



®The Institute of Electrical and Electronics Engineers, Inc.

NATIONAL CAPITAL AREA COUNCIL

# SCANNER

February/March 1995

Volume 10, No.1

## **“Engineering for People — People for Engineering”**

(Theme of this year's Engineers Week)

February 20 - 25

*See Calendar of Events, Feb 22 and 25  
for Luncheon and Banquet,  
and Page 14 for Registration Forms*

## **Land Transportation Plans for the Washington, DC Metropolitan Area**

*See Calendar of Events, Tuesday, March 14*

## **Signal Processing Workshop**

Sponsored by our Signal Processing Society

*See Calendar of Events for March 24-25,  
and “Diamond Story”*

## **Twelve NCAC Members Elected to Fellow Grade**

*See Page 11 for Names,  
and meet them on April 29 for this year's:*

## **Annual Awards Banquet**

*(See ad on page 7 for details)*

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# SCANNER

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## 1994/95 Season

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### SCANNER EDITORIAL STAFF

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### Calendar of Events

**Attendance at IEEE Meetings.** IEEE meetings are open to members and guests. When meetings are combined with meal functions, it is not mandatory — although desirable — to attend the meal functions. Please make timely reservations for all meetings (cancel early, if necessary). Any IEEE member may attend Council and Section Administrative Committee (ADCOM) meetings.

**Announcements.** Calendar information should follow the format used in this Calendar of Events. The calendar item listing includes the abbreviation for the managing section after each society chapter listing. In the case of joint chapters, the managing section is listed first. A diamond (♦) preceding the event in a calendar item indicates that further information on that event is provided in the "Diamond Stories" Department of that issue. Articles for the "Diamond Stories" Department should be limited to 150 words, and include a synopsis of the talk or event, and a biosketch of the speaker which lists, if available, his or her academic background, current position, and IEEE as well as other professional societies memberships, if any.

All announcements, diamond stories, and other material to be printed in an issue of the SCANNER must be sent or faxed to the Editor-in-Chief in time to arrive on or before the 25th of the second month preceding the month of desired publication. The deadline for camera-ready material (e.g., ads) is the first workday of the month preceding the month of desired publication.

### FEBRUARY 1995

#### Wed Feb 1 Northern Virginia Section ADCOM Meeting

**Place:** MITRE Corporation,  
7525 Colshire Drive, McLean, VA  
**Time:** 7:00 pm to 9:00  
**Contact:** Lalit Batra, 703/883-7853

#### Tue Feb 7 Remote Sensing in Japan (Seminar of the "International Earth Remote Sensing Projects Seminar Series")

**Sponsor:** Geoscience and Remote Sensing Society (W/NV)  
**Speaker:** Yoshihiro Harada or Masazumi Miyake, NASDA  
**Place:** Goddard Space Flight Center, Bldg 28, Room E-210  
**Time:** 2:00 p.m. to 3:00  
**Contact:** Pat Coronado, 301/286-9323, or Dr. Jacqueline LeMoigne, 301/286-8723

#### Sat Feb 11 Annual Valentine Dinner Party and Meeting

**Sponsor:** Electromagnetic Compatibility Society (W/NV)  
**Place:** Yorktown Room, Fort Belvoir Officers Club  
**Time:** 6:30 pm to ?  
**Contact:** Mike Violette, 301/417-0220 or Tom Doepfner, 703/780-3983, for reservations; cost: \$30 per person

#### Mon Feb 13 Washington Section ADCOM Meeting

**Place:** UDC Van Ness Campus, 4200 Connecticut Ave, NW Bldg 32, Room 204. UDC-Van Ness Metro Stop on Red Line. Premeeting Dinner at Charlie Chiang's Restaurant, 4250 Connecticut Ave. If driving, park in UDC garage on Van Ness Street  
**Time:** Dinner: 5:30 pm; Meeting: 7:00  
**Contact:** For dinner reservations: Call Jerry Gibbon, 202/482-226

#### Tue Feb 14 Personal Rapid Transit Systems (PRTS)

**Sponsors:** IEEE Land Transportation Committee, Washington and Northern Virginia Sections  
**Speaker:** TBD  
**Place:** Third Floor, George Washington University's Marvin Center, 800 21st Street NW, Washington, DC (Two blocks from GWU/Foggy Bottom Metro Station)  
**Time:** 11:30 a.m.  
**Contact:** Ted Gordon, 301/588-3757

#### Tue Feb 14 Overview of the IRIDIUM Satellite System for Personal Communications

**Sponsor:** Microwave Theory and Techniques Society (W/NV)  
**Speaker:** (To be announced)  
**Place:** University of Maryland Adult Education Center,

**Time:** University Blvd and Adelphi Road, Adelphi, MD  
**Contact:** Cocktails 5:30 pm; Dinner 6:30; Meeting 7:30  
For dinner reservations (by Feb 8): Dave Hinzel, 703/729-6000 x3737

#### Tue Feb 14 Remote Sensing at the European Space Agency (Seminar of the "International Earth Remote Sensing Projects Seminar Series")

**Sponsor:** Geoscience and Remote Sensing Society (W/NV)  
**Speaker:** Yoshihiro Harada or Masazumi Miyake, NASDA  
**Place:** Goddard Space Flight Center, Bldg 28, Room E-210

**Time:** 2:00 p.m. to 3:00  
**Contact:** Pat Coronado, 301/286-9323, or Dr. Jacqueline LeMoigne, 301/286-8723

#### Tue Feb 14- ♦ Automatic Target Recognition: Basic and Advanced Concepts (Course # 1775)

**Sponsor:** George Washington University Continuing Education Program (See also ad on back page)

**Instructors:** (See Diamond Story)  
**Place:** George Washington University Academic Center, Room T-308, 801 22nd Street NW, Washington, DC

