2002 Speaker's Biography

KEN MORSE

Morse leads the MIT effort to train leaders to bring innovative concepts and technologies to market and build successful high tech startup businesses. Based at the MIT Sloan School of Management, the MIT Entrepreneurship Center has the mandate to teach High Tech Entrepreneurship and to foster research and collaboration, Institute-wide. The student-run $50K Entrepreneurship Competition, as well as enrollment in New Enterprises and the Entrepreneurship Laboratory Courses, are open to students from Engineering, Science, and Management, encouraging multidisciplinary teamwork. Morse joined MIT in 1996 after 25 years as a serial entrepreneur helping launch six high-tech ventures.

Between 1982 and 1996, Morse held a number of strategic positions in a venture-backed startup, Aspen Technology, Inc., which commercialized process modeling software originally developed at MIT. He initially crafted the company's global strategy and secured early customers in Europe and Asia. As a member of AspenTech's Board of Directors from 1986 until 1995, he focused on AspenTech's entry into new global markets, including high value applications of their enterprise software. From 1992 to 1996, he resided in Brussels as AspenTech's Managing Director for Europe, Middle East and Africa where he opened and managed new offices in France, Germany, Italy, Switzerland and South Africa, as well as integrating the European businesses acquired by AspenTech.

After a highly successful initial public offering (IPO) in October 1994, AspenTech has grown to 1600+ employees worldwide, with revenues exceeding $150 million. Morse continues to advise AspenTech on global new business initiatives, particularly in supply chain management for the Chemical, Pharmaceutical, and Pulp and Paper industries.

Ken's interest in international high tech ventures began at MIT, where he graduated with a BS in Political Science in 1968. Following graduation, as President of AIESEC-US and an International Advisory Committee Officer for this global business student exchange program, he traveled widely on behalf of AIESEC before entering Harvard Business School. Morse received his MBA with honors in 1972 and joined Schroders, the UK-based merchant bank, where he worked directly for Jim Wolfensohn, now President of the World Bank.

In 1975 Morse formed a trading company under the aegis of Chase Manhattan Bank to assist U.S. technology-based companies to enter emerging Asian markets. He lived in Beijing for five years during the latter half of the Cultural Revolution. As President of Chase Pacific Trade Advisors, he assisted IBM, General Motors, Hughes Aircraft, Measurex, Mine Safety Appliances, and Waters Associates to enter China and other developing markets.

In 1980, Morse relocated to Silicon Valley as a founding member of 3Com Corporation, where he was employee #8. He helped raise the initial venture funding and served as the first head of sales, marketing, and planning. After a successful launch he returned to the Boston area where he has been a founder of several other MIT-related startup ventures including Applied Expert Systems, Inc. (a spinout from Index Systems), Organogenesis, and others.

Ken is a member of the Council on Foreign Relations, the World Affairs Council, the Cercle Royal Gaulois Artistique & Literaire (Brussels), and the Quissett Yacht Club. Prior to moving to Brussels, Ken was a member of the Board of the MIT Enterprise Forum of Cambridge®. He currently serves on the Board of Directors of Optimum Logistics Ltd.

He serves as the Émile Bernheim Visiting Professor in Entrepreneurship, Solvay Business School, Université Libre de Bruxelles (ULB) (Brussels, Belgium) for the academic year 2001-2002.

Mass High Tech named Ken "High Tech All-Star" for his contribution to entrepreneurship education.

When time permits, Ken and his family enjoy tennis and sailing their wooden boat.

MAYANK T. BULSARA
Co-Founder and Chief Technology Officer

Dr. Mayank Bulsara is the co-founder and chief technology officer of AmberWave Systems Corporation and is the cornerstone of the company's technology team, which is focused on the commercialization and key development paths for SiGe electronics and III-V/Ge/Si optoelectronics. Prior to founding AmberWave, Bulsara completed groundbreaking research involving the characterization and integration of lattice-mismatched III-V compound materials on gallium arsenide (GaAs) and silicon substrates. Bulsara holds a Ph.D. and S.M. from MIT's Department of Materials Science and Engineering, where he and Professor Eugene Fitzgerald, AmberWave's chairman and other co-founder, established the SiGe and III-V MOCVD facility. He also received a B.S. in ceramic engineering from Rutgers University.

