

## **Title: Large-scale IoT Systems for Ageing-in-Place: Experiences and Lessons Learnt towards Sustainability**

### **Abstract:**

The paradigm of ageing-in-place – where the elderly live and age in their own homes, independently and safely, with care provided by the community – is compelling, especially in societies that face both shortages in institutionalized eldercare resources, and rapidly ageing populations. When the number of elderly who live alone rises rapidly, support and care from their communities become increasing crucial. Internet of Things (IoT) technologies, particularly in-home monitoring solutions, are becoming mature. They can become the fundamental enabler for smart community eldercare.

In this presentation, I would like to share our experiences and learnings gathered from large-scale deployments of IoT systems in homes of elderly living alone, focusing on two aspects which are key for sustainability: (i) value creation for the ageing-in-place public health ecosystem and (ii) the operational and usability aspects of such systems.

### **Short Biography:**



Dr. Hwee-Pink TAN

Associate Professor of Information Systems (Practice)

Academic Director, SMU-TCS iCity Lab, SMU

Dr. Hwee-Pink TAN currently leads a team of 10 technology and social science researchers to bring together Internet of Things (IoT) technologies, and social-behavioural research to enable and sustain ageing-in-place, leading, in a broader sense, to intelligent and inclusive societies, in close partnership with A\*STAR, TCS, various government agencies, regional health systems as well as Voluntary Welfare Organizations. At SMU, he teaches IoT: Technology and Applications, targeted at senior undergraduate students, as well as students pursuing the Professional Masters of IT and Business. He is also an adjunct faculty with the Geriatric Education and Research Institute in Singapore.

Prior to joining SMU in March 2015, he spent 7 years at the Institute for Infocomm Research (I2R), A\*STAR, where he was a Senior Scientist and concurrently the SERC Programme Manager for the A\*STAR Sense and Sense-abilities Program. In this programme, he led a team of 30 full-time research scientists and engineers to design, pilot and evaluate architectures to support large scale and heterogeneous sensor systems to enable Smart City applications. In recognition of his contributions, he was awarded the I2R Role Model Award in 2012 and 2013, and the A\*STAR Most Inspiring Mentor award, TALENT and Borderless Award in 2014.

He graduated from the Technion, Israel Institute of Technology, Israel in August 2004 with a Ph.D. In December 2004, he was awarded the A\*STAR International Fellowship to conduct postdoctoral research at Eindhoven University of Technology (Dec 2004 to Jun 2006) and Trinity College Dublin (Jul 2006 to Mar 2008) on the design and evaluation of wireless networks. He is a Senior Member of the IEEE, has published more than 100 papers, and has served on executive roles for various conferences on IoT.