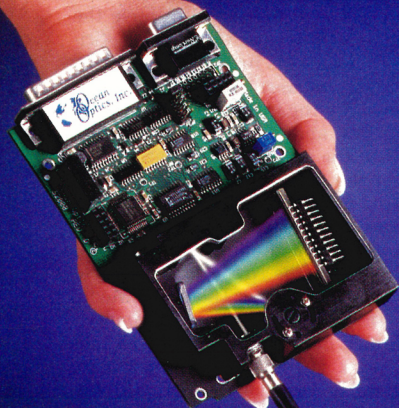


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Philip Hauge Abelson Prize for—in the words of the citation—"her outstanding achievements in education, research, R&D management and public service, spanning the academic, industrial and government sectors." The first woman ever to receive the prize, Good is the managing member of Venture Capital Investors LLC in Little Rock, Arkansas. She is also the Donaghey University Professor at the University of Arkansas at Little Rock, and is scheduled to become the interim dean of the university's College of Science and Engineering Technology once it is established. Previously, she was undersecretary for technology in the Department of Commerce during President Clinton's first term.

Joel Lebowitz, the George William Hill Professor of Mathematics and Physics and director of the Center for Mathematical Sciences Research at Rutgers University, was recognized with the 1999 AAAS Scientific Freedom and Responsibility Award. The citation praised "his tireless devotion to the rights of scientists in oppressive regimes throughout the world and his extraordinary creativity in finding ways to help these scientists survive their ordeal."

Four AIP Science Writing Awards Announced

The American Institute of Physics has announced the winners of three science writing awards for 1998 and one for 1999.

The 1998 Journalist Science Writing Award is being shared by **Robyn Suriano** and **Todd Halvorson** for "Cassini: Debating the Risks." Their eight-page special report appeared in the 14 September 1997 issue of *Florida Today*. Suriano and Halvorson are staff writers at the newspaper.

Leonard Susskind, a professor of physics at Stanford University, is the recipient of the 1998 Scientist Science Writing Award for his article "Black Holes and the Information Paradox," which appeared in the April 1997 issue of *Scientific American*.

Barbara Taylor, the author of many children's science books, is receiving the 1998 Children's Science Writing Award for *Earth Explained: A Beginner's Guide to Our Planet* (Holt, 1997). The book describes the internal and external forces that affect Earth, the planet's landforms and the effects of humans on the environment.

The 1999 Children's Science Writing Award is going to **Elaine Scott**, a Texas-based author, for *Close Encounters: Exploring the Universe with the*

Hubble Space Telescope (Hyperion, 1998), in which she explains the importance of the images received from the HST and what is being learned from them.

IN BRIEF

The Institute for Theoretical Physics at the University of California, Santa Barbara, has selected seven scientists as ITP Scholars for 1999–2001. The program supports the research efforts of faculty at US colleges and universities that are not major research institutions. The selected scholars are **Emory Bunn** of Bates College, **Sasha Dukan** of Goucher College, **David Kastor** of the University of Massachusetts Amherst, **Ramzi Khuri** of the City University of New York's Baruch College, **William Putikka** of Ohio State University, Mansfield, **Eugene Shender** of the College of San Mateo, and **Jennie Traschen** of the University of Massachusetts Amherst.

The vice president of Sandia National Laboratories, **Gerold Yonas**, is the recipient of the 1998 Beams Prize Award of the International Conference on High-Power Particle Beams, "in recognition of his leadership in the area of pulsed power, high-power particle beams and intense sources of radiation, and his nurturing and encouragement of the pulsed power community for more than 20 years."

The Science and Technology Foundation of Japan has awarded the 1999 Japan Prize for Molecular Recognition and Dynamics in Bioscience to two researchers at Harvard University. **Jack L. Strominger**, the Higgins Professor of Biochemistry, and **Don C. Wiley**, a professor of biochemistry and biophysics, have been recognized for the isolation, crystallization and elucidation of the three-dimensional structure of human histocompatibility complex molecules, the principal structures involved in mediating immune recognition. At the presentation ceremony next month in Tokyo, each professor will receive a citation, a medal and ¥25 million.

Several new names are being added to the faculty roster at Stanford University. **Stephen Shenker** left Rutgers University last September to become a professor of physics at Stanford and the director of the university's new Institute for Theoretical Particle Physics. **Sarah Church**, previously a senior research fellow at Caltech, joined the Stanford physics department as an assistant professor in January. And **Steven Block**, a professor of molecu-

lar biology and a professor in the Princeton Materials Institute at Princeton University, will join Stanford's biology and applied physics departments in September—the first joint appointment between those two departments. Block plans to work with physicist **Stephen Chu** and biochemist **James Spudis** in developing the university's proposed Bio-X biophysics research initiative.