JOHN RUARK
Co-Founder and Chief Technology Officer

John spearheads the company's technical and product strategy and leads the software development team. His experience creating intuitive, enterprise-class applications directly influences how Optiant designs high-performance solutions for complex production environments. John's focus in developing Optiant's solution is to equip customers with the tools to identify the key issues impeding optimal supply chain performance. His approach helps companies pinpoint the most significant data, which in turn drives results, improves accuracy and increases the profitability of the supply chain. John wrote the initial versions of Optiant's software, including the core algorithms and interface. His expertise in operations research

techniques includes optimization and queuing, which are applicable to inventory management and other critical supply chain problems.

Earlier in his career, John worked at Kenan Systems Corporation and as a Member of Technical Staff at Lucent Bell Labs, which acquired Kenan. There, he managed an engineering team that created a revolutionary design tool for generating bill formats as part of an award-winning enterprise-class billing software system. The application dramatically reduced the time required to customize clients' bill formats with easy-to-use report design tools, eliminating thousands of dollars in consulting services costs. He also was a senior systems architect for Mascot Networks, the higher-education enterprise portal, where he redesigned the core database and middle-tier architecture, improving stability and performance as the Mascot network expanded to more than 100 schools.

John earned a Ph.D. in operations research from the Massachusetts Institute of Technology and a bachelor's degree in mathematics from Harvard College.

CHARLES L. COONEY

Charles L. Cooney is Professor of Chemical and Biochemical Engineering, and the Faculty Director of the Deshpande Center for Technological Innovation, and Co-Director of the Program on the Pharmaceutical Industry at MIT, Cambridge, MA. He obtained his Bachelor's degree in Chemical Engineering from the University of Pennsylvania in 1966. His Master's degree and Ph.D. degree in Biochemical Engineering are from MIT in 1967, and 1970, respectively. After working briefly at the Squibb Institute for Medical Research, he joined the faculty of MIT as an Assistant Professor in 1970, and as a full Professor since 1982. He received the 1989 Gold Medal of the Institute of Biotechnological Studies (London), the Food, Pharmaceutical and Bioengineering Award from the American Institute of Chemical Engineers and the James Van Lanen Distinguished Service Award from the American Chemical Society's Division of Microbial and Biochemical Technology and was elected to the American Institute of Medical and Biochemical Engineers. Recently, Professor Cooney was appointed Co-Director of the Singapore MIT Initiative for establishing an Innovation and Technopreneurship effort between several major Universities in Singapore and the Engineering and Sloan Schools at MIT. He serves as a consultant to and/or director of a number of Biotech and Pharmaceutical companies and is on several editorial boards of professional journals.

Charles Cooney's research interests span a range of topics in biochemical engineering and pharmaceutical manufacturing. He has particular interest in computer control of biological processes, downstream processing for recovery of biological products, and bioreactor design and operation. At the present time, some of the activities of his research group include the use of computer-aided design (CAD) techniques in biochemical flowsheet synthesis, the application of expert systems to enhance process control of bioreactors, the fundamentals of absorption and filtration in downstream processing, and the use of genetic engineering to solve process problems, and the application of benchmarking to measure performance in pharmaceutical manufacturing. A central philosophy underlying research in his laboratory is the use of a multidisciplinary approach to the development of advanced manufacturing technologies for the biochemical process industry.

ARVIND

Arvind is Professor of Computer Science and Engineering at the Massachusetts Institute of Technology, a position he has held since 1978. He holds the chair established by Charles and Jennifer Johnson and heads the Computation Structures Group in the Laboratory for Computer Science. Prior to coming to MIT, Arvind taught at the University of California, Irvine, from 1974 to 1978. Arvind received his M.S. and Ph.D. in Computer Science from the University of Minnesota in 1972 and 1973, respectively. He received his B. Tech. In Electrical Engineering from the Indian Institute of Technology, Kanpur, in 1969.

Arvind's current research interest is high-level specification and descriptions of architectures and protocols using a formalism known as Term Rewriting Systems (TRS's). This research encompasses both hardware synthesis from TRS's and verification of implementation TRS's against the specification TRS. Based on this work, Arvind founded Sandburst Corporation in 2000. Sandburst is a fabless semiconductor company developing chips for 10 Gbps IP networks.

