

BIOMEDICAL RESEARCH: Further Reading

VOLUME 1

- 5 Genesis of the Collaborative Biomedical Program
- 135 Intracranial Pressure Monitoring
- 139 Automatic Contouring for Two-Dimensional Echocardiography

Massey, J. T.
Viernstein, L. J.
Jenkins, R. E., and Garrison, J. B.

VOLUME 2

- 102 Radiophobia: The Great American Syndrome
- 140 Guest Editor's Introduction
- 141 A Short History of the Collaborative Biomedical Program
- 153 Spectroscopy of Porphyrins
- 164 Peripheral Neural Coding of Pain Sensation
- 172 Automating Medical Image Analysis
- 179 New Control Techniques for Wheelchair Mobility

Koslov, S.
Friedman, M. H.
Massey, J. T., and Johns, R. J.
Kim, B. F., and Bohandy, J.
Meyer, R. A., and Campbell, J. N.
Garrison, J. B., and Jenkins, R. E.
Seamone, W., and Schmeisser, G.

VOLUME 3

- 189 Combat Casualty Care: Can Technology Help?
- 342 A Distributed Hospital Information System

Koslov, S.
Tolchin, S. G., Kahn, S. A., Stewart, R. L.,
Bergan, E. S., and Gafke, G. P.

VOLUME 4

- 27 Radiation Therapy Physics
- 65 Collaborative Biomedical Research on Corneal Structure
- 80 Design and Use of a Radiation Microprobe to Study Axonal Transport
- 85 Geometric Risk Factors for Arteriosclerosis
- 96 Microcomputer-Controlled Devices for Human Implantation

Grant, D. G.
Farrell, R. A., Barger, C. B., Green, W. R.,
and McCally, R. L.

Bailey, G. D., and Griffin, J.
Friedman, M. H.
Fischell, R. E.

VOLUME 5

- 48 The Importance of Singlet Delta Oxygen in Cancer Photoradiation Therapy
- 290 Self-Injurious Behavior Inhibiting System
- 296 Understanding Transient Electric Shock

Parker, J. G.
Newman, A. L.
Reilly, J. P., and Larkin, W. D.

VOLUME 6

- 68 Development of Medical Electronic Devices in the APL Space Department

Newman, A. L.

VOLUME 7

- 73 Nonionizing Radiation Damage in the Eye

McCally, R. L., Farrell, R. A., Barger, C. B.,
Kues, H. A., and Hochheimer, B. F.

VOLUME 8

- 156 Insulin Treatment Enters the Space Age

McCloskey, W.

VOLUME 9

- 4 A Receptor-Based Capacitive Biosensor
- 11 Thin Indium and Tin Films for Immunoassay Applications
- 16 The Ingestible Thermal Monitoring System
- 22 Acquisition and Analysis of Primate Physiologic Data for the Space Shuttle
- 28 The Diagnostic Reporting System: A Report on the Development of a System
- 35 A Method for the Sutureless Anastomosis of Blood Vessels
- 39 The Tactile Array Stimulator
- 44 Electrical Models for Neural Excitation Studies
- 254 A New Method for Magnetoencephalography

Valdes, J. J., Wall, J. G., Jr., Chambers, J. P.,
and Eldefrawi, M. E.
Charles, H. K., Jr., Blum, N. A., Wajer, S. D.,
Leathersich, C. A., Burek, C. L., and Smith, J. P.
Cutchis, P. N., Hogrefe, A. F., and Lesho, J. C.
Eberhart, R. C., Hogrefe, A. F., Radford, W. E.,
Sanders, K. H., and Dobbins, R. W.

Starken, G. M.
Wozniak, J. J.
Schneider, W.
Reilly, J. P.
Ko, H. W., Skura, J. P., and Eaton, H. A. C.

VOLUME 10

- 66 Development and Testing of a Manually Actuated Hydraulic Sphincter for the Control of Urinary Incontinence

Meyrick, C. W., and Cutchis, P. N.

OTHER ARTICLES PUBLISHED 1980 TO 1989

ENERGY, ENVIRONMENT, AND SAFETY

VOLUME 1

- 74 Guest Editor's Introduction
78 Geothermal Energy—An Overview
88 Use of Geothermal Energy in the Eastern United States
101 Ocean Thermal Energy Conversion Contribution to the Energy Needs of the United States
108 Community Annual Storage Energy System
114 Energy Conservation with Flywheels
120 Environmental Impact of Salt Drift from a Natural Draft Cooling Tower
129 Human Fatalities from Unwanted Fires
289 An Analysis of United States Fire Statistics

Thompson, R. J., Jr.
Stone, A. M.
Paddison, F. C., and Yu, K.

