Prof. Dr. Hirozumi Yamaguchi

A full professor at Osaka University, Japan

and leads the Mobile Computing Laboratory.

Keynote title: Human Dynamics, Approaches in Sensing, Modeling, and Smart City Integration.

Bio:

Hirozumi Yamaguchi received his B.E., M.E., and Ph.D. in Information and Computer Science from Osaka University, Osaka, Japan, in 1994, 1996, and 1998, respectively. He is currently a full professor at Osaka University and leads the Mobile Computing Laboratory. He has been working in the research areas of cyber-physical systems, mobile and pervasive computing, with a focus on smart cities and smart living. He has taken on roles as an area editor for Elsevier Pervasive and Mobile Computing and Ad Hoc Networks.

He has also served as a general chair, TPC chair, or organizing committee member for IEEE conferences, including IEEE PerCom, SmartComp, ICDCN, and EAI Mobiquitous, and has been involved as a technical committee member in numerous mobile computing and wireless communication conferences of IEEE. He has been leading several research projects such as JST CREST and NICT Commission Research as Project Investigator.

He was awarded Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology in 2018.

Human Dynamics: Approaches in Sensing, Modeling, and Smart City Integration

<u>Abstract:</u>

In this presentation, In this presentation, we will discuss the cutting-edge methodologies for sensing, modelling, and understanding human **behavior** - an integral aspect of our daily environments and the fabric of smart cities - as well as simulate these **behaviors**.

We will also discuss the associated research challenges that arise in this domain.

Human sensing has been a significant area in mobile and pervasive computing research domain. This research has encompassed a variety of sectors such as Human Activity Recognition (HAR), Human Tracking, and Localization, all of which have been explored using diverse technological devices.

The complexities of these studies are extensive, as they require a deep understanding of human **behavior** patterns. The speaker has engaged in this field of research for over a decade, and he will share insights gained from his extensive experience.

He will present a series of projects that are currently being advanced in the context of smart living and smart cities. These projects not only demonstrate the practical applications of human sensing technologies but also highlight the evolving research questions that need to be addressed.

A significant portion of this talk will be dedicated to discussing multimodal sensing techniques, which integrate data from multiple sources to achieve a more comprehensive understanding of human **behavior**.

Additionally, the critical issue of privacy protection will be a focus. As we develop more sophisticated means of monitoring and modelling human activity, securing individuals' privacy remains concern.

The talk aims to shed light on how current research is addressing these concerns, and what f**uture directions may be pursued**