

KIOS Distinguished Lecture Series



Prof. Alberto Sangiovanni Vincentelli
University of California, Berkeley, USA

Thursday, **13 October 2022**, at **14:00** | **Amphitheatre B108**

Or via zoom: <https://ucy.zoom.us/meeting/register/tJMsc-6rrTIsEtPaGVMqNn0iXpMeombKgyB2>

Cyber Physical System Directions and Challenges

LECTURE ABSTRACT

Cyber physical systems (CPS) are the most compelling example of the convergence of different disciplines: from electronics, to software, control and communication. An extension of CPS are the so-called Bio CPS where biology is also playing a fundamental role in the future of industrial and research opportunities. We are going to discuss trends in this domain with particular attention to the role and the limitations of AI and machine learning and a peek at the evolution of Bio CPS.

BRIEF BIO

Alberto Sangiovanni Vincentelli is the Edgar L. and Harold H. Buttner Chair of Electrical Engineering and Computer Sciences at the University of California at Berkeley. In 1980-1981, he was a Visiting Scientist at the Mathematical Sciences Department of the IBM T.J. Watson Research Center. In 1987, he was Visiting Professor at MIT. He is an author of over 800 papers, 17 books and 2 patents in the area of design tools and methodologies, large scale systems, embedded systems, hybrid systems and innovation. He was a co-founder of Cadence and Synopsys, the two leading companies in the area of Electronic Design Automation and the founder and Scientific Director of the PARADES Research Center in Rome.



BRIEF BIO

Board Participation: • Public Companies: He has been a member of the Board of Directors of Cadence and of KPIT-Cummins. • Privately Held Companies: He is a member of the Board of Directors of Sonics, and of Expert Systems. • Advisory Boards: He had been a member of the ST microelectronics Advisory Board for 10 years. He was a member of the HP Strategic Technology Advisory Board (2005-2007), a member of the Science and Technology Advisory Board of General Motors (2003-2013), and is a member of the Technology Advisory Council of United Technologies Corporation (2005-present). He is a member of the Advisory Board of Innogest, Xseed and a member of the Investment Committee of Atlante Ventures and Fondo Next. Since January 2013, he is the President of the Strategic Committee of the Italian Strategic Fund. He is member of the Scientific Council of the Italian National Science Foundation (CNR). Since February 2010, he has been a member of the Executive Committee of the Italian Institute of Technology. Since July 2012, he has been named Chairperson of the Comitato Nazionale Garanti per la Ricerca.

Honors: • Teaching: In 1981, he received the Distinguished Teaching Award of the University of California. He received the worldwide 1995 Graduate Teaching Award of the IEEE for “inspirational teaching of graduate students”. In 2002, he was the recipient of the Aristotle Award of the Semiconductor Research Corporation.

• **Research:** He received numerous research awards including the Guillemin-Cauer Award (1982-1983), the Darlington Award (1987-1988) of the IEEE for the best paper bridging theory and applications, and two awards for the best paper published in the IEEE Transactions on CAS and CAD, five best paper awards and one best presentation awards at the Design Automation Conference, the best paper award at the International Conference on CyberPhysical Systems, other best paper awards at the Real-Time Systems Symposium, and the VLSI Conference.

Major Honors • In 2001, he was given the Kaufman Award of the Electronic Design Automation Council for “pioneering contributions to EDA”. • In 2008, he was awarded the IEEE/RSE Wolfson James Clerk Maxwell Medal “for groundbreaking contributions that have had an exceptional impact on the development of electronics and electrical engineering or related fields” with the following citation: “For pioneering innovation and leadership in electronic design automation that have enabled the design of modern electronics systems and their industrial implementation” • In 2009, he received the first ACM/IEEE A. Richard Newton Technical Impact Award in Electronic Design Automation to honor persons for an outstanding technical contribution within the scope of electronic design automation. • In 2012, he received the Lifetime Achievement Award from EDAA. • He has been a Fellow of the IEEE since 1982, a fellow of the ACM since 2014, and a Member of the National Academy of Engineering, the highest honor bestowed upon a US engineer, since 1998.

Honorary Degrees: In 2009, he was awarded an Honorary Doctorate by the combined EE and CS departments of the University of Aalborg in Denmark. In 2012, he was given an Honorary Doctorate from KTH in Sweden.