**Time:** 8:30 am to 4:15 pm  
**Contact:** Monique Wilson, 202/994-0726

#### Wed Feb 15 ♦ Computers, Databases, Telecommunications and the Migrant Farmworker

**Sponsor:** Social Implications of Technology Society (NV/B/W)

**Speaker:** Victor Perez Nunez, MITRE Corporation  
**Place:** Tysons Corner Magic Pan Restaurant: Tysons Corner Center, lower level near Lord & Taylor  
**Time:** Social 6:15 pm (cash bar); Dinner 7:00; Presentation 8:00

**Contact:** Bill Kelly, 703/883-5745 for dinner reservations and information on Metro accessibility

#### Thu Feb 16 ♦ Personal Communications Services Standards Development

**Sponsor:** Communications Society (W/NV)  
**Speaker:** Agnes Young, Bell Atlantic  
**Place:** George Washington University, Academic Center (22nd & I Streets, NW) Room T-640, EE Dept. One block from GWU/Foggy Bottom Metro Station; Parking across from Academic Center

**Time:** Brown bag lunch (bring your own) 11:45 am; Registration 12:00 noon; Presentation 12:15 pm to 1:00  
**Contact:** Robert J. Hollingshead, 202/646-2351

#### Tue Feb 21 ♦ Consulting Workshop: Defining What to Market

**Sponsors:** NCAC PACE Consultants Network, Washington Section, and Northern Virginia Section  
**Place:** NOTE NEW LOCATION! Panevino Restaurant, Embassy Suites Hotel, 1755 Duke Street, Alexandria, VA. By Metro: Take Yellow Line south to King Street Station. By car: Take I-495 (Beltway) south to Alexandria; exit at Route 1 North, turn left on King Street; 1 block to Embassy Suites. Park in Hotel underground lot.  
**Time:** Dinner 5:30 pm; Meeting 7:00

**Contact:** For dinner reservations, 301/262-0300 by noon Feb 20

#### Tue Feb 21- ♦ New Frontiers in Medical Technology: An Overview of New Medical Device Technology (Course #1992)

(For further details see GWU entry for Feb 14-17)

**Wed Feb 22 Engineers Week Luncheon**  
**Sponsor:** DC Council of Engineering and Architectural Societies, NCAC PACE; for more details see PACE Corner, p. 14

**Speaker:** Ms. Ana Sol Guterrez, U.S. Department of Transportation  
**Place:** Hogate's Restaurant, 800 Water Street SW, Washington, DC  
**Time:** 11:30 am to 1:30 pm; Cost: \$18.00 per person  
**Contact:** Manny Ikpo, 703/418-0100, or Paul Amesse, 703/418-1777

#### Sat Feb 25 Engineers Week Banquet

**Sponsor:** DC Council of Engineering and Architectural Societies, NCAC PACE; for more details, see PACE Corner, p. 14

**Speaker:** Dr. Benjamin H. Alexander, President, Drew Dawn Enterprises  
**Place:** Crystal City Marriott, 1999 Jefferson Davis Hwy, Arlington, VA. Free garage parking

**Time:** Cash Bar Reception at 6:30 pm; Cost: \$18.00 per person  
**Contact:** Manny Ikpo, 703/418-0100, or Paul Amesse, 703/418-1777

#### Mon Feb 27- ♦ Weather Observations Using Doppler Radar (Course #1691)

(For further details see GWU entry for February 14-17)

#### Tue Feb 28 Spatial Information for Decision Making in Africa (Seminar of the "International Earth Remote Sensing Projects Seminar Series")

**Sponsor:** Geoscience and Remote Sensing Society (W/NV)  
**Speaker:** Koffi Kouakou, World Bank  
**Place:** Goddard Space Flight Center, Bldg 28, Room E-210  
**Time:** 2:00 p.m. to 3:00  
**Contact:** Pat Coronado, 301/286-9323, or Dr. Jacqueline LeMoigne, 301/286-8723

### MARCH 1995

#### Wed Mar 1 Northern Virginia Section ADCOM Meeting

**Place:** MITRE Corporation, 7525 Colshire Drive, McLean, VA  
**Time:** 7:00 pm to 9:00  
**Contact:** Lalit Batra, 703/883-7853

#### Tue Mar 7 Remote Sensing Technology for Bangladesh (Seminar of the "International Earth Remote Sensing Projects Seminar Series")

**Sponsor:** Geoscience and Remote Sensing Society (W/NV)  
**Speaker:** Harold Maurer, NASA GSFC  
**Place:** Goddard Space Flight Center, Bldg 28, Room E-210  
**Time:** 2:00 p.m. to 3:00  
**Contact:** Pat Coronado, 301/286-9323, or Dr. Jacqueline LeMoigne, 301/286-8723

#### Mon Mar 13 Washington Section ADCOM Meeting

**Place:** UDC Van Ness Campus, 4200 Connecticut Ave, NW Bldg 32, Room 204. UDC-Van Ness Metro Stop on Red Line. Premeeting Dinner at Charlie Chiang's Restaurant, 4250 Connecticut Ave. If driving park in UDC garage on Van Ness Street  
**Time:** Dinner: 5:30 pm; Meeting: 7:00  
**Contact:** For dinner reservations: Call Jerry Gibbon, 202/482-2265

#### Mon Mar 13- ♦ Analyzing Communication System Performance (Course # 1640)

(For further details see GWU entry for Feb 14-17)

