

Max Born Award

In recognition of contributions to physical optics



To Alexander E. Kaplan for seminal contributions to non-linear interface and optical bistability effects, hysteretic resonances of a single electron and physics of sub-femtosecond pulses

Alexander E. Kaplan received his master's degree in physics from the Moscow Institute of Physics and Technology in 1961, and his Ph.D. in physics and math from the U.S.S.R. Academy of Sciences, Moscow, and Gorkii State University in 1967; he was a research staff member there until 1979. That year, he immigrated to the United States, where he started almost immediately as a research staff member at the Massachusetts Institute of Technology, Francis Bitter National Magnet Lab. In August 1982, he joined Purdue University as a professor with the Electrical and Computer Engineering School. In January 1987, he joined the faculty of Johns Hopkins University as a professor with the electrical and computer engineering department.

In 1996, Dr. Kaplan received the Alexander von Humboldt Award for Senior U.S. Scientists by the Alexander von Humboldt Foundation of Germany, and went on sabbatical leave at

the University of Ulm's quantum physics department. He has consulted for Bell Labs, Honeywell and others. He is an OSA Fellow.

Dr. Kaplan's research has been in physical and theoretical optics, especially non-linear optics and quantum electronics. He made pioneering contributions to the fields of very-high order sub-harmonics generation, the self-bending effect, nonlinear interfaces and optical bistability, hysteretic and multi-photon resonances of a single trapped electron, light-induced non-reciprocity, soliton physics, X-ray nonlinear optics and the physics of sub-femtosecond to zepto-second pulses. His most recent efforts are in the X-ray transition radiation sources and shock-waves in laser-induced Coulomb explosions.

**Joseph Fraunhofer Award/
Robert M. Burley Prize**

In recognition of significant accomplishments in optical engineering



To G. Michael Morris for innovation in the design, theory and application of diffractive and hybrid optical elements to solve a wide range of problems

G. Michael Morris received his bachelor's degree in engineering physics from the University of Oklahoma, and his

master's and Ph.D. in electrical engineering from the California Institute of Technology. From 1982 to 2001, Morris was a professor at the Institute of Optics. In 1989, he co-founded the Rochester Photonics Corporation (RPC). A decade later, RPC was acquired by Corning and functioned as a wholly owned subsidiary, where Dr. Morris served as CEO. In 2003, he founded Apollo Optical Systems, which develops novel lenses for the vision-care industry, and co-founded RPC Photonics, which develops optical components for the display and solid-state lighting industries.

Dr. Morris's research has spanned a wide variety of topics in statistical optics, optical information processing, automatic pattern recognition and diffractive and micro-optics technology. His current research and development interests include the design and fabrication of optical components, devices and systems that use diffractive and micro-optical elements. He holds 17 U.S. patents and has published more than 70 refereed journal articles, three book chapters and numerous conference proceedings. As a professor at the Institute of Optics, he supervised 22 doctoral and five master's dissertations.

**Nick Holonyak Jr. Award**

In recognition of significant contributions to optics based on semiconductor-based devices and optical materials, including basic science and technological applications



To Paul Daniel Dapkus for seminal contributions to the development of metalorganic chemical vapor deposition and its application to quantum well laser devices

Paul Daniel Dapkus received his bachelor's degree, master's degree and Ph.D. at the University of Illinois. He worked on LEDs at Bell Laboratories from 1970 to 1976, and on

