on Optical Wireless Communications in IEEE ICC (2015-16), colloquium on OWC in CSNDSP since 2004, and international Workshop on OWC since 2015. He is a member of international technical committee of many international conferences including IEEE ICC and Globecom.

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