Masanobu Miyahara, a senior scientific affairs adviser in the National Science Foundation's Tokyo office, was honored in December with the agency's Distinguished Public Service Award for lifetime achievement. Of his 41 years of

Federal service, nearly 37 have been with the NSF.

Alex Bradshaw will become the new director of the Max Planck Institute for Plasma Physics in Garching, Germany, on 1 May. Bradshaw is currently at the Fritz Haber Institute of the Max Planck Society in Berlin.

Also on 1 May, **Jan M. Rost** will leave his post as an assistant professor of physics at the University of Freiburg to become one of the three directors of the Max Planck Institute for the Physics of Complex Structures in Dresden, Germany.

OBITUARIES

James Lighthill

With the death, on 17 July 1998, of James Lighthill in a swimming accident, the world of fluid dynamics has, arguably, lost its leading exponent of the past half century.

Born in Paris on 23 January 1924, Lighthill was christened Michael James, but later abandoned his first name. He was a boyhood contemporary of Freeman Dyson at Winchester College. In 1943, he took a BA in mathematics at the University of Cambridge's Trinity College and then joined Sydney Goldstein's group at the UK's National Physical Laboratory for work on supersonic aerodynamics in the last two years of World War II.

Lighthill's first papers were published before he was 20, and, by the age of 26, he had succeeded Goldstein as Beyer Professor of Applied Mathematics at the University of Manchester. There, in 1952, he published a paper entitled "On Sound Generated Aerodynamically," which not only prescribed the calculation of sound from turbulent flows and derived the eighth power law for jet noise, but also, and more fundamentally, created the subject of aeroacoustics and underpinned all subsequent work in it.

Aeroacoustics proved to be just the first of several new disciplines that Lighthill launched. Another of his notable launches was nonlinear acoustics, which was first introduced in a 100-page article published in 1956 in honor of G. I. Taylor.

On a completely different tack, Lighthill made generalized functions accessible and placed them on a firmly rigorous basis in a delightful book entitled, *An Introduction to Fourier Analysis and Generalized Functions* (Cambridge University Press, 1958), which he wrote for third-year Manches-

ter undergraduates. Although I. M. Gelfand and G. E. Shilov's approach to distributions is now considered more powerful, Lighthill's methods, as expounded in his book, may have had the greater impact.

In 1959, Lighthill became director of the UK's Royal Aircraft Establishment, Farnborough, where he managed a staff of 8000, including 1400 professional scientists. While continuing to produce research papers (he had his own series of RAE reports!), he also directed work on supersonic conical vortex flows (for the Concorde), developed satellite communications systems and established RAE's space department and space program.

In 1964, he returned to academia—this time as a Royal Society research professor at the University of London's Imperial College, where he founded the field he called biofluidynamics. This field encompasses blood flow in the cardiovascular system, air flow in mammalian airways, the flying of birds

and insects and the swimming of fish. One of Lighthill's striking biofluid-dynamic discoveries was the mechanism by which the tiny parasitic wasp *Encarsia formosa* claps and flings its wings to achieve lift coefficients far greater than those obtained by other flying objects, whether man-made or natural.

In 1969, Lighthill (who was knighted in 1971) succeeded Paul Dirac as holder of the Lucasian Professorship of Mathematics at Cambridge, though when Lighthill referred to his "predecessor in the chair," one knew he had Isaac Newton in mind. At the university's department of applied mathematics and theoretical physics, Lighthill taught with great verve and worked extensively on waves, geophysics, active control, acoustics and biological mechanics. He left Cambridge in 1979 to head University College London as provost until he retired ten years later.

Lighthill's scientific legacy, which takes the form of around 160 papers and five books, contains seminal contributions to fluid dynamics and applied mathematics, together with the establishment of two major institutions—namely, the Institute of Mathematics and its Applications (the UK counterpart, in some ways, of the Society for Industrial and Applied Mathematics in the US), and the International Institute of Acoustics and Vibration, both of which he served as founding president. Furthermore, he was president of the International Commission on Mathematical Instruction (1971–74) and of the International Union for Theoretical and Applied Mechanics (1984–88), and held many other organizational posts, including vice president of the Royal Society (he became a fellow at 29) and associate editor for 24 years of the *Journal of Fluid Mechanics*.

His scientific achievements were recognized by the award of 24 honorary doctorates, numerous medals and membership of the most prestigious academies worldwide, including the American Academy of Arts and Sciences and the US National Academy of Sciences.

His achievements outside science were equally impressive—and flamboyant. He mastered several languages (French, German, Portuguese, Russian), largely, he claimed, through reading the classics in them ("One knows them so well that the tedious step of translation is obviated"). He could play the piano to a good concert standard. And he achieved such command of his own physical and mental powers that he successfully accomplished many of what he termed "adventure swims," each typically of ten hours duration and involving treacherous cur-



JAMES LIGHTHILL