

Title	<i>Lunch Keynote Tuesday: AI in the edge; the edge of AI</i>
Speaker	Georges Gielen, University of Leuven, Belgium

Abstract

In the world of IoT, both humans and objects are continuously connected, collecting and communicating data, in a rising number of applications including industry 4.0, biomedical, environmental monitoring, smart houses and offices. Local computation in the edge has become a necessity to limit data traffic. Additionally embedding AI processing in the edge adds potentially high levels of smart autonomy to these IoT 2.0 systems. Progress in nanoelectronic technology allows to do this in power- and hardware-efficient architectures and designs. This keynote gives an overview of key solutions, but also describes main limitations and risks, exploring the edge of edge AI.



Biography

Georges G.E. Gielen received the MSc and PhD degrees in Electrical Engineering from the Katholieke Universiteit Leuven (KU Leuven), Belgium, in 1986 and 1990, respectively. He currently is Full Professor in the MICAS research division at the Department of Electrical Engineering (ESAT) at KU Leuven. From August 2013 till July 2017 he was also appointed at KU Leuven as Vice-Rector for the Group of Sciences, Engineering and Technology, and he was also responsible for academic Human Resource Management. He was visiting professor in UC Berkeley and Stanford University. Since 2020 he is Chair of the Department of Electrical Engineering.

His research interests are in the design of analog and mixed-signal integrated circuits, and especially in analog and mixed-signal CAD tools and design automation. He is a frequently invited speaker/lecturer and coordinator/partner of several (industrial) research projects in this area, including several European projects. He has (co-)authored 10 books and more than 600 papers in edited books, international journals and conference proceedings. He is a 1997 Laureate of the Belgian Royal Academy of Sciences, Literature and Arts in the discipline of Engineering. He is Fellow of the IEEE since 2002, and received the IEEE CAS Mac Van Valkenburg award in 2015 and the IEEE CAS Charles Desoer award in 2020. He is an elected member of the Academia Europaea.