WRITING AWARDS

Publishing in refereed journals is essential to the reputation of any high-quality technical organization. In research and emerging technology, a particular need exists to stimulate the prompt and accurate dissemination of information in the open literature.

For the fifth year, the Editorial Board of the *Johns Hopkins APL Technical Digest* solicited nominations for outstanding papers written by APL staff during the preceding year. Beginning with the 1987 awards, the publication awards program was expanded from five to eight categories, including a Lifetime Achievement Award. The recipients are presented their awards or honorable mention at the annual Fall Principal Professional Staff Dinner.

This year's Lifetime Achievement Award was presented to Robert W. Hart for his significant contributions to the development of solid-propellant rockets and ramjet engines, and for his insight into basic problems in wave propagation. His expertise resulted in several influential articles on ocean surface electromagnetic scattering and the scattering of light in the cornea of the human eye.

Linda L. Maier

AWARDS RECOGNIZING PUBLICATIONS BY APL STAFF MEMBERS (1988)

LIFETIME ACHIEVEMENT AWARD

Robert W. Hart *"in recognition of his many outstanding contributions in research, writing, publication, editing, and research management during four decades of service at the Applied Physics Laboratory."*

OUTSTANDING FIRST PAPER

Award

Edward P. Oppenheimer (APL) and Anthony N. Michel (University of Notre Dame), "Application of Interval Analysis Techniques to Linear Systems: Part I—Fundamental Results, Part II—The Interval Matrix Exponential Function, Part III—Initial Value Problems," *IEEE Transactions on Circuits and Systems* **35**(9), 1129–1138, and **35**(10), 1230–1256 (1988).

Honorable Mention

Mark J. Mayr and Jeffery W. Warren, "A Visible Laser Position Sensor for Testing a Precision Laser Beam Director," *Johns Hopkins APL Technical Digest* **9**(4), 370–379 (1988).

Paul E. Panneton, "Design of the U2 Experiment Ground Support Equipment," in *Proceedings of the Second Annual AIAA/USU Conference on Small Satellites*, Logan, Utah, Technical Session VI, "Support Systems," pp. 1–22 (1988).

Daniel C. Chin, "Data Sensitivity Computation for Maximum Likelihood Estimation," in *Computing Sciences and Statistics, Proceedings of the 20th Symposium on the Interface*, pp. 80–85 (1988).

OUTSTANDING PAPER IN THE *JOHNS HOPKINS APL TECHNICAL DIGEST*

Awards

Michael W. Roth, "Neural-Network Technology and Its Applications," *Johns Hopkins APL Technical Digest* **9**(3), 242–253 (1988).

Kishin Moorjani, Frank J. Adrian, Boris F. Kim, Joseph Bohandy, Terry E. Phillips, William J. Green, Elisabetta Agostinelli, and Bradley G. Boone, "High-Temperature Superconducting Thin Films," *Johns Hopkins APL Technical Digest* **9**(3), 174–188 (1988).

Edmond C. Roelof and Donald J. Williams, "The Terrestrial Ring Current: From *In Situ* Measurements to Global Images Using Energetic Neutral Atoms," *Johns Hopkins APL Technical Digest* **9**(2), 144–163 (1988).

OUTSTANDING RESEARCH PAPER IN AN UNCLASSIFIED REFEREED PUBLICATION

Awards

James C. Spall, "Bayesian Error Isolation for Models of Large-Scale Systems," *IEEE Transactions on Automatic Control* **33**(4), 341–347 (1988).

Donald R. Thompson, "Calculation of Radar Backscatter Modulations from Internal Waves," *Journal of Geophysical Research* **93**(C10), 12,371–12,380 (1988).

Honorable Mention

Robert E. Erlandson, Lawrence J. Zanetti, Thomas A. Potemra, and Peter F. Bythrow (APL), and Rickard N. Lundin (Swedish Institute of Space Physics), "IMF *By* Dependence of Region 1 Birkeland Currents Near Noon," *Journal of Geophysical Research* **93**(A9), 9804–9814 (1988).

Patrick T. Newell and Ching-I. Meng, "The Cusp and the Cleft/Boundary Layer: Low-Altitude Identification and Statistical Local Time Variation," *Journal of Geophysical Research* **93**(A12), 14,459–14,556 (1988).

Michael E. Thomas (APL), Richard I. Joseph (The Johns Hopkins University), and William J. Tropf (APL), "Infrared Transmission Properties of Sapphire, Spinel, Yttria, and ALON as a Function of Temperature and Frequency," *Applied Optics* **27**(2), 239–245 (1988).

