in elementary particles. The award includes a citation, plaque and $10 000. A matching sum was given to Cal Tech.

Gell-Mann's SU(3) theory predicted the omega-minus particle, which was subsequently found in experiments at Brookhaven National Laboratory (PHYSICS TODAY, April 1964, p. 57). Appointed Millikan Professor of Theoretical Physics in 1967 at Cal Tech, he was also visiting professor in 1967–8 at the Institute for Advanced Study at Princeton.

The Research Corporation, a foundation for the advancement of science, gives the award annually for major scientific contributions to human knowledge.

Geological Penrose and Day Medal to Wilson and Vine

The Geological Society awarded the Penrose Medal and the Arthur L. Day Medal to John Tuzo Wilson and Frederick J. Vine, respectively. The Penrose Medal, the society's highest award, honors research in pure geology; the Day Medal recognizes contributions to geology through the use of physics and chemistry.

Wilson is professor of geophysics at the University of Toronto and is known for his research on the physics of the earth and on intercontinental comparisons of geology. At Toronto, he initiated new applications of nuclear science to geology, especially in radiometric dating by the potassium–argon and lead methods.

A member of the geological and geophysical sciences department at Princeton University, Vine was a participant in the International Indian Ocean Expedition. He is currently interested in the paleomagnetic study of continental material, but is also continuing research in marine geology.

Maryland Young Scientist Award to Howel Pugh

Howel G. Pugh of the University of Maryland was the recipient of the Maryland Academy of Sciences 1968 Outstanding Young Scientist Award. Pugh was cited for his experiments on the structure of nuclear systems and their reactions, his contributions to cyclotron design and his role as a teacher. The award consists of $500 and a gold medal.

Receiving a distinguished young scientist certificate for physics was Raymond D. Mountain of the heat division, National Bureau of Standards. He was noted for his studies of relaxation processes in fluids and their effects on the inelastic scattering of light.

Coblentz Award to Zerbi For Infrared Spectroscopy

Guiseppe Zerbi from the University of Milan will receive this month the 1969 Coblentz Award for his work in theoretical spectroscopy, especially the elucidation of polymer structure.

The award is given annually by the Coblentz Society for contributions to infrared spectroscopy by a scientist younger than 36. The international society is named in honor of W. W. Coblentz, who was a pioneer in infrared spectroscopy at the National Bureau of Standards.

Royal Society Honors Gabor with Rumford Medal

The British Royal Society awarded its Rumford Medal to Dennis Gabor, staff scientist for CBS Laboratories. Given biennially for discoveries in light or heat, the award was presented to Gabor for contributions to optics and for the discovery of holography.

Gabor, also professor emeritus of the Imperial College of London, has been responsible for advancements in communication and color television. The Rumford Medal was founded in 1796 by Count Rumford (Benjamin Thompson).

