

Opening Ceremony & Keynote

Embracing Connectivity: Technologies Transforming the Digital Healthcare



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Abstract

Over the past decade, digital health technologies have been ever increasing in number and funding – with real opportunity to improve patient outcomes and practice efficiencies. This session highlights the changing role in healthcare – shifting from reactive to proactive, from sick care to health care system and shares a vision of Connected Care, a vision in which the electronics sector has a huge role to play. It outlines what is required to bring this vision to life, addresses the readiness of global markets for the adoption of new technologies and discusses how conscious collaboration between providers, payers, clinicians and other sectors can catalyse the move from vision to reality.

Biography

Dr Anushka Patchava is an experienced strategist having supported the commercialisation of several pharmaceutical assets and the implementation of digital strategies in the Healthcare and Lifesciences sector. Prior to this, Anushka received her Medical Degree from University of Cambridge, and has practiced in both the UK (NHS) and US (Harvard) health systems. She has a particular interest in architecting data-driven environments and is passionate about creating a Connected Care ecosystem; harnessing IoT, 5G, Blockchain and Digital Therapeutics to drive data-fluidity and improve patient outcomes.

She has advised a variety of health related seed and early stage start-ups, drawing upon her unique experience to bridge the interface between physician, patient, payer and policy. She has worked across cross-functional and cross-sector teams, driving conscious collaboration and agile methodologies to disrupt legacy systems and behaviour with deliberate digital design.

She holds qualifications in a breadth of areas including Digital Strategy and Leadership, Value Based Healthcare (Harvard Business School), Innovation (Stanford Business School), Digital Marketing and Analytics (Google Squared) and most recently, Intermediate Python.

Her role as an healthcare expert advisor to the United Nations (CEFACT) is focused on Artificial Intelligence and Blockchain, and her ideas and experience will be shared in an upcoming book chapter on the role of Artificial Intelligence in Healthcare.

Semiconductor Innovation Driving Future Mobility



B. Hellenthal
Head of Audi Comprehensive Semiconductor
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Abstract

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Biography

Berthold Hellenthal runs Semiconductor Strategy – Progressive SemiConductor Program (PSCP) at the Competence center Electronics and Semiconductors.

Dipl.-Ing. Berthold Hellenthal joined Audi in 2008 as a member of the management team. Working in the Electronic Development Department, he comprehensively supports all Audi electronic development out of the competence center “Robust Design: Electronics and Semiconductors”, specializing in electronic hardware reviews and application analysis as well as semiconductors.

Mr. Hellenthal is responsible for the comprehensive “Competence center Electronics and Semiconductors” as well as for the comprehensive Audi Semiconductor Strategy, the Audi Progressive SemiConductor Program (PSCP).

Next Generation Computing



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Abstract

The global digitization of all branches and value chains will henceforth only be possible with novel powerful computer systems. New generations of data centers and server farms are necessary for super-fast cloud computing. Additionally, next generation computers require decentralized, mobile, compact and highly efficient processor performance classes and will be used for edge computing and sensor nodes.

As the conventional downsizing approach in processor development according to Moore's Law is no longer sufficient, new concepts are required to allow ultra-fast processing, especially for artificial intelligence applications. Disruptive and highly innovative concepts that are based on artificial neural networks and neuromorphic processors for quantum computing will supersede the currently utilized "Von-Neumann-architecture". The neuromorphic architecture is characterized by a large number of interconnections and parallel processors, tight collocation of processor and memory, high data transfer bandwidth and very low power consumption.

The classic separation of hardware and software will be eliminated and therefore holistic system concepts could lead to novel solutions in the industrial sector. Coordinated developments in hardware-software-co-design enable solutions for future applications, e.g. autonomous driving. At the same time, existing and new systems need protection against cyber-attacks and have to be trustworthy. Thus, research into new architectures, design and manufacturing processes for computers and systems with a secure trust anchor, so called trusted electronics, is required.

Biography

Hubert Lakner (born 1958) received his diploma-degree in physics from Eberhard-Karls-Universität Tübingen in 1986. After one year in industry he joined the Gerhard-Mercator-Universität (Duisburg) working in the field of nanocharacterisation of mesoscopic semiconductor structures. He received his PhD in Electrical Engineering in 1993. From 1994 until September 1998 he held a post doc position (Oberingenieur) at the Gerhard-Mercator-Universität. He focussed on high frequency and high speed circuits based on compound semiconductor heterostructures. In October 1998 he joined the Fraunhofer Institute for Microelectronic Circuits and Systems (IMS) in Dresden where he was the Acting Director in 2002. Since January 2003 he is the (founding) Director of the new Fraunhofer Institute of Photonic Microsystems (IPMS) in Dresden. Additionally, he is Professor for Optoelectronic Devices and Systems in the Department of Electrical Engineering and Information Technology at the Technical University Dresden since February 2004. He is chairman of the board of directors of the Fraunhofer Microelectronics Group since 2005, representing about 3500 employees in 11 Fraunhofer institutes, and member of the Fraunhofer Präsidium (Presidential Council).

Prof. Lakner is engaged in many European and German initiatives e.g. AENEAS supervisory board, member of the ELG (Electronic Leaders Group), member of ECSEL Germany, chairman of the scientific advisory board of SILICON SAXONY.