Avery, W. H.
Powell, W. R.
Rabenhorst, D. W.

Moon, M. L.
Berl, W. G., and Halpin, B. M.
Berl, W. G.

VOLUME 2

- 63 Methane Recovery from Landfills
90 Acoustic Detection and Location of Leaks in Underground Natural Gas Distribution Lines

Phillips, L. G., and Shadel, S. L.
Parker, J. G.

VOLUME 3

- 278 The Future of Urban Transportation
295 Ultrasonics as an Alternative to Chlorine for Inhibiting Biofouling
325 Risk Analysis of Liquefied Natural Gas Transport

Makofski, R. A.
Taylor, R. J., and Richardson, L. B.
Margulies, T. S.

VOLUME 4

- 127 Aquatic Ecology at the Applied Physics Laboratory

Burton, D. T.

VOLUME 5

- 159 Methanol from Ocean Thermal Energy
205 Fire Hazards of Electric Cables in Nuclear Power Plants

Avery, W. H.
Hunter, L. W.

VOLUME 6

- 159 The Chesapeake Bay
369 Chesapeake Bay Research Institutions: A Bay-Wide Presence

McCloskey, W.
McCloskey, W.

VOLUME 7

- 181 Smoke Scavenging by Atmospheric Ozone as a Possible Factor in the Nuclear Winter Problem

deHaas, N., Fristrom, R. M., Linevsky, M. J., and Silver, D. M.

VOLUME 8

- 148 Protecting the Public from Fires

Berl, W. G.

EDUCATION

VOLUME 1

- 297 The JHU/APL Evening College Center

Moorjani, K.

VOLUME 8

- 348 The APL Associate Staff Training Program

Messer, V. C., Malcolm, H., Herchenroeder, P. J., Goldfinger, A. D., Garlick, D. S., Everett, J. T., and Jablon, A. R.

VOLUME 10

- 84 Guest Editor's Introduction
86 Educational Activities at the Applied Physics Laboratory
89 University Autonomy
94 Education and Training at APL, 1963–1981: Looking Back
99 Colossus on the Duck Pond: The JHU/APL Education Center

Sigillito, V. G.
Bostrom, C. O.
Muller, S.
Edwards, P. B.
Koslov, S., and Teesdale, J. L.

- 108 Maintaining Technical Competence: Internal Education and Training at APL
- 112 A View of Three Education and Training Programs
- 118 The History of the APL Colloquium
- 129 APL's Participation in Full-Time Graduate Programs
- 133 APL and Career-Long Engineering Education
- 135 The Master's Degree Program in Applied Mathematics
- 140 The Master's Degree Program in Applied Physics
- 143 The Master's Degree Program in Computer Science
- 146 The Master's Degree Program in Electrical Engineering
- 154 History of the Master's Degree Program in Technical Management
- 162 The Master's Degree Program in Technical Management
- 174 The Birth of a New Academic Partnership at The Johns Hopkins University Montgomery County Center

FACILITIES

VOLUME 1

- 6 The Research Center Today
- 64 Dedication of The Milton S. Eisenhower Research Center
- 144 Guidance System Evaluation Laboratory

VOLUME 2

- 321 Combat Systems Evaluation Laboratory

VOLUME 4

- 155 Automated Airbreathing Propulsion Test Facility

VOLUME 5

- 59 The APL Image Processing Laboratory
- 188 The Solar Maximum Observatory
- 274 The AMPTE Charge Composition Explorer Science Data Center
- 277 F. T. McClure Computing Center Development

VOLUME 6

- 85 The Richard B. Kershner Space Integration and Test Facility

VOLUME 7

- 200 Laboratory Facilities in the Milton S. Eisenhower Research Center
- 244 The Computer-Aided Design and Engineering Facility
- 300 The APL Bioelectromagnetics Laboratory

VOLUME 9

- 380 Carbon Dioxide Laser Machining at APL

ESSAYS

VOLUME 1

- 252 A Systems Approach to the Management of Research & Development
- 251 Alexander Kossiakoff: An Appreciation
- 295 The APL Mission: Challenge for the 1980's

VOLUME 2

- 45 The Arcane Art of Research and Development Management
- 207 The Cost/Benefit Monster
- 327 Where Have All the Underruns Gone?

VOLUME 4

- 45 Some Thoughts on Planning—The Handmaid of Direction
- 246 Draft Memorandum, R. E. Gibson to A. Kossiakoff

- Messer, V. C., and Teesdale, J. L.
- Edelman, M. E., Rosenstock, D. A., and Messer, V. C.
- Gray, E. P., and Stone, A. M.
- Poehler, T. O.
- VandeLinde, V. D.
- Rich, R. P., and Stader, J. T.
- Moorjani, K.
- Sigillito, V. G.
- Edwards, M. L.
- Kossiakoff, A.
- Thompson, R. J., and Kossiakoff, A.
- Roulhac, E. E.

