


## APL Achievement Awards and Prizes



*Creativity, ingenuity, energy, and a desire to be on the cutting edge are qualities of a dedicated workforce—people who are guided by the principles of excellence, teamwork, and personal responsibility. To promote initiative and reward exceptional work, APL gives annual awards and prizes to staff members who meet the highest standards of excellence in professional publications, independent research and development (IR&D) projects, and technological innovations. The awards and prizes are the Laboratory's highest honors and serve not only to encourage a sustained commitment to excellence, but also to inspire others to that standard.*

APL's first awards program, the competition for meritorious writing, was established in 1985 to encourage professional writing and to recognize outstanding publications by the professional staff. The Editorial Board of the Johns Hopkins APL Technical Digest solicits from each Laboratory department nominations of publications from the previous year to compete for awards in six categories. Members of the Editorial Board judge the entries and base their selections of winning publications on significance and clarity, with considerably greater weight given to the significance of the work in advancing science, engineering, or the mission of the Laboratory. In the 2005 competition, eight technical departments nominated thirty-four publications; of these, five won awards.

Established in 1989, the R. W. Hart Prize for Excellence in Independent Research and Development recognizes significant contributions to the advancement of general science and technology and signifies the importance of the IR&D Program to the long-term future of the Laboratory. This award is named for Robert W.

Hart, who led APL's effort in independent research and exploratory development from 1972 until his retirement in 1989. Similar to the process for the writing awards, the IR&D Advisory Council solicits from each APL department nominations of science and engineering IR&D projects considered to be outstanding from the previous year. The projects are evaluated by the Advisory Council, and prizes are awarded in two categories: one for the best research project and the other for the best development project. For 2005, three departments nominated ten projects—four for research and six for development. Of these, one research and one development project won a prize, and one research project received an honorable mention.

The Invention of the Year Award was established in 2000 to identify the top technology from the hundreds of inventions disclosed during the previous calendar year and to honor people for pioneering work that leads to new products, processes, and concepts. The APL Office of Technology Transfer and the Office of Patent

Counsel assemble a panel of technical and business consultants, technology transfer professionals, and intellectual property attorneys to evaluate and select winning technologies in three categories—Physical Science, Information Science, and Innovative Contributions to Space. Judges base their selections of the winning inventions on creativity, novelty, improvement over existing technology, and potential benefit to society. For 2005, APL researchers disclosed 130 inventions. Of these, four won honors—two in the Life Science category and one each in the categories of Information Science and Innovative Contributions to Space.

APL's greatest resource has always been the hard-working, ambitious people who keep at it, who find

out what doesn't work and why, and who continue to learn, experiment, and give the best they have to offer. For twenty-two years, these competitions have rewarded this kind of effort. These annual presentations are a reminder of qualities that must never change: the passion for excellence, the drive to be innovative, and the hard work that goes with any successful enterprise. The laureates for 2005 have shown these characteristics and have taken their place with a distinguished list of previous winners. Their names and photographs are displayed on the following pages along with the titles of their publications, projects, and inventions.

Linda L. Maier-Tyler

## PUBLICATION AWARDS FOR 2005

### Outstanding Paper in the *Johns Hopkins APL Technical Digest*

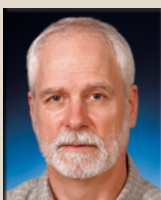
#### Walter G. Berl Award



Pontus C. Brandt

For "ENA Imaging: Seeing the Invisible," *Johns Hopkins APL Technical Digest* **26(2)**, 143–155 (2005).

**Pontus C. Brandt**, Senior Professional Staff, Ph.D., Swedish Inst. of Space Physics, 1999, Space Plasma Physics; **Donald G. Mitchell**, Principal Professional Staff, Ph.D., Univ. of New Hampshire, 1975, Space Physics and Instrumentation; **Edmond C. Roelof**, Principal Professional Staff, Ph.D., Univ. of California, Berkeley, 1966, Space Plasma Physics; **Stamatios M. Krimigis**, Principal Professional Staff, Ph.D., Univ. of Iowa, 1965, Space Plasma Physics; **Christopher P. Paranicas**, Senior Professional Staff, Ph.D., Columbia Univ., 1989, Earth and Planetary Magnetospheres; **Barry H. Mauk**, Principal Professional Staff, Ph.D., Univ. of California, San Diego, 1978, Planetary Space Environment; **Robert DeMajistre**, Senior Professional Staff, Ph.D., George Mason Univ., 2005, Data Analysis; **Joachim Saur** (non-APL staff)



