Scientists Honored for Engineering Excellence

To highlight the groundbreaking work being carried out by today’s optical engineers, each year OSA honors the men and women who have made exceptional contributions to the field of optical engineering. The OSA Engineering Excellence Awards recognize technical achievements that have had an important impact on the world of science, one not necessarily documented by publication. Four winners were presented with the prestigious Engineering Excellence Awards at the 2001 OSA Annual Meeting.

Henry A. Blauvelt

For outstanding innovative contributions in the development of linear technology for fiber-optic transmission systems with major impact on implementation of high-performance broadband communication, specifically for cable television distribution.

Henry A. Blauvelt received his B.S. degree from Cornell in 1978 and his Ph.D. from Caltech in 1982, both in applied physics. After two years at Hughes Research Labs, he joined Ortel Corporation in 1985. At Ortel, he served as vice president of fiber-optic technology. His primary responsibility was the development of highly linear fiber-optic transmitters and receivers for use in cable television (CATV) networks. He holds 12 U.S. patents and numerous foreign patents. After Ortel was acquired in 2000, he became chief technologist for optical access products at Lucent Technologies and then Agere Systems. He is currently the chief technology officer at cQuint Communications.

From 1988 to 2000, Blauvelt’s primary research focus was linear fiber-optic technology for multichannel video transmission. This included identifying the dominant mechanisms leading to noise and distortion in fiber-optic links and developing optimized designs for CATV transmission. In particular, research and development related to the use of RF predistortion to linearize distributed-feedback (DFB) lasers was a key factor in enabling modern hybrid fiber-coax optical networks. Blauvert’s recent research interests include components for optical access networks and optical packaging technologies.

Michael A. Klug

For contributions to the field of holographic stereography. Klug developed and built instrumentation for printing full-color, full-parallax display holograms of unlimited size and has directed further improvements in low-volume mastering and mass production techniques to create commercial holograms at a reasonable cost. His work has contributed to the convergence of art and computing to make holography a realistic medium for advertising and display.

Michael A. Klug, originally from Denver, Colorado, received his B.S. degree from the Massachusetts Institute of Technology (MIT) in 1989 and his M.S. degree from the MIT Media Laboratory in 1991. His research focused on materials and diffractive optics adaptation to holographic imaging of digitized and computer-synthesized data. From 1991 to 1996, he continued his work as a research scientist with the spatial imaging group at the Media Lab, developing holographic displays for use in industrial design visualization and graphic arts applications. In 1996, he and two fellow Media Lab alumni co-founded Zebra Imaging, Inc. (Austin, Texas) to commercialize and develop practical three-dimensional (3D) display technologies. In 1998, he and his partners produced the world’s largest hologram—a life-size image of an automobile—exhibiting full color and full parallax.

Klug is now chief technology officer at Zebra Imaging. He has received a number of holographic imaging technology-related patents. Today his research interests are centered on accelerating and improving the quality of the hologram printing process in order to make desktop 3D hard-copy practical and broadly adaptable.

David G. Mehuys

For the development and commercialization of fiber-optic and semiconductor laser subsystems, including the first extremely high-power Raman sources incorporating double-clad fiber technology and the first commercially available Raman-enhanced EDFAs.

David G. Mehuys is the general manager of the narrowband erbium-doped fiber amplifier (EDFA) product line within the optical amplifier business unit of JDS Uniphase. Prior to joining JDS Uniphase in February 2001, Mehuys served as director of R&D for Raman and erbium-doped optical amplifiers at SDL, Inc., where he worked for 12 years.

He obtained his B.S. degree in engineering science from the University of Toronto in 1984. Mehuys became a graduate student of Amnon Yariv at the California Institute of Technology and received his Ph.D. for his research in nonlinear optical properties of high-power semiconductor lasers in 1989.

After receiving his doctorate degree, Mehuys joined SDL, Inc., and continued his research into high-power, tunable diode, and fiber lasers. The photonics products he helped develop received eight commercial achievement awards.

His recent interests have focused on fiber-optic Raman and erbium-doped amplifiers. He has published over 100 journal and conference papers, and is an inventor or co-inventor of 15 patents.

He lives with his wife and two children in Sunnyvale, California.
Dale E. Morton

Dale E. Morton has 34 years experience designing, producing, and characterizing thin-film optical coatings. Currently the process R&D manager at Denton Vacuum, LLC, Morton is responsible for customer-specific process implementation and oversees all corporate research in ion source technology and in situ optical monitoring. He has played a significant role in the development of optical-thin-film course materials for the Society of Vacuum Coaters and has published extensively in the field. He received his B.S. and M.S. degrees in education from the Ohio State University.

Morton’s early research concentrated on the nucleation and growth of vacuum-deposited thin films (1967-1972) at General Dynamic, Pomona. While at Texas Instruments in Dallas (1972-1987), he was involved in developing computational techniques for characterizing optical thin films, designed and supervised optical coatings for the multispectral spectrophotometer included on the Voyager spacecrafts, and developed an automated thin-film optical coating system.

He also developed filter production processes for Varo’s Optical Improvement Program (1987-1994).

His work today includes optical-thin-film monitoring and ion-assisted deposition of optical thin films.

Workshops Address Workforce Shortage

OSA and the International Society for Optical Engineering (SPIE) held a three-part planning workshop series to develop strategies to aggressively respond to the shortage of qualified workers in the optics industry. The workshops were aimed at developing an education initiative to address the need for comprehensive workforce development.