

## HONORS AND AWARDS

A.J. Zmuda, a member of the staff of the Research Center, has been selected as Secretary General of the World Magnetic Survey Board of the International Association of Geomagnetism and Aeronomy. He replaces E.H. Vestine, recently deceased.

R.B. Kershner, Supervisor of the Space Development Department, has been elected a Fellow of the American Institute of Aeronautics and Astronautics.

L.L. Cronvich, Aerodynamics Group Supervisor, was elected Chairman of the Navy Aeroballistics Advisory Committee (NAAC) for the coming year.

R.E. Hicks won honors for delivering

the best paper, "Substrates for Large-Scale Arrays," to the National Electronic Packaging and Production Conference, Technical Session 8, at both East and West Coast Conferences in January and June 1968.

C.T. Holliday, staff member in the Space Physics and Instrumentation Group, received the "Governor's Award" of the Society of Photooptical Instrumentation Engineers "for exceptional services performed voluntarily on behalf of the Society and the discipline."

E.W. Sultana was elected President of the National Council of Scientific and Technical Art Societies.

## PUBLICATIONS

Compilation of principal recently published books and technical articles written by APL staff members.

A.A. Westenberg, "Free-Electron Generation in the  $H + NO_2$  Reaction," *J. Chem. Phys.* **48**, No. 10, May 15, 1968, 4809.

A.A. Westenberg and N. de Haas, "Atom-Molecule Kinetics Using ESR Detection. IV. Results for  $Cl + H_2 \rightleftharpoons HCl + H$  in Both Directions," *J. Chem. Phys.* **48**, No. 10, May 15, 1968, 4405-4415.

L. Monchick, "Steady-State Thermal Conductivity of Rotationally Degenerate Gases," *J. Chem. Phys.* **48**, No. 11, June 1, 1968, 5154-5157.

E. V. Byron and J. Frank, "'Lost Beams' from a Dielectric Covered Phased-Array Aperture," *IEEE Trans. Antennas and Propagation* **AP-16**, No. 4, July 1968, 496-499.

P.T. Komiske and A.A. Braunstein, "Automated Control of a Fast Turnaround Contractor-Subcontractor Document Management System," *American Doc.* **19**, No. 3, July 1968, 331-337.

F.E. Nathanson and J.P. Reilly, "Radar Precipitation Echoes; Experiments on Temporal, Spatial, and Frequency Correlation," *IEEE Trans. Aerospace and Electronic Systems* **AES-4**, No. 4, July 1968, 505-514.

S.E. Grenleski and F.S. Billig, "Investigation of an Actively Cooled Leading

Edge for Hypersonic Ramjet Engines," *J. Aircraft* **5**, No. 4, July-Aug. 1968, 359-366.

C.C. Kilgus, "Multielement Fractional Turn Helices," *IEEE Trans. Antennas and Propagation*, **AP-16**, No. 4, July 1968, 499-500.

F. S. Billig, R. C. Orth, and M. Lasky, "Effects of Thermal Compression on the Performance Estimates of Hypersonic Ramjets," *J. Spacecraft* **5**, No. 9, Sept. 1968, 1076-1081.

R. A. Kropfli, I. Katz, T. G. Konrad, and E. B. Dobson, "Simultaneous Radar Reflectivity Measurements and Refractive Index Spectra in the Clear Atmosphere," *Radio Science* **3**, New Series No. 10, Oct. 1968, 991-994.

## BOOK

R. H. Cramer, a staff member of the Aerodynamics Group, has translated from Italian to English a work by C. Ferrari and F. G. Tricomi, *Aerodinamica Transonica*, published originally by Edizioni Cremonese, Rome, in 1962. The translation was published as *Transonic Aerodynamics* by Academic Press in 1968, and is considered to be an authoritative source in its field.

## PATENTS

R. T. Ellis, R. B. Kershner, and J. Walton—*Symmetrically Phase Modulated Transmission System with Multi-Lobed Modulating Signals*, Patent No. 3,394,313.

R. G. Bartlett, Jr. and E. J. Brunzman—*End Tidal Sampler for Oxygen Breathing Mask*, Patent No. 3,395,701.

C. J. Swet—*Controllable Heat Pipe Apparatus*, Patent No. 3,402,761.

## ADDRESSES

The listing below comprises the principal recent addresses made by APL staff members to groups and organizations outside the Laboratory.

R.B. Kershner, "The APL Space Program," *Metropolitan Board of Trade, Science Industry Committee Meeting to honor the APL Twenty-Fifth Anniversary*, Howard County, Md., June 18, 1968.

W. E. Buchanan, "The Applied Physics Laboratory and Its Work," *Kiwanis Club of Silver Spring*, Silver Spring, Md., Aug. 27, 1968.