OUTSTANDING DEVELOPMENT PAPER IN AN UNCLASSIFIED REFEREED PUBLICATION

Award

Julius Goldhirsh, "Analysis of Algorithms for the Retrieval of Rain-Rate Profiles from a Spaceborne Dual-Wavelength Radar," *IEEE Transactions on Geoscience and Remote Sensing* **26**(2), 98–114 (1988).

Honorable Mention

Scott A. Gearhart and Michael E. Thomas, "Evaluation of a Temperature Remote Sensing Technique," *Applied Optics* **27**(17), 3630–3637 (1988).

Lynn W. Hart and Harvey W. Ko (APL), James H. Meyer, Jr. (Radix Systems, Inc.), David P. Vasholz (APL), and Richard I. Joseph (The Johns Hopkins University), "A Noninvasive Electromagnetic Conductivity Sensor for Biomedical Applications," *IEEE Transactions on Biomedical Engineering* **35**(12), 1011–1022 (1988).

OUTSTANDING PAPER IN A CLASSIFIED REFEREED TECHNICAL PUBLICATION

Award

James F. Carbary and Ching-I. Meng, "Significant Results from the Delta 180 Ultraviolet/Visible Experiment (U)," *APL Technical Review* **1**, 131–145 (1988).

TECHNICAL BOOK AWARD

Award

James C. Spall, ed., *Bayesian Analysis of Time Series and Dynamic Models*, Marcel Dekker, New York (1988).

SPECIAL PUBLICATION AWARDS

RESEARCH

Award

Robert B. Decker, "Computer Modeling of Test Particle Acceleration at Oblique Shocks," *Space Science Reviews* **48**, 195–262 (1988).

Honorable Mention

Richard A. Steinberg, *A GLR Algorithm for Polyline Approximation of Waveforms*, JHU/APL TG-1370 (1988).

DEVELOPMENT

Award

Robert L. McDonald, "STANDARD Missile ECCM Capability and Test Results (U)," in *Proceedings of the 33rd Annual Joint Electronic Warfare Conference*, Monterey, Calif., Vol. 2, pp. 415–438 (1988).

Honorable Mention

Michael E. White, James R. Stevens, James L. Keirsey, David M. Van Wie, and Louis A. Mattes, "Investigation of Cowl Vent Slots for Stability Enhancement in MITS Scramjet Inlets," in *AIAA/ASME/SAE/ASEE 24th Joint Propulsion Conference*, Boston, Mass., pp. 1–9 (1988).

RESEARCH AND DEVELOPMENT AWARDS

For several years, the Laboratory's independent research and development activities were conducted under the able guidance of Robert W. Hart, first as Chairman of the Research Center and Assistant Director for Exploratory Development, and then as Assistant Director for Research and Exploratory Development. In recognition of his many contributions in these areas, the R. W. Hart Prizes for Excellence in Independent Research and Development were established in 1988 to encourage and recognize high-quality and innovative work at APL.

As with the selection process for the publication awards, nominations for the Hart Prizes are solicited from Laboratory departments and are judged by a committee that bases its selections on the overall importance of the work to the Laboratory. Prizes and honorable mention are given for both the best research project and the best development project. The recipients are presented their prizes in the form of certificates and cash awards at the annual Fall Principal Professional Staff Dinner.

Linda L. Maier

R. W. HART PRIZES HONORING EXCELLENCE IN INDEPENDENT RESEARCH AND DEVELOPMENT (1988)

RESEARCH

Prize Winner

Microphysics/High-T_c Superconductivity
Kishin Moorjani, *Project Leader*
Frank J. Adrian
Joseph Bohandy
William J. Green
Boris F. Kim

Honorable Mention

Biomedical Research
Richard A. Farrell, *Project Leader*
C. Brent Bargeron
Henry A. Kues
Russell L. McCally
David M. Silver

Ocean Engineering
Charles C. Sarabun, Jr., *Project Leader*
Mark D. Bulla
Frederick A. Carmen
William K. Clark
Arthur R. Croucher II
Robert H. Grauel
Robert C. Hendricks
Joseph E. Hopkins

DEVELOPMENT

Prize Winner

Custom VLSI/Spacecraft Systems
Robert E. Jenkins, *Project Leader*
Andreas G. Andreou

Honorable Mention

Multiprocessor Embedded Computer Using Forth Engines
Martin E. Fraeman

Computer Architectures
Kenneth W. Koontz