Previously, Arvind contributed to the development of dynamic dataflow architectures, the implicitly parallel programming languages Id and pH, and compilation of these languages on parallel machines. In 1992, Arvind's group at MIT built a dozen Monsoon dataflow machines and associated software in collaboration with Motorola. Recently Arvind and Dr. R. S. Nikhil have published a book on implicit parallel programming in *pH*.

Until 2000, Arvind served on the editorial board of the Journal of Parallel and Distributed Computing, Journal of Functional Programming, and the International Journal of High Speed Computing. He has chaired and served on the program committee of numerous technical meetings sponsored by ACM and IEEE. Arvind has consulted for several major computer companies. From 1986-92, Arvind was the Chief Technical Advisor for the UN sponsored Knowledge Based Computer Systems project in India. During 1992-93 Arvind was Fujitsu Visiting Professor at the University of Tokyo. Arvind is a member of the ACM and an IEEE Fellow, and in 1994 was awarded the IEEE Charles Babbage Outstanding Scientist Award. He received the Distinguished Alumni Awards from the Indian Institute of Technology, Kanpur, in 1999 and the University of Minnesota in 2001.

VLADIMIR BULOVIC

Vladimir Bulović joined the faculty of MIT in July 2000 as an Assistant Professor in the Electrical Engineering and Computer Science Department. His research interests include studies of physical properties of organic and organic/inorganic nanodot composite thin films and structures, and development of novel optoelectronic organic and hybrid nano-scale devices.

Prior to joining MIT, he was a Senior Scientist and Project Head of Strategic Technology Development at Universal Display Corporation (UDC). At UDC he worked on the application of organic materials to LEDs for full color flat panel displays and thin film photovoltaics for solar cell and detector applications. His work resulted in development of OLED backlights, pixilated arrays of stacked OLEDs, and improved

performance of phosphorescent OLEDs. Prior to joining UDC he worked in Princeton's POEM Center as a graduate researcher (1993-1998) and research associate (1998-1999). At Princeton, Prof. Bulović participated in a series of projects examining optical and electrical properties of vacuum deposited amorphous and crystalline molecular organic thin films and devices. His work resulted in development of OLED technologies such as transparent, inverted, and stacked OLEDs, demonstration of the first optically pumped organic semiconductor lasers, and understanding of photogeneration in organic photovoltaic devices, microcavity effects in luminescent devices, and the solid state solvation effects in polar organic media. From 1991-1993, Prof. Bulović was at Columbia University's Microelectronics Sciences Laboratory, where for his M.S. degree he examined image-potential states and resonances on metal surfaces utilizing non-linear two-photon photoemission spectroscopy.

Prof. Bulović graduated from Princeton University with a B.S.E. (1991), M.A. (1995), and Ph.D. (1998) in Electrical Engineering. He is a member of MRS, APS, and TMS, has authored over 35 papers and has 24 issued patents in the areas of organic LEDs, lasers, and photodetectors.

DR. RESVE SALEH has been in the Integrated Circuits (IC) field for 23 years. He is a recognized leader in CAD for ICs and has made significant contributions in the area of deep submicron simulation and design verification. He is currently a full Professor and the **NSERC/PMC-Sierra Chairholder** in the Dept. of Electrical and Computer Engineering at the **University of British Columbia**, in Vancouver, BC. He is currently the director of the System-on-chip (SoC) Research lab at UBC where he is investigating advanced issues in SoC design, verification and test.

He holds Ph.D. and M.S. degrees in Electrical Engineering from the **University of California, Berkeley**, and a B.S. degree in Electrical Engineering from **Carleton University** in Ottawa, Canada. He received the prestigious **Presidential Young Investigator Award** in 1990 from the National Science Foundation in the US. He has published two books on mixed-mode simulation and over 50 journal and conference papers. Dr. Saleh is an active member of the IEEE and served as general chair (1995), conference chair (1994), and technical program chair (1993) for the Custom Integrated Circuits Conference. From 1992-1995, he also held the position of chairman of the IEEE Standards Coordinating Committee 30 - Analog Hardware Description Languages (AHDL). He is currently the Conference Chair of the International Symposium on Quality in Electronic Design 2002 and an Associate Editor of the IEEE Transactions on CAD (1999-2002).

