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An integrated CMOS MEMS xylophone magnetometer with capacitive sense electronics, AIAA NanoTech 2002 Conf., Houston, TX (Sep 2002).

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Use of upper and lower neck load cell data from the Hybrid III dummy to assess whiplash injury risk, ASME Int. Mechanical Engineering Congress and Exposition, New Orleans, LA (17–22 Nov 2002).

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Gas-surface interaction model evaluation for DSMC applications, 23rd Int. Symp. on Rarefied Gas Dynamics, Whistler, BC, Canada (21–25 Jul 2002).

# White DK Jr

Tomahawk simulation management, Foundations '02, Laurel, MD (22–23 Oct 2002).

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High temperature thermal/vacuum testing, AIAA Space Simulation Working Group, France (22–23 Oct 2002).

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Particle distributions from inversion of polar mesospheric cloud spectra.

# Lea DJ, Haine T, Porter D, and Gasparovic R

Monitoring variability in the meridional overturning circulation in the Irminger Sea.

# Paranicas C, and Mauk BH

Stress balance in Jupiter's neutral sheet.

# Swartz WH, Lloyd SA, and Shetter RE

Optical effects of polar stratospheric clouds on photolysis and ozone loss in the arctic lower stratosphere during SOLVE.

# COLLOQUIA

The following topics were recently presented at the weekly APL Colloquia (\*part of the "New Critical Challenges" lecture series):

#### 4 October 2002

The Engineering of Cybernetic Systems: From Neutrons to Ballistic Missile Defense, R Fry, APL

# 11 October 2002

Coated Stents: A Major Breakthrough in the Treatment of Heart Disease, R Fischell, Fischell Biomedical, LLC

#### 18 October 2002

Applied Research Laboratory at Pennsylvania State Univ.: An Overview, E Liszka, ARL, Penn State Univ.

#### 25 October 2002

The Anthrax Attacks and CDC's Communication Response,\* V Freimuth, Centers for Disease Control

#### 8 November 2002

Time-Variable Gravity from Space: A Quarter Century of Observations, Mysteries, and Prospects, BF Chao, NASA/GSFC

### 15 November 2002

Crazy Ideas in Science, R Ehrlich, George Mason Univ.

# 22 November 2002

China's Military Modernization,\* RD Fisher Jr, The Jamestown Foundation

# 6 December 2002

The Physics of Snow and Skiing: What Is Snow Anyway? SC Colbeck, U.S. Army Cold Regions Research and Engineering Laboratory

### 13 December 2002

Ethics in Science and Engineering Organizations, SC Gilman, The Ethics Resource Center

# **U.S. PATENTS (2002)**

APL staff received the following U.S. patents during 2002:

Biermann PJ, and Bevan MG Thermal Control Apparatus for Body Armor, No. 6,363,527 (2 Apr)

Bokulic RS, Willey CE, and Skullney WE Hybrid Inflatable Antenna, No. 6,373,449 (16 Apr)

Cain RP, Carkhuff BG, and Uy OM Self-Monitoring Controller for Quartz Crystal Microbalance Sensors, No. 6,492,601 (10 Dec)

Chin DC, Srinivasan R, and Zarriello PR Apparatus and Method for Locating an Object, No. 6,411,095 (25 Jun)

Cornish TJ, Charles HK Jr, and Wienhold PD Flexboard Reflector, No. 6,369,383 (19 Apr)

### Jensen JR

Symbol Synchronization in a Continuous Phase Modulation Communications Receiver Based on Energy Near Half the Symbol Rate, No. 6,466,630 (15 Oct)

# Lew A

Apparel and Sensor Coverings with Energy Converting, Storing and Supplying Capabilities and Other Electrical Components Integrated Therein and Methods for Making Same, No. 6,388,422 (14 May)

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# Murphy JC, Osiander R, and Spicer JWM

Method for Nondestructive/Noncontact Microwave Detection of Electrical and Magnetic Property Discontinuities in Materials, No. 6,422,741 (23 Jul)

# Pineda FJ, Edwards RT, and Cauwenberghs G

Method and Apparatus for Acoustic Transient Processing, No. 6,389,377 (14 May)

Reinhart MJ, Cloeren JM, Bernhardt PA, and Suter JJ Radio Frequency Beacon, No. 6,346,912 (12 Feb)

# Roberts, JC, Biermann PJ, and Ecker JA

Bone Substitute for Training and Testing, No. 6,471,519 (29 Oct)

## Terry DH, Boone BG, and Christens-Barry WA

Optical Feature Extraction Apparatus and Encoding Method for Detection of DNA Sequences, No. 6,415,047 (2 Jul)

# VonGutfeld RJ, Ziegler JF, McAllister SJ, Anderson JH, Murphy JC, and Ziegler MD

System of Providing Medical Treatment, No. 6,337,627 (8 Jan)

# Wozniak JJ, Wienhold PD, and Tiller DB

Low Cost, Compressed Gas Fuel Storage System, No. 6,418,962 (16 Jul)

# FOREIGN PATENTS (2002)

APL staff received the following foreign patents during 2002:

### Flower RW

Method and Apparatus to Identify and Treat Neovascular Membranes in the Eye, No. 0669819 (European Patent Convention) (14 Aug)

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Methods and Apparatus for Improved Visualization of Choroidal Blood

Flow and Aberrant Vascular Structures in the Eye Using Fluorescent Dye Angiography, No. 3310676 (Japan) (24 May)

# Francomacaro AS, Mechtel DM, and Charles HK Jr

Multi-Chip Module Testability Using Poled-Polymer Interlayer Dielectrics, No. 153440 (Taiwan) (29 Jul)

# Hildebrand RJ, and Wozniak JJ

Compressed Gas Manifold, No. 749861 (Australia) (17 Oct)

Wozniak JJ, Tiller DB, Wienhold PD, and Hildebrand RJ Compressed Gas Fuel Storage System, No. 748605 (Australia) (26 Sep)

# Wozniak JJ, Wienhold PD, and Tiller DB

Low Cost, Compressed Gas Fuel Storage System, No. 748448 (Australia) (26 Sep)

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