Donald G. Mitchell



Edmond C. Roelof



Stamatios M. Krimigis



Christopher P. Paranicas



Barry H. Mauk



Robert DeMajistre

### Author's First Paper in a Peer Reviewed Journal



For "Modeling of the Frequency- and Temperature-Dependent Absorption Coefficient of Long-Wave-Infrared (2–25  $\mu\text{m}$ ) Transmitting Materials," *Applied Optics* **44**(32), 6913–6920 (2005).

Daniel V. Hahn, Associate Professional Staff, M.S., Cornell Univ., 2001, Optical Engineering

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### Outstanding Research Paper in an Externally Refereed Publication

For "Top-Down Proteomics for Rapid Identification of Intact Microorganisms," *Analytical Chemistry* **77**, 7455–7461 (2005).



Plamen A. Demirev



Andrew B. Feldman



Jeffrey S. Lin

Plamen A. Demirev, Senior Professional Staff, Ph.D., Bulgarian Acad. of Sciences, 1988, Mass Spectrometry and Bioinformatics of Microorganisms; Andrew B. Feldman, Senior Professional Staff, Ph.D., Harvard Univ., 1997, Biological Systems Informatics and Modeling; Jeffrey S. Lin, Senior Professional Staff, M.S., JHU, 1989, Biological Systems Informatics and Modeling; Paul Kowalski (non-APL staff)

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### Outstanding Development Paper in an Externally Refereed Publication

For "Detection of *Plasmodium Falciparum* in Pregnancy by Laser Desorption Mass Spectrometry," *American Journal of Tropical Medicine and Hygiene* **73**(3), 485–490 (2005).



Andrew B. Feldman



Plamen A. Demirev



Jeffrey S. Lin

Andrew B. Feldman, Senior Professional Staff, Ph.D., Harvard Univ., 1997, Biological Systems Informatics and Modeling; Plamen A. Demirev, Senior Professional Staff, Ph.D., Bulgarian Acad. of Sciences, 1988, Mass Spectrometry and Bioinformatics of Microorganisms; Jeffrey S. Lin, Senior Professional Staff, M.S., JHU, 1989, Biological Systems Informatics and Modeling; Myaing Nyunt, John Pisciotta, Philip Thuma, Peter Scholl, Lirong Shi, Nirbhay Kumar, and David J. Sullivan Jr. (non-APL staff)

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### Outstanding Special Publications



David M. Van Wie

For "Plasmas in High Speed Aerodynamics," *Journal of Physics D: Applied Physics* **38**, R33–R57 (2005).

David M. Van Wie, Principal Professional Staff, Ph.D., Univ. of Maryland, 1986, Aerospace Engineering; Peter Bletzinger, Biswa N. Ganguly, and Alan Garscadden (non-APL staff)



## R. W. HART PRIZE FOR 2005

### Excellence in Research



Steven M. Babin

For "Data Fusion and Hypothesis Evaluation for Syndromic Surveillance"

**Steven M. Babin**, Senior Professional Staff, Ph.D., Univ. of Maryland, 1996, Public Health and Environmental Research; **Howard S. Burkom**, Principal Professional Staff, Ph.D., Univ. of Illinois, 1978, Biosurveillance, Alerting Algorithms, and Disease Models; **Andrew B. Feldman**, Senior Professional Staff, Ph.D., Harvard Univ., 1997, Biological Systems Informatics and Modeling; **Jeffrey S. Lin**, Senior Professional Staff, M.S., JHU, 1989, Biological Systems Informatics and Modeling; **Sean P. Murphy**, Senior Professional Staff, M.S., JHU, 2003, Biosurveillance, Modeling, and Simulation



Howard S. Burkom



Andrew B. Feldman



Jeffrey S. Lin



Sean P. Murphy

### Honorable Mention



Robert Bamberger Jr.

