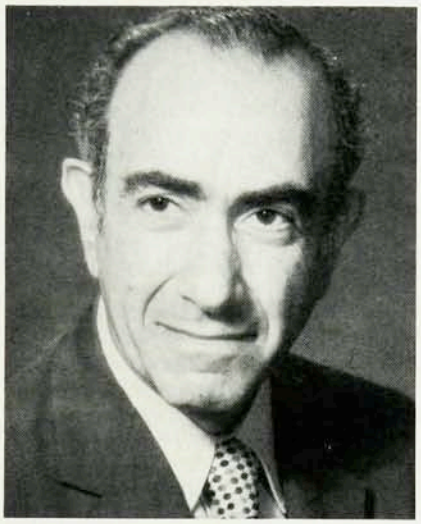
Wolf Foundation honors six with 1987 awards

In April the Wolf Foundation honored six individuals for their contributions to x-ray astrophysics, chemistry and mathematics. The foundation presented its 1987 physics prize to Herbert Friedman (Naval Research Laboratory) "for pioneering investigations in solar x rays," and to Bruno Benedetto Rossi (MIT) and Riccardo Giacconi (Space Telescope Science Institute and The Johns Hopkins University, Baltimore, Maryland) "for the discovery of extrasolar x-ray sources and the elucidation of their physical processes." David C. Phillips (University of Oxford) and David M. Blow (Imperial College of Science and Technology) shared the chemistry prize "for their contributions to protein x-ray crystallography and to the elucidation of structures of enzymes and their mechanism of action." Peter D. Lax (Courant Institute of Mathematical Sciences) shared the mathematics prize "for his outstanding contributions to many areas of analysis and applied mathematics."



FRIEDMAN

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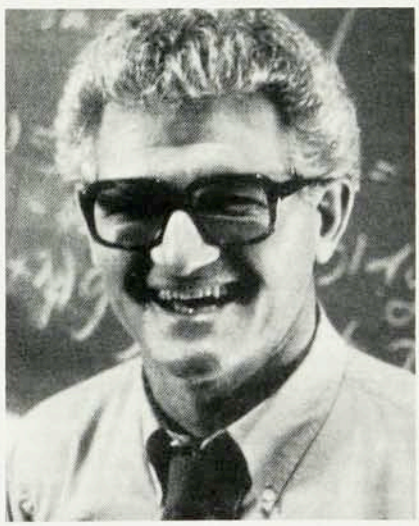

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Friedman received his BA from Brooklyn College in 1936. After receiving his PhD from Johns Hopkins in 1940, Friedman joined the Naval Research Laboratory as a physicist. He served as head of the electron optics branch from 1943 to 1958, as chief scientist of the E. O. Hulburt Center for Space Research from 1963 to 1980, and as superintendent of the space science division at NRL. Since 1980 he has been chief scientist emeritus. In 1949 Friedman and his colleagues used ultraviolet and x-ray photon counters mounted on a rocket to make the first observations of solar x rays. Their discovery confirmed Edward Hulburt's hypothesis that solar x rays are the principal cause of ionization in the E region of the earth's ionosphere. Friedman and his group performed pioneering research in solar x-ray astronomy throughout the 1950s. They discovered x-ray emissions from solar flares and demonstrated the variation of the solar x-ray spectrum with solar activity. In addition, they made the first sustained x-ray observations of the Sun by satellite-borne detectors, and the first x-ray images of the Sun with a pinhole camera. Since the mid 1960s Friedman and his group have also studied extrasolar x-ray emissions; they demonstrated that supernova remnants are powerful x-ray sources, and they discovered the first extragalactic x-ray source.

Rossi, who is best known for his basic research on cosmic rays, received his PhD in physics from Bologna University in 1927. He was an assistant physicist at the University of Florence (1928–32), a professor at the University of Padua (1932–38), and a research associate at Victoria University (1938–39) and at the University of Chicago (1939–40). In 1940 he became an associate professor at Cornell Unviersity, and he was at Los Alamos from 1943 to