

Decadal Plan for Semiconductors - the New Roadmap
Semiconductor Research Corporation
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Abstract: For over the past year, semiconductor industry and government agency thought leaders in electronics have met to discuss the need for research in the coming decade. The result is the SRC Decadal Plan for Semiconductors and they describe five seismic shifts that will influence electronics over the coming decade. Significant research is needed to address the challenges of the shifts and industrial companies who successfully navigate the coming changes will be positioned to dominate the marketplace. Governments also have a stake in this effort – national competitiveness issues abound, as well as individual security and privacy concerns. The presentation will discuss some of the ramifications of the document and how it might impact research funding around the world.



Dr. Yeh is currently a Texas Instruments assignee at the Semiconductor Research Corporation, where he is senior director and manages four research programs: i) Analog/Mixed-Signal Circuits, Systems, and Devices, ii) Artificial Intelligence Hardware; iii) Computer-aided Design and Test; iv) and the India Research Program. In his position he funds and supports university research projects addressing high-speed, low-power, robustness, and manufacturability issues in the integrated circuit design space for digital, analog, mixed-signal, and RF products. He also funds and supports university research to enable neuro-inspired, cognitive and learning abilities which address the vast range of future data types and workloads as intelligence is enabled from edge devices to the cloud. He also funds and supports university research addressing computer-aided design algorithms and testability issues used in the design and manufacturing of integrated circuits. Finally, he funds and supports university research projects in India, on behalf of the members who have a presence in that country.

Dr. Yeh joined Texas Instruments in 1990 and has been elected as a Senior Member Technical Staff. He has held positions in the Semiconductor Process and Device Center, Design Automation Division, High Performance Analog, and Analog Technology Development groups. He is a Senior Member of IEEE, and is a graduate of the University of Illinois at Urbana-Champaign (BS, MS, Ph.D).



John Oakley, a Science Director at SRC, is focused on leading Hardware Security (HWS), Packaging (PKG), Automotive Electronics (Auto), and Intelligent Cognitive Assistant (ICA) research. John works closely with government, industry, and university partners to advance these research topics.

John was formerly a RF Control Architect at Intel Corporation, has over 20 years of successful digital design experience at Motorola, Freescale, Fujitsu, and Intel. His willingness to help and mentor, in addition to his deep technical expertise, make him a key member of Intel's technical team. John has 14 issued patents and has developed more than 55 successful integrated devices, several of which have shipped in high volumes. He has worked in numerous digital system spaces, and is presently in the transceiver and modem fields focusing on the control planes of cellular platforms. An expert in 3GPP standards and their application to real world devices, John was Vice Chairman of the MIPI Working Group RFFE and a member of the MIPI Working groups RIO and TSG.

Beyond the work environment, John is a Ruby Life Master at Bridge and is avid player of strategy and role playing games.