Hart, R. W.

Gray, W. M., and Witte, R. W.

Serpico, D. P.

Keirsey, J. L., and Cusick, R. T.

Jenkins, J. O., Randolph, J. P., Tilley, D. G., and Waters, C. A.

Rust, D. M.

Holland, B. B.

Rich, R. P.

Bush, A. G., Frain, W. E., and Reymann, A. C.

Poehler, T. O.

West, R. L., Belford, F. P., and Eschbach, R. A.

Ko, H. W., Hansen, J. S., and Hart, L. W.

Blum, N. A., and Charles, H. K., Jr.

Gibson, R. E.

Muller, S.

Bostrom, C. O.

Kershner, R. B.

Kershner, R. B.

Kershner, R. B.

Gibson, R. E.

Gibson, R. E.

VOLUME 5

- 309 Roles of In-House R&D Institutions in a Free Enterprise System
 370 Research Universities and Industrial Innovation

Colvard, J. E.
Muller, S.

VOLUME 6

- 361 Thoughts on Technology and National Security

Brown, H.

VOLUME 7

- 108 The Post-Gutenberg University
 217 The University Presidency Today: A Word for the Incumbents
 315 New Initiatives in Expanding Human Knowledge: The Role
 of the Major Research University
 379 Values and the University

Muller, S.
Muller, S.
Muller, S.
Muller, S.

VOLUME 10

- 267 The Laboratory Within the University
 273 No Free Lunch

Muller, S.
Trost, C. A. H.

HISTORY**VOLUME 3**

- 355 The 400th Anniversary of the Gregorian Calendar
 358 The Development of the Radio Proximity Fuze

Newton, R. R.
Allard, D. C.

VOLUME 4

- 226 Reminiscences
 232 Places and Persons
 263 Letter to the Editor of *Physics Today*: "Some Comments on
 Cooperative Research"
 264 Published Scientific Papers of R. E. Gibson: Bibliography
 296 Recollections on the Development of Radio-Controlled
 Proximity Fuzes

Gibson, R. E.
Gibson, R. E.
Gibson, R. E.

Porter, H. H.

VOLUME 6

- 92 High Altitude Research at the Applied Physics Laboratory
 in the 1940s
 251 Milton Stover Eisenhower (1899–1985)
 253 Wilhelm von Humboldt and the University in the United States
 367 Genesis of the International Geophysical Year

Fraser, L. W.
Berl, W. G.
Muller, S.
Van Allen, J. A.

VOLUME 7

- 221 The Twenty-Two Most Frequently Cited APL Publications
 318 The Twenty-Two Most Frequently Cited APL Publications—II
 394 The Twenty-Two Most Frequently Cited APL Publications—III

*Berl, W. G., Alpher, R. A., Fristrom, R. M.,
 Westenberg, A. A., and Monchick, L.
 Berl, W. G., Jen, C. K., Adrian, F. J.,
 Cochran, E. L., and Foner, S. N.
 Berl, W. G., Williams, D. J., Potemra, T. A.,
 and Krimigis, S. M.*

VOLUME 8

- 152 The Twenty-Two Most Frequently Cited APL Publications—IV
 282 The Twenty-Two Most Frequently Cited APL Publications—V
 284 The Twenty-Two Most Frequently Cited APL Publications—
 Afterthoughts

Hunter, L. W.
Murphy, J. C.
Berl, W. G.

BOOK REVIEWS**VOLUME 2**

- 330 *Spaceborne Synthetic Aperture Radar for Oceanography*,
 R. C. Beal, P. S. Deleonibus, and I. Katz (eds.)

Apel, J. R.

VOLUME 5

- 87 *Computational Methods for Fluid Flow*,
 by R. Peyret and T. D. Taylor
 390 *Acoustic Waveguides: Applications to Oceanic Science*,
 by C. A. Boyles

Chorin, A. J.
Frisk, G. V.

VOLUME 6

- 100 *Magnetospheric Currents*, T. A. Potemra (ed.), and *Quantitative Aspects of Magnetospheric Physics*, by L. R. Lyons and D. J. Williams
103 *Origins of Magnetospheric Physics*, by J. A. Van Allen
106 *Magnetic Glasses*, by K. Moorjani and J. M. D. Coey
176 *The Moon's Acceleration and Its Physical Origins: Vol. 1—As Deduced from Solar Eclipses and Vol. 2—As Deduced from General Lunar Observations*, by R. R. Newton
269 *Information Systems for Patient Care*, by B. I. Blum

Alfvén, H.
Venkatesan, D.
Cullen, J. R., and Rhyne, J. J.

