


W. C. Klingensmith III (Johns Hopkins School of Medicine), M. G. Lotter (Univ. of Orange Free State, Republic of South Africa), L. G. Knowles (APL), and A. Motazed Harvey and H. N. Wagner, Jr. (Johns Hopkins School of Medicine) “Physiological Interpretation of Time-Activity Curves from Cerebral Flow Studies,” Proc. Symp. Computer-Assisted Data Processing in Nuclear Medicine, ERDA Conf. 770101.


R. R. Newton, A Canon of Lunar Eclipses for the Years –1500 to –1000, APL/JHU CP 054.

R. B. North (APL), T. A. Fischell (Cornell Univ.), R. E. Fischell (APL), and D. M. Long (Johns Hopkins Hospital), A Clinical Study of Spinal Epidural Stimulation for the Treatment of Intractable Pain, APL/JHU CP 052.


PUBLICATIONS (continued)

T. A. Potemra, "Aurora borealis, the greatest light show on Earth, may help explain climatic changes, the ozone shield," Smithsonian 7, No. 11, 64-73.

ADDRESSES
Principal addresses presented by APL staff members to groups and organizations outside the Laboratory during January—March 1977

F. J. Adrian, "Chemically Induced Magnetic Polarization: A Semi-permanent Record of a Rapid Free Radical Reaction," Argonne National Laboratory Chemistry Division Seminar, Argonne, IL, Mar 17; Univ. of Chicago Chemistry Department Seminar, Chicago, Mar 18.
M. G. Lotter (Univ. of Orange Free State, Republic of South Africa), H. N. Wagner, Jr. (Johns Hopkins School of Medicine), L. G. Knowles (APL), and K. H. Douglas and E. L. Nickoloff (Johns Hopkins School of Medicine), "Cardiac Function Evaluation with Radionuclides," Annual Congress, South African Association of Physicists in Medicine and Biology, Capetown, Mar 7-10.

PATENTS

W. Schneider—Digital Method of Pulse Width Modulation, No. 4,001,728
D. W. Rabenhorst—Woven Filament Rotor Structure, No. 4,000,665
D. L. Sharp, E. A. Frekko—Universal Binary Code Converter, No. 4,011,559
A. Kossiakoff, J. R. Austin—Automated Radar Data Processing System, No. 4,005,415
J. F. Gulick—Phase Modulated Monopulse System, No. 4,011,564
Jan. 7—“Superconductive Naval Propulsion Systems,” William J. Levedahl, Naval Ship Research and Development Center.


Feb. 4—“Molecular Motion in Liquids,” Robert Zwanzig, University of Maryland.

Feb. 11—“Tendon Structure and Aging,” Eric Baer, Case-Western Reserve University.

Feb. 18—“Solid Waste Disposal,” Abel Wolman, The Johns Hopkins University.


Mar. 11—“Future Microcomputers and Technologies: A Perspective,” Colin Crook, Motorola Semiconductor Products, Inc.

Mar. 18—“The Quest for the Absolute Zero of Temperature,” E. G. D. Cohen, Rockefeller University.

Mar. 25—“Chaos Starting from F = ma,” Alex J. Dragt, University of Maryland.

WITH THE AUTHORS

F. S. Billig, published previously in the Digest (December 1968) as co-author of “External Burning in Supersonic Streams.” Born in Pittsburgh, he joined the Applied Physics Laboratory in 1955 after receiving a B.S.M.E. from The Johns Hopkins University. Under the Laboratory’s part-time study program, he obtained M.S. and Ph.D. degrees in mechanical engineering from the University of Maryland. Shortly after coming to APL, Dr. Billig, in collaboration with Dr. Gordon Dugger, developed many of the fundamental concepts of external burning and supersonic combustion ramjets. As a result of these efforts, he was named in 1966 a Distinguished Young Scientist of the Maryland Academy of Sciences and received the Silver Medal from the Combustion Institute in 1970. In 1973, he became supervisor of the Submarine Physics Group and Program Manager of Applied Hydrodynamics under the SSBN Security Program. In 1977, Dr. Billig returned to the Aeronautics Division as Assistant Division Supervisor. He is a member of the Graduate Faculty at the University of Maryland and is an Associate Fellow and currently a member of the Board of Directors of the American Institute of Aeronautics and Astronautics. The co-holder of several patents, he has published more than 65 papers.

L. J. Crawford, born in Painesville, Ohio, received the B.Sc. degree in physics from Case Western Reserve University in 1964 and the M.Sc.E. in space science and the Ph.D. degree in fluid mechanics from Catholic University of America in 1969 and 1972, respectively. After Dr. Crawford joined APL in 1964, he participated in the analysis and evaluation of the Polaris and Pershing strategic weapon systems with particular emphasis on fire control subsystem performance. Since rejoining APL in 1972 after completing his advanced degrees, he has worked in the areas of ship hydrodynamics and physical oceanography as applied to Navy needs. As supervisor of an at-sea measurements program effort from 1972–1975, he coordinated the acquisition of oceanographic measurements from APL’s research vessels. In 1975 Dr. Crawford was appointed Section Supervisor of Fluid Mechanics. In 1978 he was appointed Group Supervisor of an ocean-related hydrodynamics program. He is a member of Sigma Xi, the American Geophysical Union, and the Fluid Dynamics Technical Committee of the American Institute of Aeronautics.
C. J. Gundersdorf, a native Baltimorean, received the B.E.S. in 1962 and the Ph.D. in electrical engineering in 1971, both from The Johns Hopkins University. From 1964 to 1971 he worked on the research staff of the Carlyle Barton Laboratory studying statistical aspects of optical communication. He joined APL in 1971 as a member of the SSBN Security Division. A specialist in optical communication and communication theory, Dr. Gundersdorf is now an engineer associated with the APL hydrodynamics program. He has worked on several projects involving the application of at-sea measurements to studies of the ocean's dynamic properties. These projects include high-frequency sonar and, for the last few years, the APL thermistor-fluorometer chain, for which he has been the project scientist in formulation, development, data analysis, and data interpretation efforts. He is a member of Tau Beta Pi.