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**Mon Mar 13- Fri Mar 17** ♦ **Multisensor Data Fusion, Target Tracking, and Classification (Course # 1916)**  
(For further details see GWU entry for Feb 14-17)

**Tue Mar 14** **Transportation Plans for the Washington, DC Metropolitan Area**  
**Sponsors:** IEEE Land Transportation Committee, Washington and Northern Virginia Sections  
**Speaker:** Tentatively a speaker from the "Metropolitan Washington Council of Governments (COG)"  
**Place:** Third Floor, George Washington University's Marvin Center, 800 21st Street NW, Washington, DC (Two blocks from GWU/Foggy Bottom Metro Station)  
**Time:** 11:30 a.m.  
**Contact:** Ted Gordon, 301/588-3757

**Tue Mar 14** **Remote Sensing in Russia (Seminar of the "International Earth Remote Sensing Projects Seminar Series")**  
**Sponsor:** Geoscience and Remote Sensing Society (W/NV)  
**Speaker:** Patrick Coronado, NASA GSFC  
**Place:** Goddard Space Flight Center, Bldg 28, Room E-210  
**Time:** 2:00 p.m. to 3:00  
**Contact:** Pat Coronado, 301/286-9323, or Dr. Jacqueline LeMoigne, 301/286-8723

**Tue Mar 14** ♦ **Power Quality Issues: Diagnosis, Prevention and Treatment**  
**Sponsor:** Industry Applications Society  
**Speaker:** Dan Briganti, Electronic Marketing Associates  
**Place:** Anchor Inn, University Blvd & Georgia Ave, Wheaton, MD (Near Wheaton Metro Station)  
**Time:** Social 6:30 pm; Optional Dinner (Cost \$20) 7:00; Presentation 7:30  
**Contact:** Annette Allender, 202/205-8031, or Ron Aasen, 202/205-8088 or Internet Ron\_Aasen@BENG.VOA.GOV Reservations are requested by March 10

**Tue Mar 14** **MMIC Chip Sets for Portable Communications Systems**  
**Sponsor:** Microwave Theory and Techniques Society (W/NV)  
**Speaker:** Finbarr McGrath-COM  
**Place:** University of Maryland Adult Education Center, University Blvd & Adelphi Road, Adelphi, MD  
**Contact:** Information and dinner reservations (by March 8), Dave Hinzl, 703/6000 x3737

**Thur Mar 16** ♦ **Selling to Europe in the 1990s: Meeting the European EMC Requirements**  
**Sponsor:** Electromagnetic Compatibility Society (W/NV)  
**Speaker:** John Flood, Consultant, Interference Technology International  
**Place:** Fred's Place Restaurant, 2d Floor, Holiday Inn Crystal City; two blocks north of Crystal City Metro stop. Some free parking in garage; stop at front desk for parking permit.  
**Time:** Registration/cash bar: 11:30 am; Lunch (optional, but encouraged) 12:00 noon; Meeting 12:30 pm  
**Contact:** For information: P.J. Mondin, 301/460-5864, or Mike Barge, 1-410/798-1143, or Mike Violette, 301/417-0220; for lunch reservations (required): IEEE NCA Office, 703/803-8701 by noon Wednesday, March 15

**Mon Mar 20- Wed Mar 22** ♦ **Inertial Stabilization Systems for Mobile Platforms (Course # 1528)**  
(For further details see GWU entry for Feb 14-17)

**Tue Mar 21** **TOMS (Seminar of the "International Earth Remote Sensing Projects Seminar Series")**  
**Sponsor:** Geoscience and Remote Sensing Society (W/NV)  
**Speaker:** Tom Riley, NASA GSFC  
**Place:** Goddard Space Flight Center, Bldg 28, Room E-210

**Time:** 2:00 p.m. to 3:00  
**Contact:** Pat Coronado, 301/286-9323, or Dr. Jacqueline LeMoigne, 301/286-8723

**Tue Mar 21** ♦ **Consulting Workshop: Common Sense and Business Sense**  
**Sponsor:** NCAC PACE Consultants Network, Washington and Northern Virginia Sections  
**Place:** University of Maryland, College Park Campus, A.V. Williams Engineering Building, Room 2460 Directions from Capital Beltway, Rt 495: Rt 1 South, right turn on Campus Drive, immediate right on Stadium Drive, 1-1/2 blocks to A.V. Williams Bldg on right. Park across street in Lot G  
**Time:** Pre-meeting Dinner at Seven Seas Restaurant, 8503 Baltimore Blvd (Rt 1). Dinner 5:30 pm; Meeting 7:00  
**Contact:** For dinner reservations: 301/262-0300 by noon Monday, March 20

**Wed Mar 22- Fri Mar 24** ♦ **Hazardous RF Electromagnetic Radiation: Evaluation, Control, Effects, and Standards (Course #0588)**  
(For further details see GWU entry for February 14-17)

**Fri Mar 24- Sat Mar 25** ♦ **Signal Processing Workshop**  
**Sponsor:** Signal Processing Society (W), NCAC, Washington Section, Northern Virginia Section  
**Place:** UDC Van Ness Campus, 4200 Connecticut Ave NW. UDC/Van Ness Metro Stop on Red Line  
**Time:** 8:00 am to 5:00 pm  
**Contact:** Robert Pierce, 301/227-4365, e-mail rpierce@oasys.dt.navy.mil, or Edgar Neil, 301/258-8301

**Sat Mar 25** ♦ **Officers Professional Activities Workshop**  
**Sponsors:** National Capital Area Council, Washington and Northern Virginia Sections  
**Speakers:** (See Diamond Story)  
**Place:** George Washington University Marvin Center 800 21st Street NW, Washington, DC  
**Time:** 9:00 a.m. to 3:00 p.m.  
**Contact:** IEEE NCA Office 703/803-8701, or Fax 703/222-5971

