according to the award citation, for his "leadership in the research and fabrication of erbium-doped waveguide amplifiers and loss-less integrated waveguide structures." Barbier is executive vice president of Teem Photonics.

Valentin Gapontsev, was cited for his work in "creating new optical fiber laser and amplifier products, his many engineering publications in the field of optical fibers, and his engineering management achievements evidenced by the founding of the IRE Polus Group (IPGroup)." Gapontsev is president and CEO of the IPG Group of Companies.

Igor Koltchanov and **Olaf Lenzmann** shared their award for the "development of the PTDS multidomain simulation environment and the first commercial simulation platform to support heterogeneous signal approximations used to assess optical components, systems and networks." Koltchanov is a technical expert at Virtual Photonics Inc and Lenzmann is chief architect at the same company.

Herman Reedy was recognized for his contributions to "the continuous improvement of the materials, processes, and product performance of the II-VI Inc infrared/carbon dioxide laser optics products and his technical achievements in the field of high-power kW class CO_2 laser optics." Reedy is vice president and general manager of quality and engineering at II-VI Inc.

IN BRIEF

Frank Wilczek, the J. Robert Oppenheimer Professor in the School of Natural Sciences at the Institute for Advanced Study in Princeton, New Jersey, has been appointed the first Herman Feshbach Professor of Physics at MIT. He will join the faculty there in September.

Joel Lebowitz has garnered the Henri Poincaré Prize for Mathematical Physics from the International Association of Mathematical Physics. The George William Hill Professor of Mathematics and Physics at Rutgers University, Lebowitz will receive the award and 5000 euros at the 13th IAMP conference in London this summer.

Shuji Nakamura, who created the first blue and the first white light-emitting diodes and the first blue laser, has left Nichia Chemical Industries in Tokushima, Japan, to become a professor in the materials department at the University of California, Santa Barbara.

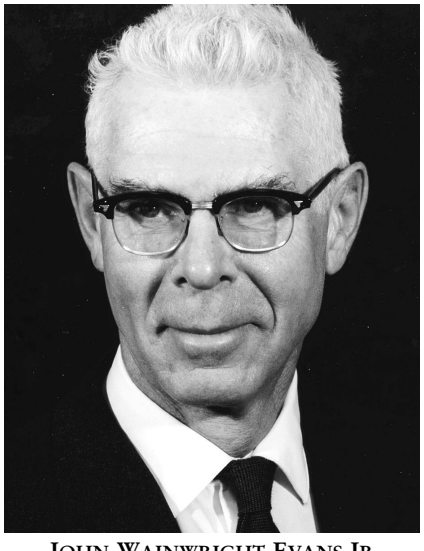
OBITUARIES

John Wainwright Evans Jr

John Wainwright Evans Jr, an internationally renowned solar physicist, died at his home in Santa Fe, New Mexico, on 31 October 1999.

Born in New York City on 14 May 1909, Jack earned a BA in mathematics from Swarthmore College in 1932. Following graduate study at the University of Pennsylvania, he entered Harvard University, where he earned an MA and PhD in astronomy in 1936 and 1938, respectively.

From 1937 to 1938, he was an instructor at the University of Minnesota, and, from 1938 to 1942, he served as an instructor, and then assistant professor, at Mills College in Oakland, California. He then joined the University of Rochester's Institute of Optics, where he developed a number of optical devices for military use during World War II. While there, he also taught advanced courses in photometry and continued doing optical research at the institute. In 1946, he moved to Colorado to become the assistant director of the High Altitude Observatory, working in both Boulder and Climax.



JOHN WAINWRIGHT EVANS JR

In 1952, Jack joined the US Air Force's Cambridge Research Laboratories to direct the new Sacramento Peak Observatory in Sunspot, New Mexico, where he spent the rest of his career. He quickly assembled a group of very talented young scientists, and, under his sensitive guidance and outstanding leadership, "Sac Peak" (later, the National Solar Observatory at Sacramento Peak) became an astronomical institution of the first rank. After retiring as director at the end of 1974, he continued to work at the observatory—first as a staff member, and later as a part-time consultant, designing, building, testing, and operating new instrumentation. He formally retired in 1985.

Jack's research was marked by key innovative work, especially in the field of optics and instrument development. In 1947, he devised an externally occulted form of the solar coronagraph for use on space-based instruments. The Evans sky photometer, based on the same principle, is used at solar observatories around the world for monitoring sky brightness.

In 1949, he elaborated on the theory of the birefringent filter (which he had independently invented in 1939, only to find that a French solar astronomer, Bernard Lyot, had preceded him). His invention of the split-element version of the Lyot filter represented a major advance in the design of this type of optical filter.

Also in 1949, he described an analog form of the Lyot filter based on polarizing two-beam-interferometer elements (commonly referred to as polarizing Michelson interferometer elements), now used in both ground-based and space systems.

He made a further major contribution to the field of narrow-band, tunable optical filters in his derivation of a very simple, exact analytic expression for the spectral transmittance of the Solc-type filter, which previously could be dealt with only by laborious numerical methods. He then applied the Solc filter to a tunable monochromator, used for separating the orders of higher-order gratings.

He pioneered the idea of using a Sun-pointed solar spar on which multiple separate solar telescopes could be mounted, with a roller-type drive to give high-precision and ultrasmooth guiding.

In 1952, he designed a double-pass spectrograph for reducing instrumentally scattered light in the absorption lines of the solar spectrum, thereby making it possible to determine line profiles much more precisely. The double-pass concept was also incorporated into his design of the Sac Peak spectroheliograph (constructed by Jarrel Ash), which is used to monitor daily solar activity.

The above innovations in instrumentation are merely the most impor-

tant of Jack's contributions. He made many more that are too numerous to mention.

Jack's solar physics interests were broad. He led two eclipse expeditions to observe the height-resolved chromospheric spectrum. The first, to Khartoum in 1952, helped to establish the relative temperatures of the solar chromosphere and photosphere. For the second expedition, to Puka Puka in the South Pacific in 1958, he designed two slitless spectrographs and a jumping-film camera. And starting in 1960, Jack made detailed investigations of small-scale motions in the solar atmosphere (especially the five-minute oscillations). He produced the first quantitative measurements of the velocity amplitudes as a function of line strengths and levels in the solar atmosphere.

He was also especially interested in flare mechanisms. In 1958, he obtained the first photographic data of sufficient time resolution to reveal how sunspot magnetic fields change during flares.

During his long career, Jack received many awards from academia and from the Air Force, but his achievements and honors only partially reflect his outstanding human qualities. As observatory director, he nurtured the careers of countless young solar astronomers, whether staff members or visitors. Combined with his scientific achievements, these special qualities were responsible for his powerful impact on the national and international solar communities.

The John Evans Solar Facility in Sac Peak bears a commemorative plaque that fittingly reads:

> Named in honor of the first Director (1952–1975) of Sacramento Peak Observatory, who transformed a remote mountain-top observatory into a world-renowned center for solar astronomy. August 18, 1987.

His legacy continues.

Richard B. Dunn
Raymond N. Smartt
Jack B. Zirker
National Solar Observatory
Sunspot, New Mexico

Kenneth Alan Johnson

Kenneth Alan Johnson, an innovative theorist in the field of elementary particle physics and a physics professor at MIT for 40 years, died in Cambridge, Massachusetts, of