

## HONORS AND APPOINTMENTS

*J. F. Bird* was the recipient of the Honorable Mention Award given by the Maryland Academy of Sciences at its annual meeting in honor of the "Outstanding Young Scientist of the Year." Dr. Bird was cited for the outstanding contributions he has made to the understanding of unstable burning of solid-fuel rockets.

*G. L. Dugger* has been named Editor-in-Chief of a new journal of the American Institute of Aeronautics and Astronautics, the *Journal of Spacecraft and Rockets*, to be published bi-monthly beginning in January 1964.

*R. E. Fischell* has been named Associate Editor of the new *Journal of Spacecraft and Rockets*, of which Dr. Dugger is the newly named Editor-in-Chief (see above).

*R. E. Gibson*, Director of the Applied Physics Laboratory, has been named by J. Millard Tawes, Governor of Maryland, to the Governor's Science Resources Advisory Board. The intent of this recently created Board is "to improve the climate for and to advance the growth of science-oriented industry."

## Colloquium Program Report

The Chairman of the Colloquium Committee, E. P. Gray, recently reported to the Director on the status and growth of the Laboratory's colloquium program in the 1962-63 academic year. In summarizing the twenty-five talks presented in that period, Dr. Gray spoke of the program as having "become one of the most popular scientific lecture series in the Washington area." A steadily rising attendance attests to this interest and reflects the continued growth of the Laboratory.

Some highlights of the colloquium series are worthy of note. Two exceptionally well-attended lectures were C. S. Snyder's *Results from Mariner II*, and H. Margenau's fine presentation on *The Quantum Theory of Measurement*. Others included talks

## ADDRESSES

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

- J. B. Oakes, W. J. Billerbeck, and K. F. Read, "A Stable Crystal Oscillator for Satellite Applications," *1963 National Space Electronics Symposium*, Miami, Oct. 1-3, 1963.
- F. F. Hiltz, "Studies Involving Artificial Neurons," *The Johns Hopkins University*, Electrical Engineering Dept., Oct. 3, 1963.
- R. T. Ellis, "System Engineering in Space Exploration," *Catholic University of America*, Oct. 9, 1963.
- D. J. Williams and C. O. Bostrom, "Albedo Neutrons in Space," *Conference on the Earth's Albedo Neutron Flux*, Applied Physics Laboratory, Oct. 15-16, 1963.
- M. L. Hill, "Research and Development Problems for Hypersonic Flight," *Pacific Southwest Navy Research and Development Clinic*, Oakland, Calif., Oct. 15-18, 1963.
- R. B. Kershner, "The Use of Satellites in Geodesy," *Catholic University of America*, Oct. 17, 1963.
- R. E. Fischell, "Magnetic Attitude Control for Earth Satellites," *I.E.E.E. Conference on Aerospace and Navigational Electronics*, Baltimore, Oct. 21, 1963.
- F. F. Mobley, "Gravity-Gradient Attitude Control for Earth Satellites," *I.E.E.E. Conference on Aerospace and Navigational Electronics*, Baltimore, Oct. 21, 1963.
- Helen S. Hopfield, "The Use of Doppler Data from Satellites to Study the Refractivity Profile of the Troposphere," *University of Illinois*, Conference on Direct Aeronomic Measurements in the Lower Ionosphere, Oct. 21-23, 1963.
- W. G. Berl, "What Basic Research Can Learn from Forest Fires," *Society of American Foresters*, Division of Forest Fires, Boston, Oct. 23, 1963.
- J. R. Apel and A. M. Stone, "Observations of Growing Waves in a Beam-Plasma Interaction," *American Physical Society*, San Diego, Nov. 6-9, 1963.
- E. P. Gray, "Beam-Plasma Modes in Cylindrical Geometry," *American Physical Society*, San Diego, Nov. 6-9, 1963.
- C. S. Leffel, "Experimental Determination of the Adiabatic Region in a Cusped Geometry," *American Physical Society*, San Diego, Nov. 6-9, 1963.
- R. Turner, "Implosion Measurements in a Small Fast Theta-Pinch," *American Physical Society*, San Diego, Nov. 6-9, 1963.
- W. E. Buchanan, "The Organization and Work of the Applied Physics Laboratory," *Army Reserve Development Mobilization Detachment*, Washington, D. C., Nov. 19, 1963.
- R. E. Fischell and K. J. Bialy, "The Role of Engineering Scientists and Supporting Technical Personnel in Developing Passive Gravitational Stabilization," occupational guidance presentation for the *Committee on Guidance for Maryland*, Engineers' Council for Professional Development, Glenelg, Md., Nov. 19, 1963.
- J. G. Parker, "A Comparison of Theoretical and Experimental Vibrational Relaxation Times for Diatomic Gases," *Massachusetts Institute of Technology*, Division of Fluid Dynamics of the American Physical Society, Nov. 26, 1963.