B.B. Holland, "Doppler Tracking of Near-Synchronous Satellites," *AAS/AIAA Astrodynamics Specialist Conference*, Jackson, Wyo., Sept. 3-5, 1968.

I. Katz, "Radar Detection of Clear Air Echoes," *The U.R.S.I./IEEE Meeting, Northeastern University*, Boston, Mass., Sept. 9-11, 1968.

I. Katz and D. Randall, "Radar Detection of Clear Air Echoes," *1968 Fall Meeting, U.S. National Committee of the International Scientific Radio Union (URSI)*, Boston, Mass., Sept. 10-12, 1968.

J.R. Apel, "Physics as a Career," *University of Maryland Career Session*, College Park, Md., Sept. 13, 1968.

E.D. Eckard, "Measurements to Achieve Ultimate Reliability on the DODGE and Other Satellite Programs at the Applied Physics Laboratory," *IEEE, Baltimore Chapter*, Baltimore, Md., Sept. 23, 1968.

J.H. Walker, "Management of System Studies," *Naval Electronics Center Management Symposium*, San Diego, Calif., Oct. 8, 1968.

R.A. Dickman, "ADP in Personnel Research," *Seminar on ADP in Personnel Management, U.S. Civil Service Com-*

## ADDRESSES

(continued)

mission, Washington, D.C., Oct. 11, 1968.

G.M. Starken, "Science of the Sea," *American Society of Mechanical Engineers, Delaware Chapter*, Wilmington, Del., Oct. 17, 1968.

P.T. Komiske, "Automated Control of a Fast-Turnaround Contractor-Subcontractor Document Management System," *American Society for Information Science, AD Paper Forums*, Columbus, O., Oct. 23, 1968.

Mary M. Schaefer, "How to Cope with

Gobbledygook," *Eighth Annual Technical Communications Seminar and Art Exhibit, Association of Technical Artists and Society of Technical Writers and Publishers*, Huntsville, Ala., Oct. 22-24, 1968.

E.W. Sultana, "Visual Literacy: A Professional Communication Team," *Eighth Annual Technical Communications Seminar and Art Exhibit, Association of Technical Artists and Society of Technical Writers and Publishers*, Huntsville, Ala., Oct. 22-24, 1968.

J.L. Keirsey and W.H. Avery, "Air-breathing Engines and their Military Applications," *AGARD Propulsion and*

*Energetics Panel Meeting*, Paris, France, Oct. 25, 1968.

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## APL COLLOQUIA

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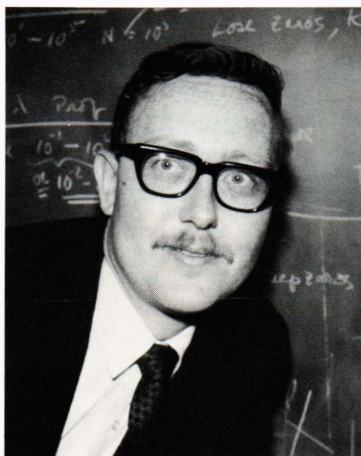
Oct. 11—"An Integrated Urban-Interurban Transportation Concept," by W.H. Avery, APL.

Oct. 18—"Repeating DNA Sequences and Evolution," by R. Britton, Carnegie Institution of Washington.

Oct. 25—"Theory and Experiments with Drag-Free Satellites," by D.B. DeBray, Stanford University.

## WITH THE AUTHORS

J. W. Kohl, author of "Solar Proton Monitoring," was born in Hoboken, New Jersey. He received the B. Sc. and M. Sc. degrees in physics from New York University in 1958 and 1961 respectively. From 1958 to 1963 Mr. Kohl worked on the Cosmic Ray Project at New York University. This work involved balloon and rocket studies of slow neutrons in the upper atmosphere under varying conditions of longitude, latitude, altitude, and solar activity. He was also concerned with the NYU neutron monitor located at Col-



lege, Alaska. In 1963 Mr. Kohl joined the staff of the Applied Physics Laboratory, where he is assigned to the Space Physics and Instrumentation Group of the Space Research and Analysis Branch. At first he worked on detector calibration with APL satellite 1963 38C. Since then he has worked with data from APL satellites 1963 38C and NASA Explorer 34, and has been co-experimenter on satellites IMP F and IMP G. Mr. Kohl is a member of the American Physical Society and the American Geophysical Union.



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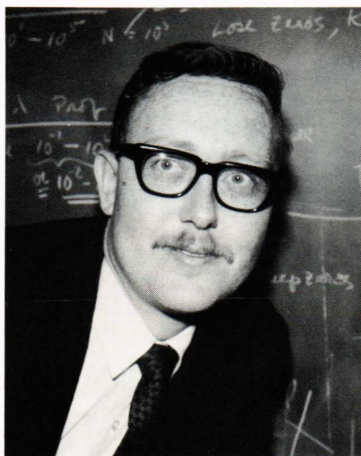
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