

Title: *NGMA: Bruce Lee Inspired Fluid Antenna Multiple Access*

Abstract

“Be formless ... shapeless, like water!”, which were the words used by Bruce Lee, as he was revealing the philosophy of Jeet Kune Do, the martial arts system Lee founded in 1967. Many similarities can be observed in wireless communications technologies where engineers have been seeking greater flexibility in using the spectral and energy resources for improving network performance. In this talk, I will speak on a novel antenna technology, referred to as fluid antenna, that adopts a software-controlled, position-flexible antenna to operate on the best signal envelope within a given space. This talk presents some recent results on fluid antenna systems, with an emphasis on multiple access communications. The results present an optimistic outlook for massive connectivity without the need for MIMO precoding at the base station nor multiuser detection at the users that would have been required by NOMA.

Biography

(Kit) Kai-Kit Wong received the BEng, the MPhil, and the PhD degrees, all in Electrical and Electronic Engineering, from the Hong Kong University of Science and Technology (UST), Hong Kong, in 1996, 1998, and 2001, respectively. He moved to the UK after beginning his early career at the University of Hong Kong between 2001 and 2004, during which he also spent time at then AT&T Bell-Labs in Holmdel, New Jersey and Stanford University in the United States. Presently, he is Chair Professor of Wireless Communications at the Department of Electronic and Electrical Engineering, University College London (UCL), United Kingdom. He is Fellow of IEEE and IET. Since 2020, he has been the Editor-in-Chief for IEEE Wireless Communications Letters, and also the Subject Editor-in-Chief for Wireless Communications of IET Electronics Letters.