MIT
Stanford
UC Berkeley
Nanotechnology Forum

The Future of Storing Bits

Nanotechnology's Impact on Digital Memory

DISTINGUISHED SPEAKERS

Dr. Stefan K. Lai (Intel Corporation)
Dr. Shih-Yuan (SY) Wang (Hewlett-Packard)
Dr. Randolph H. Levine (ZettaCore, Inc.)

MODERATOR/EVENT CHAIR

Anthony Waitz (Quantum Insight)

VENUE

SRI International
Feb 26th, 2004
6:00-9:00 pm

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AGENDA

6:00 – 6:50 pm	Registration, Refreshments and Networking
7:00 – 7:10 pm	Introduction *Dr.Wasiq Bokhari, Chair, MIT Stanford UC Berkeley Nanotechnology Forum* *Anthony Waitz, Moderator/Event Chair, MIT Stanford UC Berkeley Nanotechnology Forum*
7:10 – 8:10 pm	Speaker presentations
8:10 – 8:40 pm	Q&A session
8:40 pm	Session close by the Chair

SPEAKER BIOS

Dr. Stefan K. Lai

Vice President, Technology and Manufacturing Group Director, California Technology and Manufacturing, Intel Corporation

Stefan K. Lai is Vice President, Technology and Manufacturing Group, and Director, California Technology and Manufacturing. Lai is responsible for the development of silicon process technologies for devices used in communications products, including flash, flash + logic, analog and novel memory technologies.

Lai joined Intel in 1982 as Program Manager for scalable E2PROM components. He co-invented the EPROM tunnel oxide (ETOX) flash memory cell, which has become an industry standard. Lai started the flash memory development team in 1983, and has managed almost every generation of flash memory development at Intel. He was promoted to Director of flash memory development in 1994.

In 2000, Lai's charter was expanded to include process technologies for Intel's Wireless Communications & Computing Group and Networking Communications Group, responsible for evaluation and development of advanced process technologies most suited for manufacturing of communication and network products.

Previously, Lai was Member of Technical Staff at the IBM Yorktown TJ Watson Research Center from 1979 to 1982.

Lai has written numerous technical papers on the physics of silicon-silicon dioxide interface, as well as flash memory technologies and future trends. He holds four patents. He co-authored chapters on non-volatile memories, and has taught at the International Electron Devices Meeting (IEDM), the premier technical conference for

semiconductor engineers and scientists. Lai was recognized as an IEEE Fellow in 1998 for his research on the properties of silicon MOS interfaces and the development of flash EPROM memory.

Lai received a bachelor of science degree in applied physics from the California Institute of Technology in 1973, and his Ph.D. in applied quantum physics from Yale University in 1979.

Dr. Shih-Yuan (SY) Wang

Senior staff scientist, Quantum Science Research, Hewlett-Packard

Shih-Yuan (SY) Wang received his B.S. in Engineering Physics in 1969 and Ph.D. in EECS in 1977 both from UC Berkeley. As a graduate student he worked on High Speed Tunneling Devices in Nanostructures with a thin film junction area of 10-10 cm2 using 1 μm lithography. In 1977, he joined Hewlett-Packard Company in the Microwave Semiconductor Division working on low noise GaAs MESFETs and in 1980 he joined Hewlett-Packard Laboratories where he initiated work on high speed photonic devices, beginning with 20 GHz and 100 GHz infrared photodiodes, vertical cavity surface emitting lasers (VCSEL), III-V traveling wave electro-optic modulators and finally blue GaN LED and lasers. From 1985 to 1987 he was also a visiting Gordon Mackay lecturer at the EECS department of UC Berkeley. In 2000, he co-founded Gazillion Bits, Inc. and worked on SOA and microstructured optical fibers. Currently he is a senior staff scientist at Hewlett-Packard Laboratories Quantum Science Research group working on nanotechnology, focusing on molecular memories with densities approaching 100 Gbits/cm2 ,sensors enhanced with nanostructures and nanophotonics. SY is a Fellow of IEEE and OSA.