**Mon Mar 27- Fri Mar 31** ♦ **Spread Spectrum Communications Systems: Commercial and Government Applications (Course #0302)**  
(For further details see GWU entry for February 14-17)

**Tue Mar 28** **Radarsat (Seminar of the "International Earth Remote Sensing Projects Seminar Series")**  
**Sponsor:** Geoscience and Remote Sensing Society (W/NV)  
**Speaker:** Surendra Parashar, Radarsat, Canada  
**Place:** Goddard Space Flight Center, Bldg 28, Room E-210  
**Time:** 2:00 p.m. to 3:00  
**Contact:** Pat Coronado, 301/286-9323, or Dr. Jacqueline LeMoigne, 301/286-8723

**Fri Mar 31** ♦ **12th Annual Technical Information Seminar: Deadline date for submission of Proposals**  
**Sponsors:** IEEE Washington Section, IEEE Communications Society, Capitol College's IEEE Student Branch, Engineering School, and Post Graduate School. Attendance at Symposium will be at no cost to IEEE members.  
**Place:** Capitol College, 11301 Springfield Road, Laurel, MD  
**Time:** (This is only a call for papers. The Symposium will be held on Wednesday, Nov 3, 1995.) For further information call Jerry Gibbon, 202/482-2265, or e-mail JGibbon@DOC.GOV

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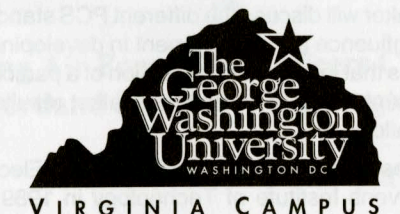
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## ◆ DIAMOND STORIES ◆

This Department of the SCANNER provides short abstracts and biosketches to accompany those calendar items which show a diamond (◆) before the name of the sponsoring society/chapter.

### Computers, Databases, Telecommunications and the Migrant Farmworker

(See Calendar of Events, Wednesday, February 15)

U.S. Farmers employ annually more than 4 million migrant and seasonal farmworkers to hand-harvest and cultivate 85% of the fruits and vegetables produced in this country. However, the health of migrant farmworkers is at a higher risk than that of the rest of the U.S. population, in part because of the frequent movement of the workers. Several projects have attempted to use modern computer and communications technology to give healthcare professionals a history of the migrant worker patients they see. One such project is the "Migrant Health Data Transfer Pilot Project" to evaluate the feasibility and benefits of a computer-based system as a tool to capture, manage, and transfer patient information between geographically separated clinic sites.

This talk describes the background of the project, previous work, the computer-based system and associated databases developed, and the lessons learned.

Victor Perez Nunez is a Member of the Technical Staff at the MITRE Corporation. He holds a B.A. in Mathematics and a B.S. in Physics from the University of Miami, and an MSEE from Georgia Institute of Technology.

### Personal Communications Services Standards Development

(See Calendar of Events, Thursday, February 16)

Personal Communications Services (PCS) can mean many things, but most commonly the term refers to future wireless services that will resemble existing wireless services, but with extended features in the 2 GHz band, such as one-number service and dynamic personal profile management. PCS will offer a combination of terminal and personal mobility. There are currently multiple PCS standards that have been developed — and still more are in the works.

Our speaker will discuss the different PCS standards forums, their level of influence and involvement in developing PCS standards, the issues that influence the adoption of a particular standard, and their current status in terms of the latest results of the standards voting ballots.

Ms. Agnes Young received a BE degree in Electrical Engineering from Stevens Institute of Technology in 1989. She is currently pursuing an MS degree in Telecommunications Management from the University of Maryland. In 1990 she joined Bell Atlantic, where she is responsible for PCS standard development on national and international levels.

### Automatic Target Recognition: Basic and Advanced Concepts

(See Calendar of Events, Tuesday, Feb 14 to Friday, Feb 17)

This course reviews fundamental image- and signal-processing techniques applicable to ATR systems. It discusses ATR architectures and critical components, and their applications in the visible domain, millimeter-wave (MMW) radar, laser radar, synthetic

aperture radar (SAR), and other sensors. Concepts in designing and implementing ATR algorithms are covered, including signal enhancement and restoration, target detection and segmentation, motion analysis and tracking, statistical and model-based recognition, and phenomenological modeling. Included in this discussion are multisensor and information fusion algorithms and ATR performance evaluation. The course describes in detail model-based ATR, adaptive systems, and applications of artificial intelligence (AI) and neural networks to ATR. Topics include the limitation of current-generation technology and advanced concepts to next-generation ATR systems. The course concludes with a discussion of hardware architectures and market trends.

(The fee for this course is \$1,125. Instructors: Hatem Nasr and Firooz Sadjadi)

### Consultant Workshop: Defining What to Market

(See Calendar of Events, Tuesday, February 21)

IEEE members are highly trained in their technical specialties, but generally unschooled in business. To address this shortcoming, the NCAC Consulting Network is presenting this Consulting Workshop series. This session focuses on the most basic decision a consultant must make: Just what sort of services do you offer, anyway? This involves a careful examination of your own talents and resources, and an honest assessment of your own weaknesses and how to overcome them. If necessary, how do you repackage yourself? What else can you do? Who needs your services, and how can you target them? What does your resume say about you?

The workshop/roundtable discussion format will be very helpful to people at all levels of experience. Seasoned consultants and those just starting out can benefit from hearing "how the other guy (or gal) does it" in a relaxed, informal setting.

