

ABOUT THE SPEAKERS

Dr. Rajaram Bhat received his B.Tech. from the Indian Institute of Technology in Madras, M.E. from the Indian Institute of Science in Bangalore, and Ph.D. from Rensselaer Polytechnic Institute, Troy, NY in electrical engineering in 1969, 1972 and 1977, respectively. He worked at the General Electric Company, Syracuse, NY from 1976 to 1979 on light emitting diodes for opto-coupler applications. He joined Bell Laboratories, Murray Hill, NJ in 1979 to work on organometallic vapor phase epitaxy (OMVPE) of GaAs and AlGaAs. Upon the divestiture of AT&T in 1984 he transferred to Bellcore and developed the OMVPE technique for the deposition of InP-based materials for high speed and optoelectronic device applications. He is currently the manager for all of Bellcore's III-V epitaxial deposition efforts. He has authored or co-authored numerous papers on III-V materials growth and characterization and devices.

Dr. Alice Fischer-Colbrie is a Member of Technical Staff at Hewlett-Packard in the Integrated Circuits Business Division R&D Center. She received the B.S. and Ph.D. degrees in Materials Science and Engineering from Stanford University. Her dissertation work involved the development and application of grazing incidence x-ray scattering to study the structure of thin amorphous layers using synchrotron radiation. In 1985, she joined Hewlett-Packard to work on molecular beam epitaxial growth and characterization of III-V heterostructures for high-speed and optical devices, with particular interest in non-lattice matched structures to extend the range of materials available for devices. Her current responsibilities involve x-ray structural characterization for materials development as well as using x-rays to measure the surface impurity concentrations of Si wafers in IC processing, with particular emphasis on further developing x-ray techniques to lower the detection limit for surface metals.

Dr. Paul A. Flinn received his AB in 1948 and his MS in Physics in 1949 from Columbia University, and his ScD in Metallurgy from MIT in 1952. He taught physics at Wayne University for two years, then joined the staff of the Westinghouse Research Laboratory. In 1963 he joined the faculty of Carnegie Tech (now Carnegie-Mellon University) with a joint appointment in Physics and Metallurgy. In 1971 he received the Argonne National Association Distinguished Appointment at the Argonne National Laboratory. He has been a Visiting Professor at the University of Nancy, France and at the Universidade Federal do Rio Grande do Sul, Brazil. He joined Intel in 1978 as a Senior Staff Scientist. In 1984 he was selected for the Intel Researcher in Residence program, and spent the year at Stanford University as a Visiting Professor, investigating the mechanical properties of thin films. In 1985 he was appointed a Consulting Professor in the Materials Science and Engineering department at Stanford. His current interests include the properties of metal and dielectric films used in multilevel interconnections, and fundamental aspects of electromigration.

Dr. Tadek Suski was born in Swidnica, Poland in 1946. He received his M.S. in Solid State Electronics from the Technical University, Wroclaw, Poland, in 1969 and his Ph.D. in Solid State Physics from the Institute of Low Temperature and Structure Research of the Polish Academy of Sciences in 1974. Since 1975 he has worked at the High Pressure Research Center (Unipress) of the Polish Academy of Sciences. He was promoted to assistant professor in 1987 and to full professor in 1993. His research involves three subjects: single crystals of GaN and AlN, impurities in III-V semiconductors (particularly the so called DX centers) and electron transport in low dimensional II-V semiconductors (resonant tunneling, quantum wires, new mechanisms leading to electron mobility enhancement in heterostructures). Currently, Prof. Suski is leading a group of 17 people involved in various aspects of high pressure studies of semiconductors. He spent more than three years abroad working in Germany (Regensburg University, Technical University of Munich and Max Planck Institute, Stuttgart), in Japan (8 months at Osaka University) and in France (9 months at the Agency of Atomic Energy).

Dr. Alastair M. Glass is currently Director of the Passive Components Research Laboratory of AT&T Bell Laboratories. He received a Ph.D. in Physics from the University of London, England. Since joining Bell Laboratories in 1967, Glass has been involved with a wide variety of studies of optical and electrical effects in semiconductors, ferroelectrics and dielectric materials. He was elected to the National Academy of Engineering in 1987 and chaired the National Materials Advisory Board Committee on Process Challenges in Compound Semiconductors. He is a Fellow of the IEEE and Optical Society of America, and is the author of two books and approximately 150 scientific publications.

Dr. Noble Johnson is a Principal Scientist in the Electronic Materials Laboratory at the Xerox Palo Alto Research Center. He received B.S. (EE) and M.S. (EE) degrees from the University of California, Davis, in 1967 and 1970, respectively, and his Ph.D. degree from Princeton University in 1974. From 1974 to 1976 he worked at SRI International (Menlo Park, California) in the Radiation Physics Group. In 1976 he joined the Xerox Palo Alto Research Center as a member of the research staff. He has conducted experimental research in the general area of materials physics and has been particularly active in the areas of electronic defects in semiconductors (crystalline and amorphous), metal-insulator-semiconductor structures, deep-level transient spectroscopy, the properties of hydrogen in semiconductors, and the plasma-assisted synthesis of materials. He has published over 200 papers in these areas. In 1986 he was a visiting lecturer at Princeton University. In 1987 Dr. Johnson received a Distinguished Senior U.S. Scientist Award from the Alexander von Humboldt Foundation, Federal Republic of Germany. In September, 1992, he was an invited lecturer at the International School of Physics in St. Petersburg, Russia. Dr. Johnson is a fellow of the American Physical Society, a member of the Materials Research Society (Advisory Council, 1986-1988), and a senior member of the IEEE.

Prof. Fabian Pease received his B.A. in Natural Sciences in 1960 and his M.A. and Ph.D. in Electrical Engineering from Cambridge University in 1964; his doctoral research included the design, construction and use of a high resolution scanning electron microscope. After spending one year as a research fellow at Trinity College, Cambridge, he joined the faculty at the University of California, Berkeley and continued research on scanning microscopy. In 1967 he joined Bell Telephone Laboratories where he first worked on the digital encoding of television signals and then on electron beam and X-ray lithography. During that time he supervised a group responsible for developing technology for using the Bell Laboratories electron beam exposure system EBES and sensitive electron beam resists for mask making and for direct write on the wafer. Since 1978 he has been a professor of electrical engineering at Stanford University and is conducting a research program into the generation and applications of microstructures. The projects include the generation and application of high resolution electron and ion beams, novel approaches to deep ultraviolet lithography, non-conventional resists, direct write technology, X-ray lithography heat transfer in microstructures and new approaches to interconnecting VLSI chips.

Dr. Kevin Teixeira is Intel's Virtual Reality project manager and co-founder of the Intel Digital Education & Art (IDEA) Program. The goal of the IDEA program is to inspire new uses of computer technology by partnering with artists and educators to create new applications. The IDEA Program recently co-developed the world's first virtual reality art exhibit, Virtual Reality: An Emerging Medium, with the Solomon R. Guggenheim Museum of New York. Kevin is also co-author of the trade best-seller "Virtual Reality: Through the New Looking Glass", from Windcrest/McGraw-Hill. He is currently focused on the creation of a national in-class educational program to excite young people about high-technology while demystifying and educating about it.

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Stanford University
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