

Goldberg and Carruthers honored by AAS

KITT PEAK NATIONAL OBSERVATORY

The American Astronomical Society has recognized two astronomers for their accomplishments. Leo Goldberg, director of the Kitt Peak National Observatory, has been awarded the Henry Norris Russell Lectureship for 1973. The Helen B. Warner Prize for Astronomy has been given to George R. Carruthers, a scientist at the Naval Research Laboratory.

Goldberg, who received the lectureship for his work in astronomical research, completed his PhD at Harvard University in 1938, remaining a research fellow there until he joined the University of Michigan's McMath-Hulbert Observatory as an assistant physicist in 1941. He was subsequently made research associate and research physicist. From 1946 to 1960 he served as chairman of the department of astronomy and director of the observatory there. In 1960 he became a staff member at the Smithsonian Astrophysical Observatory and Higgins Professor of Astronomy at Harvard, where he was chairman of the department of astronomy and director of the Harvard College Observatory (1966-71). In 1971 he became director at Kitt Peak. Goldberg has made important contributions to solar physics, infrared spectroscopy, atmospheric optics, the theory of planetary nebulae and the determination of elemental abundances in the sun.

The Warner Prize, awarded annually for a significant contribution to astronomy by an individual under 35 years of age, went to Carruthers for his work in rocket ultraviolet astronomy, especially his detection of absorption bands of interstellar molecular hydrogen. He was the principal investigator for the Apollo 16 far-ultraviolet camera/spectrograph experiment, which permitted the first observation of the terrestrial



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upper atmosphere and geocorona from the lunar surface, as well as observation of celestial objects and the interplanetary medium. Carruthers received his PhD from the University of Illinois in 1964.

After completing his PhD at the University of California in Berkeley (1960), Axe was an NSF fellow at Johns Hopkins University. He was subsequently with the IBM Research Center in Yorktown Heights, New York (1962-68) before joining Brookhaven in 1969. His major scientific interests are in crystal field effects in rare-earth ions, infrared optical properties of solids, and the study of collective excitations in solids with inelastic neutron scattering.

Shirane, who received the American Physical Society's Buckley Prize in March for similar work (see *PHYSICS TODAY*, April, page 69), is primarily interested in the study of ferroelectric, structural and magnetic phase transitions. He is senior scientist in the physics department at Brookhaven.

IEEE Liebmann Award goes to Nick Holonyak

Nick Holonyak Jr, a professor in the department of electrical engineering and materials research laboratory at the University of Illinois, Urbana, has been presented the Institute of Electrical and Electronics Engineers Morris N. Liebmann Award. Upon receiving the award Holonyak was cited for "outstanding contributions to the field of visible light emitting diodes and diode lasers."

After completing a PhD in electrical engineering at the University of Illinois in 1954, Holonyak worked as a member of the technical staff in the transistor development department at Bell Laboratories. In 1957 he joined General Electric as a physicist in the semiconductor product department, remaining there until 1965 when he became a professor of electrical engineering at Illinois. He is editor of the Prentice-Hall series *Solid State Physical Electronics*.

Shirane and Axe share ACA Warren Award

John D. Axe and Gen Shirane, both physicists at Brookhaven National Laboratory, are joint winners of the American Crystallographic Association's 1973 Bertram Eugene Warren

Diffraction Physics Award. The Award, which will be presented at ACA's June meeting at the University of Connecticut in Storrs, is given in recognition of their joint work on lattice and molecular dynamics, primarily as studied by inelastic scattering of neutrons.

The Institute of Physics announces nine awards

The Institute of Physics in London has announced nine awards for 1973. Herman Bondi, chief scientist in the Ministry of Defence, has been given the Guthrie Medal and Prize for his application of physics to astronomy and cosmology. The Rutherford Medal