### New Frontier in Medical Technology: An Overview of New Medical Device Technology

(See Calendar of Events, Tuesday, Feb 21 to Friday, Feb 24)

Members of the engineering community who are seeking to introduce advanced engineering concepts into the medical field can expand their knowledge of the needs, applications, biological effects, and regulatory processes relating to medical technology. Members of the medical community receive a comprehensive review of the engineering concepts applied to medical devices, the

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latest technology, and the applications used in the United States and Europe. Business and legal professionals gain a better understanding of medical technology, its regulatory processes, and its enormous market potential. This colloquium brings together a core of experts to provide comprehensive coverage of new medical device technologies and their impact on the engineering and medical communities. Relevant engineering principles are reviewed before focusing on the state-of-the-art technologies and their applications. Topics include the therapeutic utilization of RF/microwave thermal techniques in cardiology and urology; the utilization of solid-state, semiconductor, and other lasers in ophthalmology, cardiology, and dermatology; and the application of new technologies in imagery, such as developments in magnetic resonance imaging (MRI) and acoustics.

(The fee for this course is \$1,125. Instructor: William Bigley, Ed.D.)

### Weather Observations Using Doppler Radar

(See Calendar of Events, Mon, February 27 to Thu, March 2)

This course reviews the principles of Doppler radar and their applications to the observation of weather phenomena and the quantitative measurement of meteorological parameters. Extensive examples are given of weather phenomena and their radar signatures. The latest advances in polarimetric-Doppler technology are presented. The course concludes with a review of the new Terminal Doppler Weather Radar (TDWR) and Next Generation Weather Radar (NEXRAD), and emphasizes visual and automatic detection of hazardous weather features such as tornadoes, microbursts, wind shears, and hail.

(The fee for this course is \$1,125. Instructors: Dusan Zrnie, Ph.D. and Richard Doviak, Ph.D.)

### Analyzing Communications System Performance

(See Calendar of Events, Monday, Mar 13 to Thursday, Mar 16)

This course describes how to analyze communications systems by using performance equations. A wide range of design techniques and components, applicable to both commercial and military systems, is addressed, including modulation, antennas, spread-spectrum, error control coding, and multiple access techniques. Environmental effects such as jamming, interference, interception, and propagation are discussed. The course presents design examples and includes several work sessions to give participants hands-on experience in system analysis.

(The fee for this course is \$1,125. Instructor: Barry Driggs)

### Multisensor Data Fusion, Target Tracking, and Classification

(See Calendar of Events, Monday, March 13 to Friday, March 17)

This course presents theoretical and practical notions stemming from the research, development, design, and application of multisensor data fusion methodologies. The course covers the main aspects of these methodologies with special attention to mathematical and logical developments and applications using multisensor data fusion for enhanced performance. Actual use of multisensor data fusion in industry and the military is described. The course also addresses multisensor multitarget tracking and classification problems, and explains how sensor data are processed to extract target features. It focuses on several techniques developed to integrate unlike sensor information to obtain high-confidence target detection and classification.

(The fee for this course is \$1,295. Instructor: Sam Choudhuri, Ph.D., PE)

## IEEE National Capital Area Council

# Annual Awards Banquet

6:30 pm to 9:30 pm  
Saturday April 29, 1995

Bolling Air Force Base Officers Club  
Foot of Portland Street SE, Washington, DC

Cash Bar 6:30 pm

Dinner 7:30 pm

Awards Ceremony 8:30 pm

===== Ticket Order Form =====

Type	Number	Cost	Total
Table of Ten	_____	\$300	_____
Member or Guest	_____	\$30	_____
Student	_____	\$20	_____
Total Amount Submitted		\$	_____

Make checks payable to "IEEE NCAC Banquet" and mail to

Rex Klopfenstein, Banquet Chairman  
4224 Worcester Drive  
FAIRFAX VA 22032-1140

Mail your reservation form as soon as possible, but no later than April 21, 1995.

For table reservations, please attach a list of attendees and your Group Name (e.g. Computer Society) if applicable.



## Power Quality Issues: Diagnosis, Prevention & Treatment

(See Calendar of Events, Tuesday, March 14)

Harmonics entering into power systems from various types of equipment have become an increasingly greater problem for power distribution equipment and electronic devices. This presentation will deal with symptoms and effects of harmonics and solutions for preventing and treating existing harmonics problems in power systems.

Mr. Dan Briganti has a BS and an ME degree in EE from the Coast Guard Academy. After an assignment in the Coast Guard, Dan worked in the areas of power distribution, conditioning and monitoring for GE, the URS Corporation, and, since 1976, for Electronic Marketing Associates, where he is presently Sales Manager and Vice-President. He is a registered P.E., and is active in the Mid-Atlantic Power Quality Society.

## Selling to Europe in the 1990s: Meeting the European EMC Requirements

(See Calendar of Events, Thursday, March 16)

The European Union (EU) has taken a new approach to technical regulations with the prime objective of removing technical barriers to trade. Of all the new approach directives issued by the EU Commission, the Electromagnetic Compatibility (EMC) Directive will have the most widespread impact upon U.S. manufacturers of electrotechnical products. This directive has been translated into national law in most member states, with consequent penalties for failure to comply with its essential requirements by the end of the transitional period (January 1, 1996).

The speaker will give an overview of the new approach directives and the requirements for CE marking of products. Compliance deadlines and other legal and technical issues will be discussed, with particular focus on the EMC Directive and the means by which manufacturers can meet its essential requirements.