Dr. Randolph H. Levine

President and CEO ZettaCore, Inc.

Randolph H. Levine was the founding executive of ZettaCore. At the time, he was vice president for business development at Clinical Micro Sensors, Inc., a DNA diagnostics company subsequently acquired by Motorola, Inc. Previously, he held senior executive positions at Digital Equipment Corporation, including managing Digital's worldwide sales and marketing efforts in the chemical, pharmaceutical, and oil and gas industries, and directing the company's product strategy and planning activities. He also started Digital's environmental solutions business and has served on the board of the Analytical Instrument Association. Prior to joining Digital, Dr. Levine spent ten years teaching and conducting research in astrophysics, primarily at Harvard University. Dr. Levine has a B.A. in Physics and Mathematics from the University of California at Berkeley and a Ph.D. in Physics from Harvard University.

MIT • Stanford • UC Berkeley Nanotechnology Forum

Introduction and Mission Statement

The MIT Stanford UC Berkeley Nanotechnology Forum is the largest and premier nanotechnology forum in the Bay Area. The Forum is dedicated to providing a credible analysis and promotion of the burgeoning field of nanotechnology by connecting ideas, technology and people.

The Nanotechnology Forum is a unique organization, run entirely by unpaid volunteers under the umbrella of the alumni associations of the three universities. It primarily serves the alumni communities of MIT, Stanford and the University of California, Berkeley, but its events are open to anyone interested or active in the field of nanotechnology.

We provide opportunities for industry experts, policy makers, researchers, entrepreneurs, venture capitalists, private investors, technologists and the interested public to discuss, understand and evaluate the state-of-the art in nanotechnology.

Our events feature leading researchers, business leaders, investors, policy makers and entrepreneurs active or interested in the field of nanotechnology.

Future event topics

Ethical, Social and Environmental issues in Nanotechnology
Emerging tools and instrumentation

Steering Committee

Kitu Bindra, Dr. Wasiq Bokhari (Chair), Elizabeth Curran, Dr. Klaudyne Hong, Ed Korczynski, Dr. Fred Lam, Dr. Arun Mehta, Vivek Nadkarni, Camille Olufsson, Gina Reiger, Dr. Jane Scheiber, Anthony Waitz, Qian Wu.

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Girvan Institute of Technology, NASA

The Girvan Institute of Technology is a non-profit corporation focused on research, technology development, technology transfer, and technology commercialization at the NASA Research Park, Moffett Field, California. Girvan's primary mission is to accelerate the convergence of commercial markets and government-developed technologies, and to spur the use of innovative commercial technology for NASA missions. Girvan identifies commercially developed technologies of interest to NASA, and assists small companies in accessing technology developed by US government agencies for eventual application in commercial markets.

Quantum Insight

Quantum Insight is a pioneering business strategy services firm in the field of emerging new materials and nanotechnology. Our customers include Fortune 500 companies as well as venture and corporate funds. We provide strategic business and market development services to companies active or interested in the fields of emerging new materials and nanotechnology. We also provide investment research and targeted deal sourcing services to venture and corporate funds seeking to build new technology startups.

Burns Doane

We at Burns Doane are proud to say that among our 100 plus scientists and attorneys from all the major scientific disciplines we have some of the pioneers in the field of nanotechnology. Our attorneys have developed patent portfolios around some of the fundamental building blocks of this emerging area, including carbon nanotubes, photo-voltaics, MEMS, NEMS, and fuel cells. Our attorneys have founded some of the most successful nanotechnology networking organizations across the country and are well positioned to introduce clients to venture capitalists, industry leaders, and others who can help establish successful businesses.

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NEXT EVENT

Emerging Tools and Instrumentation

LOCATION
Stanford University
March 25th, 2004
6:00-9:00 pm

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To be put on the forum's mailing list to learn about this and future events, please send an email to
info@mitstanfordberkeleynano.org