

HEINEMAN PRIZES AWARDED TO WESS, ZUMINO AND LAMBERT

This year's Dannie Heineman prizes went to Julius Wess (Karlsruhe Technical University, FRG) and Bruno Zumino (University of California, Berkeley) and to David L. Lambert (University of Texas, Austin).

Wess and Zumino received the 1988 Heineman Prize for Mathematical Physics, which is sponsored by the American Institute of Physics and The American Physical Society, at the APS spring meeting in Baltimore. They were cited for their "crucial contributions to the discovery and development of supersymmetry, a profound extension of the notion of space-time symmetry that may underlie unification of the fundamental forces." In the mid-1970s they developed a renormalizable four-dimensional model of scalar and spinor fields involving supersymmetry, now known as the Wess-Zumino model. They pointed out the special convergence properties of supersymmetric theories and developed a gauge theory that incorporated supersymmetry, that is, a supersymmetric version of quantum electrodynamics. Subsequently they were deeply involved in the development of the formalism of supersymmetric field theories, which

form the basis of much current work.

Wess completed his PhD (1957) and his *Habilitation* (1965) at the University of Vienna. He was an assistant professor at the university's Institute for Theoretical Physics (1956-66) and an associate professor at New York University (1966-68) before becoming a full professor and director at the Karlsruhe institute.

Zumino received his doctorate in mathematical sciences (1945) from the University of Rome. He held research and teaching positions at the Instituto di Alta Matematica (Rome), the University of Rome and the Max Planck Institut für Physik (Göttingen, FRG) before becoming a research associate at New York University in 1951. He advanced to full professor in 1960, and served as head of the physics department from 1961 to 1969. In 1969 he became a member of the CERN theory division, which he headed from 1970 to 1973. Zumino has been a professor at Berkeley since 1982.

AIP and the American Astronomical Society presented the 1987 Heineman Prize for Astrophysics to Lambert at the January AAS meeting in Austin. He was cited for establishing

"a new standard of precision for the quantitative analysis of stellar spectra. He has done so through skillful combination of advanced instrumentation and superb technique, and has discussed the results with perception and insight. His contributions to our knowledge of the cosmic abundances of critical elements and their isotopes provide the fundamental underpinning for modern theories of stellar evolution and galactic evolution."

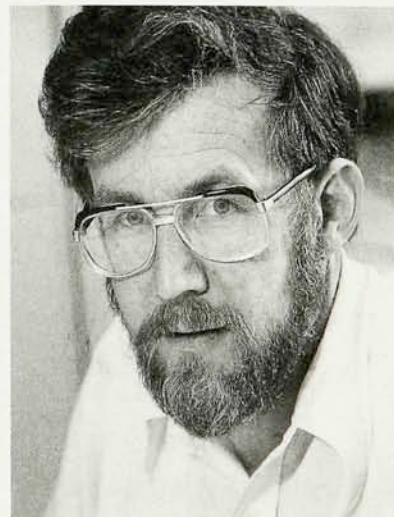
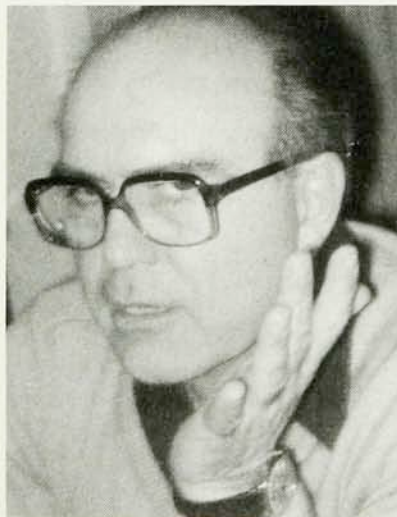
Lambert has conducted spectroscopic studies of numerous astronomical objects, from stars to comets. His principal work since the early 1970s has been determining the chemical compositions of various types of red giants to elucidate how stars synthesize elements; red giants exhibit deep convective envelopes that dredge material from the core to the surface. In addition he has conducted spectroscopic studies of unevolved stars to understand the chemical evolution of the Galaxy. The surface compositions of such stars are believed to be similar to those of the clouds from which they were formed.