OSA Tillyer Medal to Riggs; Richardson Medal to Cary

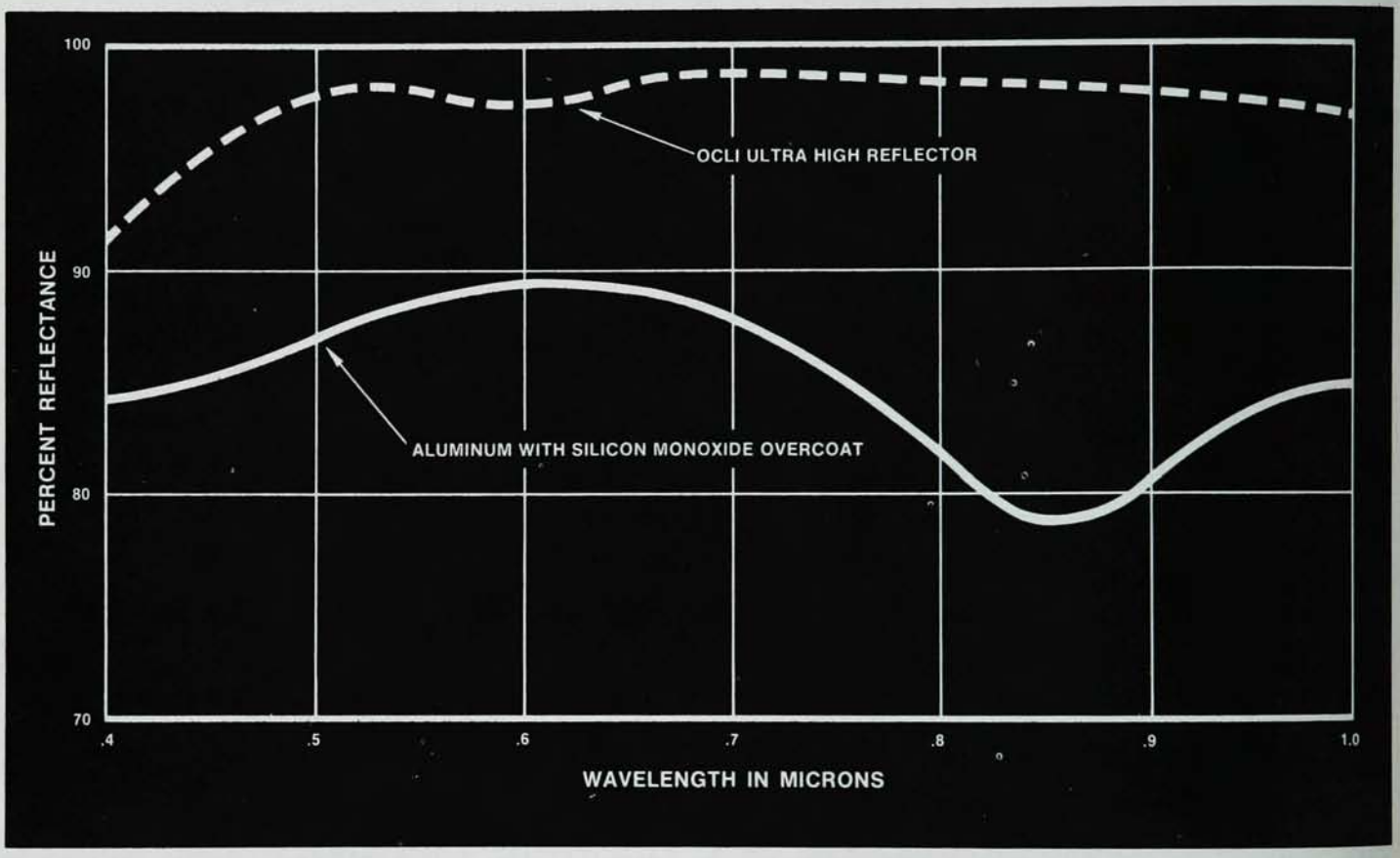
The Optical Society of America will give this month the Edgar D. Tillyer Medal to Lorrin A. Riggs and the David Richardson Medal to Howard Carey. Riggs is cited for his work in the electrophysiology and psychophysiology of the human visual system; Cary for his contributions to instrumentation design and production in areas from spectroscopy to chemical, medical and nuclear research.

Riggs is presently a professor at Brown University and was from 1960 to 1968 the L. Herbert Ballou Foundation University Professor. He now holds the Edgar J. Marston University Professorship in Psychology. Developing a method for recording the electroretinogram, he studied the electrophysiological and psychophysical ef-

GUARANTEED PERFORMANCE

WITH OCLI'S

New Ultra High Reflector



A new low-scattering front surface mirror coating has been developed by OCLI for applications requiring the highest possible reflection over a wide spectral band in the visual and near infrared spectral regions. Designed to replace standard aluminum mirrors, this new coating reduces average reflection loss to less than 5% in the visual spectrum and to less than 3% in the near infrared. It can be applied to either metal or glass blanks up to 30" in diameter.

IMPORTANT FEATURES INCLUDE:

[1] **High reflectance**—Typically >95% average from 425mμ to 700mμ and >97% average from 700mμ to 1000mμ.

[2] **Exceptional performance over a wide angular range**—Reflection characteristics are virtually identical for angle of incidence ranging from 0° to 70°.