In 1995, Saleh founded **Simplex Solutions, Inc.** (Sunnyvale, CA) which designs software to verify integrated circuit chips before manufacture and identifies critical electrical and physical problems that will impact the design functionality or performance. The company went public in May of 2001. Dr. Saleh served as CEO for 1 year and VP of Engineering for over 3 years at Simplex. Once the company reached profitability, he returned to academia. The company was recently acquired by Cadence in 2002.

Prior to starting Simplex, Dr. Saleh spent nine years as an Assistant and Associate Professor in the Department of Electrical and Computer Engineering at the **University of Illinois** in Urbana. He also spent one year at **Stanford University** on a sabbatical leave. Before embarking on his academic career, Dr. Saleh has worked for Mitel Corporation in Ottawa, Canada, Toshiba Corporation in Japan, Tektronix in Beaverton, Oregon, and Nortel in Ottawa, Canada.

DR. NEIL GOLDFINE is the founder and President of JENTEK Sensors, Inc. He is also a Research Affiliate at the M. I. T. Laboratory for Electromagnetic and Electronic Systems. Dr. Goldfine has both a Master's Degree and Ph.D. in Mechanical Engineering from M. I. T., as well as two Bachelor's Degree in Mechanical and Electrical Engineering from the University of Pennsylvania. Dr. Goldfine is a specialist in sensor design, measurement optimization and continuum modeling for nondestructive evaluation and control of electromagnetic and electromechanical systems and processes. He is an Associate Technical Editor of the American Society for Nondestructive Testing, Materials Evaluation Magazine. Dr. Goldfine is widely published in the NDE field and has contributed to numerous US patents. He has been principal investigator on numerous JENTEK contracts for NASA, Air Force, Navy, DOE, Army and FAA. He has managed JENTEK's research and development programs since the company was founded in 1992.

EUGENE CHAN is the Chairman and Chief Executive Officer of U.S. Genomics. Eugene is the visionary leading U.S. Genomics. He founded the company by creating a set of technologies that mimic nature's method of reading DNA at high speeds. Mr. Chan graduated summa cum laude from Harvard College, where he was elected to Phi Beta Kappa and received the Detur Prize. Prior to founding USG, he briefly attended Harvard Medical School. Mr. Chan is responsible for corporate strategy, mobilizing technological innovation, financing, overall operations, and corporate development.

GURURAJ "DESH" DESHPANDE
Founder and Chairman, Sycamore Networks, Inc.

Gururaj "Desh" Deshpande is an influential technology entrepreneur and visionary whose companies and ideas often reshape entire industries. Led by Dr. Deshpandes vision and direction, Sycamore has helped create a fundamental paradigm shift in the role and architecture of the optical network – transforming a once static optical infrastructure into an intelligent and dynamic network foundation for the delivery of new services. Sycamore's equipment is currently carrying voice and data traffic in the networks of the world's largest service providers.

Dr. Deshpande is also widely respected for his contributions to education and the greater community. Numerous business and industry publications in both the US and his native India have recognized Dr. Deshpande with awards. Dr. Deshpande is frequently invited to deliver keynote addresses at business, technology, education, and government conferences.

Dr. Deshpande serves as a member of the MIT Corporation, and his generous donations have made possible MIT's Deshpande Center for Technological Innovation. The Deshpande Center was created to serve as a catalyst for innovation and entrepreneurship by supporting research and collaboration among entrepreneurs, young companies, and MIT students, alumni, and faculty.

Prior to co-founding Sycamore Networks, Dr. Deshpande was founder and chairman of Cascade Communications Corp. Between 1991 and 1997, Cascade grew form a one-person startup to a company with $500 million in revenue and 900 employees. In June of 1997, Cascade was acquired by Ascend Communications for $3.7 billion.

Prior to Cascade, Dr. Deshpande co-founded Coral Network Corporation in 1988. Previously, he served in various management positions for Codex Corporation, a subsidiary of Motorola. Before joining Codex, Dr. Deshpande taught at Queens University in Kingston, Canada.

Dr. Deshpande holds a B.S. in Electrical Engineering from the Indian Institute of Technology, and M.E. in Electrical Engineering from the University of New Brunswick in Canada, and a Ph.D. in Data Communications from Queens University in Canada.