Goldstein, S. J., Jr.
McColligan, E. E.

VOLUME 7

- 233 *Estimating Eigenvalues with A Posteriori/A Priori Inequalities*, by J. R. Kuttler and V. G. Sigillito
234 *Role of Language in Problem Solving—I*, R. Jernigan, B. W. Hamill, and D. M. Weintraub (eds.)
327 *Clinical Information Systems*, by B. I. Blum

Payne, L. E.

Perlis, A. J.
Johannes, R. S.

VOLUME 8

- 162 *Principles and Models of Biological Transport*, by M. H. Friedman

Popel, A. S.

VOLUME 9

- 60 *Magnetotail Physics*, by A. T. Y. Lui
166 *Principles of Ocean Physics*, by J. R. Apel

Papadopoulos, D.
Whitehead, J. A.

MEETINGS AND TRIP REPORTS

VOLUME 1

- 67 International Congress of Quantum Chemistry, Kyoto
233 China—As Viewed by an Aerospace Engineer
303 The Fourth International Conference on Liquid and Amorphous Metals: A Trip Report

Silver, D. M.
Billig, F. S.

Moorjani, K.

VOLUME 2

- 209 A Physicist's View of Science and Technology in China
222 Seventh International Symposium on Boron, Borides, and Related Compounds: A Trip Report

Jen, C. K.
Feldman, C.

VOLUME 3

- 90 U.S./USSR Cooperative Agreement on Housing and Other Construction: Building Fire Safety
298 Fourth European Communities Photovoltaic Solar Energy Conference: A Trip Report

Kuvshinoff, B. W.
Feldman, C.

VOLUME 4

- 56 The Nineteenth International Symposium on Combustion

Fristrom, R. M.

VOLUME 5

- 184 The International Research Conference on Transport Properties and Molecular Forces
381 The Centenary of the Prime Meridian and of International Standard Time

Monchick, L.
Black, H. D., Gebel, G., and Newton, R. R.

VOLUME 6

- 149 Symposium on the Role of Language in Problem Solving
173 The Zuoz Workshop on Cardiovascular and Pulmonary Dynamics
175 Frontiers of Remote Sensing of the Oceans and Troposphere from Air and Space Platforms: Meeting and Workshop
257 International Seminar on Amorphous Materials: A New Science and a Novel Technology—A Meeting Report
364 Symposium on Applications of Real-Time Oceanographic Circulation Modeling

Hamill, B. W.
Friedman, M. H.
Goldhirsh, J.
Moorjani, K.
Seymour, S. J.

VOLUME 7

- 113 Chapman Conference on Magnetotail Physics
383 Luncheon at the White House: On Comets and the Planet Uranus

Lui, A. T. Y.

Krimigis, S. M.

VOLUME 8

- 272 Manufacturing Automation in Japan: A Trip Report and Observations

Kemelhor, R. E.

VOLUME 9

- 383 Advanced Manufacturing Technology—Computers, Open Systems Interconnections, International Standards, and the Japanese

Kemelhor, R. E.

IN MEMORIAM

VOLUME 3

- 97 Richard Brandon Kershner
207 Merle Antony Tuve

Gibson, R. E.

VOLUME 4

- 43 Ralph Edward Gibson (1901–1983)
255 Reflections by Colleagues and Friends [of R. E. Gibson]

Kossiakoff, A.

VOLUME 5

- 197 Robert C. Morton

VOLUME 6

- 251 Milton Stover Eisenhower (1899–1985)

Berl, W. G.

VOLUME 7

- 278 Gordon Leslie Dugger

Bostrom, C. O., Avery, W. H., Harford, J., and Billig, F. S.

VOLUME 10

- 276 Helen S. Hopfield (1899–1989)

Black, H. D.

MISCELLANEOUS

VOLUME 2

- 122 The New Fisherman

McCloskey, W. B., Jr.

VOLUME 3

- 81 World Endurance Record for Radio-Controlled Aeromodels

Hill, M. L.

VOLUME 5

- 79 Design Development of the Kossiakoff Conference and Education Center
172 A Closed Course Distance Record for Powered Radio-Controlled Aeromodels
177 Electrostatic Autopilots

Goldstein, S. J.

Hill, M. L.

Hill, M. L.

VOLUME 7

- 101 Use of Scenarios in Technical Evaluations
295 The Quality Teams Program

*Pace, D. K.
McHenry, C. W., Brocato, R. C., and Pullin, W. T.*

- 406 APL Sea Duty with the Surface Fleet

McCloskey, W. B., Jr.

VOLUME 8

- 154 Writing Awards

Berl, W. G.