[3] **No polarization of reflected energy**—Polarization at 45° incidence is typically held to less than 2%.

[4] **Environmental stability**—Meets thermal, humidity, salt spray, and abrasion requirements of MIL-M 13508B.

For more information on spectral and environmental details, ask for OCLI specification S-6065000.

OCLI *Excellence in Thin Films*

OPTICAL COATING LABORATORY, INC.

2789 Giffen Ave. • P.O. Box 1599, Santa Rosa, Calif. 95403 • Teletype 510-744-2083 • Telephone 707-545-6440

fects under different conditions. He has also worked on a technique for stabilizing the retinal image. Riggs is currently an associate editor of the Journal of the Optical Society of America.

Board chairman at Cary Instruments, Howard Cary is known for his development of spectrophotometers for the ultraviolet, visible and infrared spectral regions and for his Raman spectrophotometer.

The Tillyer Medal, awarded biennially, recognizes work done in vision including, but not limited to, the optics, physiology, anatomy or psychology of the visual system. Awarded annually, the Richardson Medal honors contributions to applied optics.

Gordon Francis Worked on Thermonuclear Fusion

Gordon Francis of the United Kingdom Atomic Energy Authority died on 4 Jan. after a long illness in his home in Berkshire, England. He was 44.

In 1958 he joined the UKAEA, doing experimental work in thermonuclear fusion. He was first at Harwell and later at the Culham Laboratories, where he became a deputy division head. Francis obtained the first evidence in the United Kingdom of a stabilized magnetic well. He gave several school broadcasts on television with experiments, and was executive secretary of the first International Conference on Phenomena in Ionized Gases at Oxford in 1953. He wrote a textbook on ionization phenomena.

A Codiscoverer of Deuterium, George M. Murphy, Dies

A professor emeritus of chemistry at New York University and a codiscoverer of deuterium, George M. Murphy, died at the age of 65 after a long illness.

As a research associate at Columbia University in 1931, he worked with Harold C. Urey and Ferdinand G. Brickwedde in the deuterium discovery. At NYU, before being named professor emeritus, he was Distinguished Professor of Chemistry for four years. He also was appointed the first associate dean of arts and science and later became acting executive dean. He was an acting dean of the Graduate School of Arts and Science.

Involved in the Manhattan Project, Murphy was also a consultant and member of the Technical Information Panel of the Atomic Energy Commission.

Hilde Kallmann-Bijl Was Geophysicist

Hilde Kallmann-Bijl, at the University of Utrecht, Holland, since 1964, died recently at the age of 60. A geophysicist, her research was in the structure of the upper atmosphere. She was active in the International Geophysical Year and the International Committee on Space Research.

At RAND Corporation Kallmann-Bijl served as consultant and later as staff member in the department of environmental sciences. Her work at RAND included research in the ionosphere, meteor, upper-atmosphere physics and the thermodynamics of solids and gases.

Fritz Reiche Dies; Was Theoretical Physicist

Fritz Reiche, a theoretical physicist, died of pneumonia on 15 Jan. at the age of 85. Retired as adjunct professor of physics at the New York University School of Engineering, he had continued as a senior research scientist at the University's Courant Institute of Mathematical Sciences.

Born in Germany, Reiche studied under Wilhelm Roentgen at the University of Munich and received his PhD at the University of Berlin under Max Planck. He also studied at the University of Breslau under Otto Lummer.

Working and teaching under Planck at Berlin between 1913–20, he also associated with Albert Einstein and Gustave Hertz. Reiche succeeded Erwin Schroedinger as professor of physics at the University of Breslau, after spending a year at the Kaiser Wilhelm Institute of Physical Chemistry.

Reiche came to the US in 1941 after being retired by the Nazi government. He taught at the New School of Social Research, the City College of New York and Union College.

Before coming to the US, Reiche worked on quantum theory, atomic physics and optics. He later studied supersonic flow and, for the last ten years, electromagnetic theory. He published an early book on quantum theory and was author or coauthor of many scientific papers. □