## Inertial Stabilization Systems for Mobile Platforms

(See Calendar of Events, Monday, Mar 20 to Wednesday, Mar 22)

This course offers a comprehensive introduction to the system concepts and design techniques for control of motion stabilization, with emphasis on practical applications. It reviews classical gyroscope theory and operating principles, as well as system hardware, platform gimbaling, and sensor placement. The course also examines the latest motion sensors. Participants are shown how to develop tractable analytical models of vehicle and platform motion and to formulate and apply mathematical criteria for ideal stabilization. State modeling, simulation techniques, methods for developing realistic control models, and the design and implementation of basic-rate gyro loops and related hardware are discussed in depth. Recent developments in advanced inertial control, such as the strong stabilization system method, and special topics such as wideband motion control techniques, are also covered.

(The fee for this course is \$1,125. Instructor: William Bigley, Ed.D.)

## Consulting Workshop: Common Sense and Business Sense

(See Calendar of Events, Tuesday, March 21)

This is the third session of the IEEE NCAC Consultants Network's "Consulting Workshop Series." (See Diamond Story for Feb 21 for an overview of the Consulting Workshop Series.)

This installment deals with the fundamental business issues that engineers face when they start a business such as a consulting practice. What are the basic legal and accounting requirements? What are the benefits? What are the pitfalls? What sorts of resources do you need? How do you get things done efficiently? Real-World problems and examples will be provided by spotlight speakers and from informal discussions among our experienced members in the consulting business.

## Hazardous RF Electromagnetic Radiation: Evaluation, Control, Effects, and Standards

(See Calendar of Events, Wed, March 22 to Fri, March 24)

This course examines the risks of exposure to intense RF fields for humans, sensitive electronics equipment, ordnance devices, and fuels. The presentation is descriptive, with minimal use of mathematics. Examples of actual RF field surveys, investigation of potential overexposure by humans, and typical problem-solving methods are discussed. It also discusses exposure standards, protective equipment techniques, and commercially available monitoring instrumentation.

(The fee for this course is \$975. Instructors: Bernhard Keiser, D.Sc.EE, and Zory Glaser, Ph.D., M.R.H.)

## Signal Processing Workshop Call for Papers

(See Calendar of Events, Friday, Mar 24 to Saturday, Mar 25)

The purpose of this workshop is to bring together researchers, engineers and students from the areas of signal processing, communications and controls, to discuss the development of new advances in signal processing, including applications to controls and communication. Topics will include, but are not limited to: signal modeling, signal estimation and classification, array signal processing, and system identification.

This workshop, the first of its kind in the Washington area, is to be a forum where students, their academic advisers, practicing engineers and researchers can present results from their work, discuss the activities of their colleagues, and publish their technical accomplishments with a minimum time delay. The workshop will include tutorial, theoretical and application sessions. All papers presented will be published in the workshop proceedings. There will be a nominal charge for attendees, to cover expenses.

## Officers Professional Activities Workshop

(See Calendar of Events, Saturday, March 25)

The Officers Professional Activities Workshop is designed to provide section and chapter officers with an orientation on the many professional activities programs and benefits sponsored and provided by IEEE's U.S. Activities Office (IEEE-USA). Subjects to be presented include career maintenance and development, pension benefits, salary surveys, intellectual property, government activities, and technology policy. Highlights of the 1994 Professional Activities Committee for Engineers (PACE) Conference and Workshop will be presented by the three local PACE chairmen: Jim Strother, NCAC; Barry Bell, Washington Section; and Paul Zeinedden, Northern Virginia Section.

# TECHNICAL CAREER FAIR

Monday, February 27 &  
Tuesday, February 28  
3pm - 7pm

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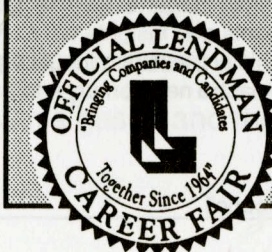
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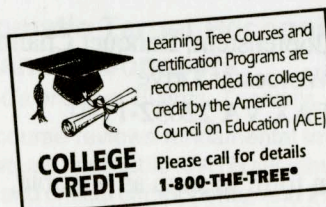
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	COURSE	DAY	NIGHT
NETWORKING	253: PC Networking <small>HANDS-ON</small>		Mar 20-Apr 12 MW
	254: LAN Troubleshooting <small>HANDS-ON</small>		Apr 24-May 17 MW
	361: Multivendor Networking		Mar 20-Apr 12 MW
	364: Internetworking: Bridges & Routers		Apr 24-May 17 MW
	367: Introduction to TCP/IP <small>HANDS-ON</small>	Apr 18-21	Mar 21-Apr 13 TTh
	467: Internetworking with TCP/IP <small>HANDS-ON</small>	Mar 7-10	
	469: Internet for Business Applications <small>HANDS-ON</small> <small>NEW</small>	Mar 28-31	
	378: Wireless Networks	Mar 7-10, Apr 18-21	
NETWARE®	267: NetWare® 3.x Installation & Config Workshop <small>HANDS-ON</small>	Feb 13-14, Mar 13-14	Mar 8-Mar 20 MW
	270: Networking Technologies <small>HANDS-ON</small>	Feb 15-17, Mar 15-17	Apr 25-May 11 TTh
	269: NetWare® Service & Support <small>HANDS-ON</small>	Mar 7-10	Mar 21-Apr 13 TTh
	266: NetWare® 4.x Installation & Config Workshop <small>HANDS-ON</small>	Mar 16-17	Mar 7-Mar 16 TTh
CLIENT/SERVER	360: Introduction to Open Systems	Feb 14-17, Apr 4-7	Feb 20-Mar 15 MW
	389: Client/Server System Design & Configuration	Mar 7-10	Feb 21-Mar 16 TTh
	386: Building Client/Server Applications <small>HANDS-ON</small>	Apr 4-7	Mar 21-Apr 13 TTh
	385: Data Management for Client/Server Systems	Apr 18-21	Apr 25-May 18 TTh
DB	220: Sybase System 10 <small>HANDS-ON</small> <small>NEW</small>	Mar 27-31	Feb 20-Mar 22 MW
	230: Oracle 7: A Comprehensive Introduction <small>HANDS-ON</small> <small>NEW</small>	Mar 20-24	Mar 27-May 3 MW
	396: UNIX Tools and Utilities <small>HANDS-ON</small>	Mar 14-17, Apr 18-21	Apr 25-May 18 TTh
PROGRAMMING	366: UNIX System and Network Administration <small>HANDS-ON</small>	Apr 4-7	Feb 21-Mar 16 TTh
	307: Microsoft Access <small>HANDS-ON</small>	Feb 14-17	
	335: Introduction to Ada 95 Obj Oriented Prog <small>HANDS-ON</small> <small>NEW</small>	Mar 21-24	
	437: C++ Obj Oriented Prog for Business Apps <small>HANDS-ON</small>	Mar 7-10	Apr 25-May 18 TTh
	423: Object Oriented Methods for Business Apps	Feb 28-Mar 3	Mar 21-Apr 13 Th
MGMT	348: Systems Engineering	Mar 28-31	
	295: Negotiating Skills for Tech Managers <small>NEW</small>	Mar 14-17	



