Embracing Connectivity: Technologies Transforming the Digital Healthcare

A. Patchava
Expert Advisor, Global Digital Health, AI and Blockchain Strategist
United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), London, United Kingdom

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 Strategy, Audi AG
Audi AG, Ingolstadt, Germany

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 joint 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).

Enabling Applications in the IoT Era

S. Ramamurthy
Applied Materials, California, United States

Abstract
Semiconductors will continue to transform virtually all industries in the future – the AI and Big Data era is driving endless demand for compute and storage devices. New materials and architectures will be required to address gaps in technology roadmaps, especially for specialty semiconductor devices. Innovation in materials processing, surface/interface engineering, and time-to-yield are core to offer solutions for these inflections. Collaboration across the value chain and new engagement models for accelerating applications adoption will be necessary to shape the industry for the future.

Biography
Sundar Ramamurthy, Ph.D. was appointed general manager of the Front End Products (FEP) Division at Applied Materials, Inc. in November 2009 and appointed vice president in May 2010. He has P&L responsibility for a number of product lines, including Epitaxy and Low Pressure Chemical Vapor Deposition, Gate Stack and Oxidation, Plasma Doping and Rapid Thermal Processing (RTP).

Dr. Ramamurthy previously was general manager of the RTP and Plasma Doping product lines. Under his direction, the company maintained its industry-leading RTP position while realizing share gains in the advanced annealing segment with the introduction of the first Applied Materials laser annealing product.

Prior to general management roles, Dr. Ramamurthy held positions of increasing responsibility in the business unit, including director of Technology, manager of Customer Applications and Process Engineering, program manager, process development engineer and implementing cost reduction and continuous improvement processes. He joined Applied Materials in 1996 as a new college graduate.

Dr. Ramamurthy holds a Ph.D. in materials science and engineering from the University of Minnesota and a B. Tech. in metallurgical engineering from the Institute of Technology, Banaras Hindu University, India. He has authored and co-authored more than 30 technical papers in peer-reviewed journals and has more than 20 patents granted or pending.

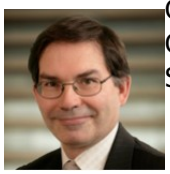
Next Generation Computing

H. Lakner
Director Fraunhofer-Institute for Photonic Microsystems IPMS
Fraunhofer IPMS, Dresden, Germany

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 hold 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 (Presedential 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.

To be announced soon



C. Mazure
Chairman & Executive Director
SOI Consortium, Singapore, Singapore

Abstract
To be announced soon

Biography
Dr. Carlos Mazure,
Chairman and Executive Director of SOI Industry Consortium since July 2014.
& EVP, Advisor to the CEO, at Soitec since April 2019

EVP & CTO, Head of Corporate R&D at Soitec from January 2001 through March 2019

IEEE Fellow, 34 years of experience in Semiconductor Industry. Carlos is recognized internationally as an industry influencer and opinion leader.

As Chairman and Executive Director of the SOI Industry Consortium, he helps expand the market opportunities for the SOI industry through promotion of SOI platforms in the semiconductor ecosystem.

Prior to Soitec, Carlos headed the ferroelectric FeRAM program at Infineon (Munich, Germany), and initiated Infineon/Toshiba FeRAM Alliance. Earlier he worked for IBM/Infineon DRAM Alliance (Fishkill, NY); and before at APRDL, Motorola (Austin, Texas) on BiCMOS ultra fast SRAMs.

Carlos holds two doctorates (University Grenoble, France; Technical University Munich, Germany).
Authored/co-authored 120+ technical papers, holds 100+ US patents.
Member of several international advisory committees and company boards.