Lambert received his BA in physics (1960) and his DPhil in solar physics (1965) from the University of Oxford.

Julius Wess

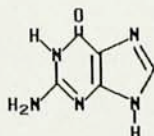
Bruno Zumino

David L. Lambert



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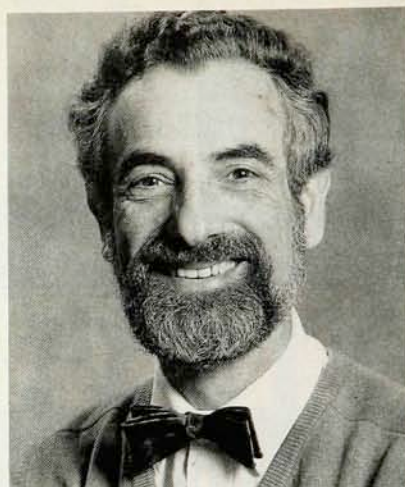
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In 1967 he became a research fellow at Caltech and the Mount Wilson and Palomar Observatories. He went to the University of Texas in 1969 as a faculty associate, and advanced to associate professor in 1970 and full professor in 1974. Lambert has held the Isabel McCutcheon Harte Centennial Chair in Astronomy since 1987.

LIEB RECEIVES BIRKHOFF AWARD

The American Mathematical Society and the Society for Industrial and Applied Mathematics in January presented the 1988 George David Birkhoff Prize to Elliott Lieb (Princeton University). The prize is awarded every five years for outstanding contributions to "applied mathematics in the highest and broadest sense."

Lieb was cited for his "profound analysis of problems arising in mathematical physics. . . [His] influence on mathematical physics . . . has reached so far because it has remained so deep." In work on nonlinear differential equations and on the classical inequalities of analysis he has focused on a wide variety of topics, including the application of the Schrödinger equation to slowly decaying Coulomb potentials, the theory of liquid crystals, harmonic maps, the Thomas-Fermi problem and the Ising model. In accepting the award, Lieb noted that "good mathematical



Elliott Lieb

physics can aspire to be both good mathematics and good physics, and both fields can benefit from the interaction."

Lieb received his BSc from MIT in 1953 and his PhD in mathematical physics from the University of Birmingham in 1956. From 1960 to 1963 he was a staff physicist at IBM (Yorktown Heights, New York). He was an associate professor of physics at Yeshiva University (1963-66), a professor of physics at Northeastern University (1966-68) and a professor of mathematics at MIT (1968-75). Lieb has been a professor of mathematics and physics at Princeton since 1975.

IN BRIEF

Frank Galeener, formerly at Xerox (Palo Alto, California), has become a professor of physics at Colorado State University. **R. Mark Bradley** and **Richard Eykholt** have joined the physics department there as assistant professors.

A. D. Callihan, an administrative judge with the US Nuclear Regulatory Commission, received the 1987 Meritorious Service Award of the American National Standards Institute for "exceptional leadership at all levels of voluntary standardization in the nuclear field."

Michael Skrutskie and **Stephen Schneider** have joined the Five College Astronomy Program as assistant professors in the physics and astronomy department at the University of Massachusetts, Amherst.

Don L. Anderson, who has directed Caltech's Seismological Laboratory since 1967, has been awarded the Gold Medal of the Royal Astronomical Society of Great Britain for his seismological studies of the structure and physical parameters of the Earth's deep interior.

OBITUARIES

John A. Thornton

John A. Thornton died on 10 November 1987 at his home in Champaign, Illinois. A first-rate scientist, he was well known internationally in areas ranging from plasma physics to magnetron sputtering to thin film physics.

In addition, he was a highly visible and extremely active member of a variety of scientific organizations, including the American Vacuum Society (which he served as president in 1982) and The American Physical Society.

Thornton was born 3 January 1933