A knowledge of professional activities programs is required for success as council, section, or chapter officer or director. All council and section officers and directors and all chapter officers are invited and urged to attend. Other interested IEEE members are also welcome.

Handouts will cover much of the information presented, to include references to publications and other material which is provided to PACE chairmen.

A complimentary buffet lunch will be served to all attendees at the workshop. Therefore, reservations should be made with the NCA Office, 703/803-8701, or Fax 703/222-5971, no later than Thursday, March 23rd.

### Spread-Spectrum Communications Systems: Commercial and Government Applications

(See Calendar of Events, Monday, Mar 27 to Friday, Mar 31)

Spread-spectrum modulation is a technique for dispersing the power spectrum of a signal over a frequency range much wider than that of the information sent. The dispersing is accomplished by high-speed code modulation, frequency or time hopping, or some combination of them. This course provides an introduction to spread-spectrum techniques and the advantages of employing them. It compares spread-spectrum systems and methods to conventional systems. Practical design considerations and applications in military, consumer, and commercial systems are emphasized.

(The fee for this course is \$1,295. Instructor: Robert Dixon, P.E.)

### Call for Papers for: 12th Annual Technical Information Seminar Capitol College

(See Calendar of Events, Friday, March 31)

Proposals for technical papers and presentations at the November 3, 1995 Seminar on Technical Information are being requested by the Capitol College Alumni Advisory Board. Proposals will be accepted from Corporations, Academia, and Government professional engineers, and will be evaluated based on their contents and technical merit. The following topics will be covered:

Internet, Virtual Community, Government Information Systems, Object-Oriented Design, Ubiquitous Computing.

Interested parties should send a brief abstract of the proposed paper(s) and presentation(s) to the response address listed below. The program is being arranged to accommodate introductory, intermediate, and advanced levels of attendees. Administrative requirements must be identified in the proposals. Presentations should last from 20 to 30 minutes. Selected papers must be submitted in draft form by June 15, and final papers with visuals by July 30.

A limited number of exhibits related to the technical presentations are also requested. Exhibits may include marketing and research oriented displays and booths.

All proposals must have titles and names of presenters with technical and academic credentials. Please provide name, address, and telephone number on all correspondence.

Response Address:

Capitol College  
Attn: AAB Seminar Coordinator  
11301 Springfield Road  
Laurel, MD 20708-9759

## CHAIRMANS' CORNER

### National Capital Area Council Chairman's Message

Happy 1995 to all of you. The beginning of each year is a time for renewal, for reflection, and for resolution and action. I hope that one of your resolutions for 1995 is to become more active in your local IEEE. While it is a time for each of us to contemplate change, it is also time for the IEEE to contemplate change. One of the major goals of the IEEE Strategic Plan is "Organizational Improvement."

As your Region Director, I will be participating in a retreat in mid-January. The first part will be a "RAB" (Regional Activities Board) retreat to produce an action plan for specific issues, including many that we in the NCAC are concerned with, such as Section and chapter rebates; attendance at meetings; membership development; etc.

As with any plan, it will be modified and updated as time goes on. Therefore, it affords you the opportunity to have your ideas and concerns addressed. Please forward them to me.

The second part of the retreat will tackle the problem of IEEE Organizational Improvement (OI). This is an ongoing process which will develop a set of recommendations for organizational improvements that will be submitted to the Board of Directors in November 1995. The results may mean fundamental changes to the IEEE as we know it. Your thoughts and insights will be very much appreciated as we continue this process of reinventing our IEEE to survive and grow as we approach a new century and a new information-rich world society.

*Dan Benigni*

Chairman, National Capital Area Council

### Washington Section Chairman's Message

The Washington Section has performed well during the first half of the IEEE 1994/95 year. We have had to make a few adjustments to the programs, and with your continued support and participation we plan to do even better in the second half. The Officers Training Workshop was moved from summer to the fall, and turned out to be fairly well attended. Many of you chapter officers, unfortunately, did not attend. Contact me, and I will try to give you a synopsis of the critical items that were presented, and that you need to perform your job adequately.

