

tion of the transport of vapor through the Earth-atmosphere boundary layer" and "being at the forefront of establishing programs that make the best use of both ground-based and remote platform measurements to quantify evapotranspiration."

The John Adam Fleming Medal was presented to **Paul H. Roberts**. According to the citation, Roberts has made "extraordinary contributions to geophysics, especially to the dynamo theory." His significant contributions to the literature were also praised. Roberts is a professor of mathematics and a professor of geophysical sciences at UCLA.

Jeroen Tromp, one of three recipients of a James B. Macelwane Medal, which is given for significant contributions to the geophysical sciences by a young scientist, was honored for his research on topics ranging from the structure of Earth's inner core to surface wave propagation to a uniformly valid body wave theory. The citation also praised him for being "a superb theoretician as well as an expert data analyst." Tromp is a professor of geophysics in the earth and planetary sciences department at Harvard University.

Rainer Hollerbach garnered the second Macelwane Medal for his work on the generation of the geomagnetic field by dynamo action. Hollerbach, a reader (associate professor) in the mathematics department at the University of Glasgow in Scotland, was cited for his collaborative research that "demonstrated the importance of the electrical conductivity of [Earth's] inner core on the dynamo operating in the outer core" as well as his other contributions to geomagnetism.

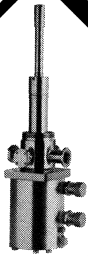
The third Macelwane Medal went to **Kenneth A. Farley**, a professor of geochemistry at Caltech. Farley was recognized for his work on the imprint of interplanetary dust on accumulating deep-sea sediments based on excess helium-3 measurements. The citation noted that he has "enlivened the discussion of the variability in cosmic dust flux over time, climate, and sedimentary processes in the deep ocean," and it also mentioned his other contributions to geochemistry.

Five Engineering Excellence Awards Given by OSA

The Optical Society of America has presented its Engineering Excellence Awards for 1999 to the five following individuals.

Denis Barbier was honored,

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according to the award citation, for his "leadership in the research and fabrication of erbium-doped waveguide amplifiers and loss-less integrated waveguide structures." Barber 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 multi-domain 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 CO₂ 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.

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-

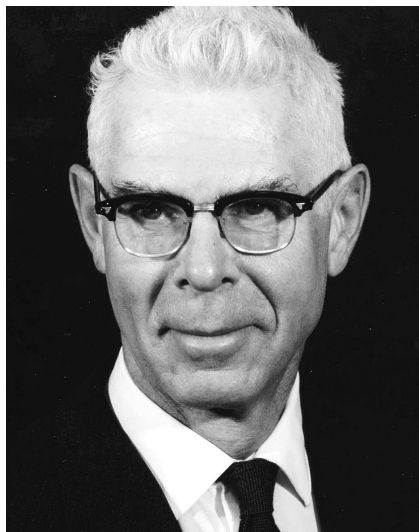
OBITUARIES

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



JOHN WAINWRIGHT EVANS JR

Observatory, working in both Boulder and Climax.

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,