For "Autonomy Enterprise Thrust—Cooperating Unmanned Vehicles"

**Robert Bamberger Jr.**, Senior Professional Staff, M.S., JHU, 1995, Agile Systems and Control; **Robert W. Chalmers**, Senior Professional Staff, M.S., JHU, 1993, Autonomy, Simulation, and Analysis; **Christopher P. Chiu**, Associate Professional Staff, B.S., Univ. of Maryland, College Park, 2003, Autonomous Systems; **Osama I. Farrag**, Senior Professional Staff, M.S., Old Dominion Univ., 1988, M.S., JHU, 2006, Wireless Communications Protocols, Software Design and Development; **Robert C. Hawthorne**, Senior Professional Staff, M.S., JHU, 2002, Autonomy and Automated Reasoning; **Steven J. Marshall**, Associate Professional Staff, B.S., Univ. of Maryland, Baltimore County, 2004, Software Engineering; **Todd M. Neighoff**, Senior Professional Staff, M.S., JHU, 1990, Systems Engineering, Architecture, and Design; **David H. Scheidt**, Principal Professional Staff, B.S., Case Western Reserve Univ., 1985, Autonomous Systems; **Jason A. Stipes**, Senior Professional Staff, M.S., JHU, 2003, Hardware and Software Systems



Robert W. Chalmers



Christopher P. Chiu



Osama I. Farrag



Robert C. Hawthorne



Steven J. Marshall



Todd M. Neighoff



David H. Scheidt



Jason A. Stipes

## Excellence in Development



Keith S. Caruso

### For "High Temperature Structures and Thermal Management Systems"

**Keith S. Caruso**, Senior Professional Staff, M.S., JHU, 2002, Materials Research and Characterization; **Dale E. Clemons**, Senior Professional Staff, M.S., JHU, 1996, Experimental Processes; **David G. Drewry Jr.**, Principal Professional Staff, M.S.M.E., West Virginia Univ., 1997, Advanced Air Vehicle Technologies; **Don E. King**, Senior Professional Staff, M.S., North Carolina State Univ., 1981, Thermal Analysis and Design; **Michael P. Mattix**, Senior Professional Staff, M.S., JHU, 2006, EO/IR System Development; **Jennifer L. Sample**, Senior Professional Staff, Ph.D., Univ. of California, Los Angeles, 2001, Nanomaterials; **Michael E. Thomas**, Principal Professional Staff, Ph.D., The Ohio State Univ., 1979, Optical Propagation, Sensing and Photonics, Laser Fundamentals, and Laser Systems and Applications; **Dennis C. Nagle** (non-APL staff)



Dale E. Clemons



David G. Drewry Jr.



Don E. King



Michael P. Mattix



Jennifer L. Sample



Michael E. Thomas

## INVENTION OF THE YEAR AWARDS FOR 2005

### Physical Science



Protagoris N. Cutchis

For "Electrode Array for Determination of Specific Axonal Firing Within a Peripheral Nerve"

**Protagoris N. Cutchis**, Principal Professional Staff, M.D., Univ. of Maryland, Baltimore, 1983, Biomedical Device Design

### Physical Science



Joany Jackman



Nathan Boggs

For "Use of Protein Detector Accessory with Exhaled Breath Condensate"

**Joany Jackman**, Principal Professional Staff, Ph.D., Univ. of Vermont, 1990, Biology; **Nathan Boggs**, Associate Professional Staff, B.S., Juniata College, 2002, Biological Detection Technologies

### Information Science



Benjamin Barnum



Nathaniel Winstead



Raymond Sterner

For "Dust Storm Forecaster"

**Benjamin Barnum**, Senior Professional Staff, Ph.D., Univ. of Washington, 1999, Dust Aerosol Modeling and Forecasting; **Nathaniel Winstead**, Senior Professional Staff, Ph.D., Penn State Univ., 1999, Atmospheric Research and Meteorology; **Raymond Sterner**, Senior Professional Staff, M.S., JHU, 1986, Scientific Software Development

### Innovative Contributions to Space



Kim Strohhahn



Mark Martin

For "Selection Circuit for Image Sensor and/or Position Sensing Detector"

**Kim Strohhahn**, Principal Professional Staff, Ph.D., Iowa State Univ., 1979, Space Instrumentation; **Mark Martin**, Senior Professional Staff, Ph.D., JHU, 2000, Mixed-Signal ASICs, Device Physics