## PUBLICATIONS

N. W. Bazley (Institut Battelle, Geneva) and D. W. Fox (APL), "Error Bounds for Expectation Values," *Rev. Mod. Phys.*, **35**, July 1963, 712-715.

N. W. Bazley (Institut Battelle, Geneva) and D. W. Fox (APL) "Lower Bounds for Energy Levels of Molecular Systems," *J. Math. Phys.* **4**, Sept. 1963, 1147-1153.

G. C. Frazier (Cambridge University), R. M. Fristrom (APL), and

G. F. Wehner (The Johns Hopkins University), "Microstructure of a Low-Pressure Hydrogen-Bromine Flame," *A. I. Ch. E. Journal*, **9**, Sept. 1963, 689-693.

Vivian O'Brien, "Slow Forced Scalar Transfer from Falling Drops," *Phys. Fluids*, **6**, Sept. 1963, 1356-1358.

R. A. Evans, "Planning the New Library: Applied Physics Laboratory, The John Hopkins University," *Special Libraries*, **54**, Oct. 1963, 529-533.

R. P. Rich and H. Shaw, "A Method

for Finding All the Zeros of  $f(z)$ ," *J. Assn. Computing Machinery*, **10**, Oct. 1963, 545-549.

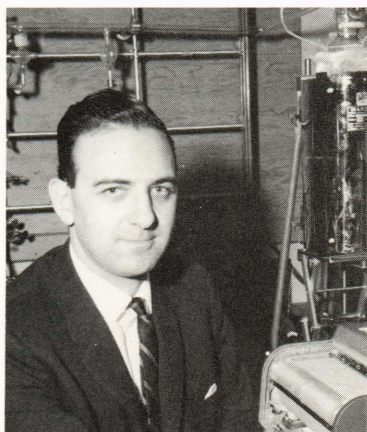
C. K. Jen, "Free Radicals" (Meeting Report), *Science*, **142**, Oct. 11, 1963, 261-267.

W. H. Guier, "Determination of the Non-Zonal Harmonics of the Geopotential from Satellite Doppler Data," *Nature*, **200**, Oct. 12, 1963, 124-125.

R. M. Fristrom, "The Mechanism of Combustion in Flames," *Chem. Eng. News*, **41**, Oct. 14, 1963, 150-160.

## WITH THE AUTHORS

*S. D. Bruck*, author of "The Domain of Polymeric Materials," was born in Budapest, Hungary and is a naturalized citizen of the United States. He attended the University of Budapest in 1945-46, and received his B.S. degree in chemistry from Boston College, and his M.A. and Ph.D. degrees in chemistry from The Johns Hopkins University, the latter in 1955. Dr. Bruck is a physical organic chemist, specializing in synthetic and biological polymers. Prior to coming to APL in 1962, he was a research chemist at the Experimental Station of E. I. du Pont de Nemours and Co., Inc. and later a project leader at the National Bureau of Standards. He holds several U.S. and foreign patents and is the author of numerous journal articles. Dr. Bruck



is on the staff of the Chemical Research Group in the APL Research Center. He is a member of the New York Academy of Sciences, a Fellow of the Chemical Society (London),

a Fellow of the American Institute of Chemists, and a member of the American Chemical Society and the American Association for the Advancement of Science.



*E. E. Westerfield*, author of "A Dynamic Phase-Difference Measurement System," was born in Springfield, Illinois. He received his B.S. degree and, in 1963, his M.S. degree in electrical engineering from the University of Maryland. Following employment as an electronics scientist at the Naval Research Laboratory, Mr. Westerfield served in the Air Force as officer-in-charge of communications, timing, and telemetry projects at Patrick Air Force Base and on the Down Range Islands. He came to APL in 1954 as a specialist in guidance and telemetry, and has supervised the electronic work in several missile systems. He was supervisor of the Data Processing Instrumentation Section and currently is supervisor of the Special System Development Project of the

Satellite Ground Systems Group. Mr. Westerfield is a member of the Institute of Electrical and Electronics Engineers.



*L. F. Fehlner*, author of "Improved Data for the Classical Determination of Radar Detection Range," is a native of Dolgeville, New York, and received his B.M.E. degree *magna cum laude* from the Catholic University of America in 1937. He was employed as an aeronautical engineer by the National Advisory Committee for Aeronautics from 1939-46, and as a hydrodynamicist by the David W. Taylor Model Basin, from 1946-55, where he pioneered in the application of aerodynamic principles to submarine, torpedo, and towed-body problems. Mr. Fehlner



came to APL in 1955 as a specialist in aerodynamics, hydrodynamics, stability, and control. He is Assistant Supervisor of the Preliminary Design Group.