

Biographical Sketch



Dr. Stanley H. Smith was born in New York, New York. He received the B.A.E., M.A.E., Ph.D. (Engineering Science), and M.E. (honoris causa) degrees from New York University, Cornell University, New York University and the Stevens Institute of Technology, respectively. He is a graduate of the renown Bronx High School of Science.

In 1959, he joined the research staff of the School of Engineering and Science at New York University as an Associate Research Scientist in the Department of Aeronautics and Astronautics. He was a member of the Radiation Weapons Analysis Study Group, a U.S. Air Force scientific advisory committee, and performed studies on high-power microwaves and lasers and re-entry aerodynamics. From 1965 to 1966 he was a Research Assistant Professor; teaching, performing research, and developing a laboratory and instrumentation for investigations into the effects of intense electromagnetic fields on solids.

In 1966, Dr. Smith joined the faculty of the Stevens Institute of Technology in Hoboken, N.J., where he is currently a Professor (Emeritus) of Electrical and Computer Engineering (ECE). He was Program Director for Computer Engineering. From 1992 to 1996, he was the **Head** of the Department of Electrical Engineering and Computer Science (EECS). He developed and taught courses in analog and digital signal processing, instrumentation systems, communications, computers, microwaves and radar, optics, solid state devices, digital and computer systems and integrated electronics. He developed state-of-the-art programs and courses in wireless communications, microprocessors and microcomputers, data acquisition and signal processing, high-speed digital signal processing with VLSI and VHSIC and integrated circuits and systems design. He introduced the graduate Instrumentation Systems Program and was its director. While Head of the EECS Department, he reorganized the department into concentration areas of current academic and research interests. He organized and developed new programs in Telecommunications (Telecommunication Engineering in Electrical Engineering, Wireless Communications, Computer and Information Engineering in Computer Engineering, Computer and Information Systems in Computer Science and Telecommunications Management). He developed academic, research and technology transfer programs with AT&T, Lucent, NCR, the Department of Defense (DISA, CECOM- now CERDEC and ARDEC), FAA, GEC-Marconi (now, BAE) and other government laboratories as an advisor to the Federal Laboratory Consortium (FLC) for Technology Transfer.

Dr. Smith has taught courses at both the undergraduate and graduate level. He has given special courses and invited lectures for the Institute of Electrical and Electronics Engineers (IEEE), Weston Instruments Corporation, ITT-DCD and the Department of Defense. During the 1984-1985 academic year, while on a sabbatical leave of absence from Stevens, he was a Visiting Professor of Electrical Engineering at the Polytechnic Institute of New York - now NYU/Polytechnic University. There, he taught courses in radar systems, data acquisition and signal processing, and high-speed digital signal and image processing with VLSI. In 1986 in Hefei, China he gave a course on High Speed Computer Architectures.

He has performed research and served as a consultant to private industry in such areas as industrial and medical controls and instrumentation using integrated circuit technology; automated data acquisition and control with microprocessors; communication networks; digital data transmission; computer hardware and software for microprocessor-based systems; high-speed digital signal processing; signal and image processing; and ultrasonic, microwave and laser systems. Other areas include biomedical engineering (ultrasonic imaging, energy conversion systems for artificial implantable human organs and microcomputer controls for portable respirators, ventricular assist devices, infusion and hemofiltration units); electromagnetic interference suppression; electromagnetic and acoustic wave propagation systems, instrumentation and technology transfer/intellectual property. In 1978-80, he developed a system for broadcast and cable with two-way communications and pay-per-view television. He has served as an expert on many legal cases. He has designed and developed complete hardware and software (firmware) for more than 30 embedded microprocessor/DSP-based systems for instrumentation, control and communications and medical applications for both private industry and the government. Also, he has extensive experience in the design and manufacture of analog and digital systems for instrumentation, control and communications.

Dr. Smith has provided extensive scientific and technical services to the U.S. Government; particularly, the Department of the Army. This included the analysis and design of sensors/seekers (RADAR, LADAR, IR, acoustic, etc.) for command, remote sensing and terminal guidance of projectiles; data acquisition and telemetry systems for gun-launched projectiles; remote control and communications systems for weapon system arming, safing, and detonation; and multimedia communications systems and networks for remote vehicle control (robots) and for mobile security systems with video, audio and data communications. He has also designed and manufactured laser code transmitters and microprocessor-based receivers and decoders with multiple-code detection capabilities. He performed research into acoustic sensing for autonomous target detection, recognition and tracking for single and multiple targets and was invited to lecture on this at CECOM/NVESD and at ARDEC. He is currently involved with battlefield communications, global positioning systems (GPS), telemetry for C⁴I and sensors/seekers/communications for fusing, remote sensing and area denial. He is currently working with the U. S. Army in system engineering, network architecture modeling and simulation, in Homeland Security and in ordnance safety.

Dr. Smith has served on technical evaluation and program committees and expert panels for SDIO (Strategic Defense Initiative Organization, now BMD), BTI (Balanced Technology Initiative), DARPA (Defense Advanced Projects Agency), the Department of the Army and DTRA (Defense Threat Reduction Agency) programs. The areas that he was involved with were sensors/seekers, instrumentation, electronics, computer architectures, algorithm development, communications and networks. He is an adviser to the Northeast Region of the Federal Laboratory Consortium (FLC) for Technology Transfer, encompassing all U. S. Government laboratories in New Jersey, New York and New England. He was also a member of the National Advisory Group of the FLC.

His present research interests are in system engineering and modeling and simulation; particularly, for network architectures and performance evaluations and design using MATLAB, JCSS and other software tools. He is also involved with modeling and simulation using hardware-in-the-loop. He also performed research and development for interactive video, wireless communications, sensors/seekers, multispectral image processing and pattern recognition (autonomous target recognition), and application specific computer architectures (ASCA) for high-speed VLSI and VHSIC realizations including neural networks and embedded computer design for instrumentation, control and communications.

Dr. Smith is the author of more than one hundred technical reports and papers. He has served as a consultant in the writing of nine books for consumers and was a contributing author in books on product defects for the legal profession and on digital signal processing. He was also an editorial consultant for the IEEE Spectrum. He is a Life Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), the IEEE Computer and Communications Societies and the Society for Photographic and Instrumentation Engineers (SPIE). He has appeared in Marquis' Who's Who in

In 2010, he was invited to present a keynote address in Qinhuangdao, China at the *International Conference on Computer Design and Applications (ICCD A 2010)*. The title of this presentation was Embedded Computing/Embedded Systems.

He was elected to membership in the following national professional honorary societies:

Tau Beta Pi	Engineering
Sigma Xi	Research
Eta Kappa Nu	Electrical Engineering

Dr. Smith has received the following awards/citations:

M.E. Degree (Honorary)	Stevens Institute of Technology, 1981.
Outstanding Service Award	Polytechnic Institute of New York, 1985.
IEEE Region I Award	"For initiation, development, and presentation of the application of digital technology to data acquisition and signal processing," 1987.
FLC Northeast Region Service Appreciation Award	"For outstanding support to the Region in the furtherance of technology transfer," 1994.
The State of New Jersey - General Assembly	"Participation as a mentor in the 1996 Union City Summer Scholar Program, @ 1996.
The City of Union City - City Citation	"Participation in the 1996 Union City Summer Scholar Program, @ 1996.
FLC National Advisory Group	"For services and contributions to the FLC as a member of the National Advisory Group." 1998.
FLC 2006 Northeast Regional Appreciation Award	"For His Significant Contribution to Federal Technology Transfer." 2006.