Many of you chapter officers are still behind in reporting the needed input on your chapter and its officers: names, budgets and — very important — meeting reports. These are required for us to receive our rebate from IEEE HQ in spring, so please follow through to assure that your chapter is in full compliance. We will not receive any of our rebate until all active chapters have submitted the required information.

Several of you have taken me up on my previous messages, and sent e-mails with a variety of questions and suggestions. Several have asked to be more involved in IEEE activities; some have signed up as new members, and still others have expressed interest in knowing more about the section and chapters. I appreciate your interest and hope I was able to help you with my responses.

Our annual Awards Banquet is coming up soon (see page 7),

so this is the time for nominations for recognition in the IEEE. Your suggestions are important in our consideration of candidates, so let me know if you can provide the names of members who deserve consideration for receiving an award. Please give me a call or send me an e-mail in responding to this message.

*Jerry Gibbon*

Chairman, Washington Section

## EDITOR'S CORNER

We were delighted to receive two "letters-to-the-editor" on the subject of "Globalization," one mostly positive, and one with strong disagreements. We also received about a dozen telephone calls on that subject, the majority of them positive. We would appreciate additional comments for the next (April/May) issue, as globalization is a controversial issue in the IEEE, and our decision makers should know how the members feel about it.

## YOUR LOCAL REPORTER

### 12 Local Members Elected to IEEE Fellow Grade!

Nine members of the Washington Section, and three members of the Northern Virginia Section, were advanced to the grade of FELLOW in the IEEE, effective January 1 this year. Along with their fellow citation, they are listed here in alphabetical order. As their State (District) of current residence was strictly a function of the realtor they used when moving into this area, we decided to list just their names and citations. They and their guests will be invited to our Annual Awards Banquet in April, and we encourage you, their friends and neighbors, to honor and congratulate them in person at that Banquet.

- |                          |  |
|--------------------------|--|
| Mahmood Mike Adibi       | For contributions to power system restoration planning and to the use of digital computers in the power industry   |
| Alan Fred Clark          | For contributions to superconductivity research, development of accurate characterization methods for superconductors, and development of related industry standards           |
| Spiros Dimilitsas        | For leadership in the standardization of signal processing technology for international and mobile communications  |
| Louis J. Ippolito, Jr.   | For contributions to the study and application of radiowave propagation effects in space communication systems design  |
| J. Robert Jump           | For contributions to the theory and design of interconnection networks for parallel computer systems   |
| David M. Le Vine         | For development of the high resolution synthetic aperture radiometer (ESTAR), and other contributions to microwave remote sensing of the earth                                 |
| Edward Ott               | For contributions in plasma physics, nonlinear dynamics, and chaos   |
| Robert Kelly Parker      | For leadership and contributions in the fields of intense relativistic electron beams, and the generation of coherent electromagnetic radiation through beam-wave interactions |
| Thomas Joseph Pleviak    | For leadership and individual contributions to the development and dissemination of Network Management technology and systems  |
| Paul Bennett Schneck     | For leadership in the development of parallel computers  |
| Robert Mitchell Silliman | For contributions to the Broadcast industry  |
| Richard J. Van Brunt     | For research in electronegative gases and the stochastic properties of partial discharges  |



## LETTERS TO THE EDITOR

(Editor's Note: The writer of this letter is a well-educated and highly intelligent person whose opinions I value greatly. He is a retired forester who is very interested in the environment, and very active in community affairs.)

Tom:

A few notes on your introduction to the "Globalization" feature on page 12 of the Dec '94/Jan '95 issue of the SCANNER.

1. Don't try to be everything for everyone. Not in our lifetimes will it be feasible to provide to all IEEE members throughout the world the same level of service. It is however essential that your organization be up-to-date on globalization issues, and take "appropriate" actions.

2. As you know, I am a member of the Society of American Foresters (SAF). There also is an International Union of Societies of Foresters (IUSF) with several thousand members throughout the world. I believe someone from IEEE might want to talk to our Executive V.P. and to other professional societies to find out how they plan on handling globalization matters. Last year, the Journal of Forestry had 15 articles on international forestry matters.

3. Recently the D.C. Unit of the SAF hosted a group of 38 foresters (from about 25 countries) at a luncheon. This group had been in the USA for a 6-week seminar; it included foresters from Albania; Czechs, and Slovaks (units of the former Czechoslovakia); tropical foresters from Africa, South America, etc. I was amazed how all of the participants spoke good English. We Americans need more people who can communicate in several languages.

4. I think you may get an argument from other professionals when you say your profession (scientists and engineers) is "unique in our ability to solve scientific, engineering, and technical management problems."

5. Conclusion: You are an excellent professional organization. Yes, reach out to be fully aware of international or globalization issues; but be cautious about trying to be the home for all your engineers throughout the world.

Don Pomerening

To the Editor:

I write in response to your remarks in the December-January issue on "Globalization," remarks with which, for the most part, I strongly disagree.

You write that our world is "divided by standards of living, by racial and ethnic and religious affiliations, by tensions, mistrust and violence. Is it possible that IEEE can play a part, even a small part, in making the world a better, safer, more 'united' place to live?"

First, the IEEE has no special expertise in any of these public policy matters. Second, how would the IEEE decide what a "better" world would look like?

I do not agree with your implication that a uniform standard of living is a desirable goal (indeed, its pursuit has inspired much serious mischief); nor am I much troubled by mistrust, inasmuch as there are many untrustworthy people in the world. I have no desire to diminish racial, ethnic, or religious diversity in the name of unity, though I favor more tolerance and mutual respect (I suspect we agree on this). These views of mine are not technical but political and philosophical. They have nothing to do with what you and I have in common as scientists or engineers, and they should be of no concern to the IEEE. To the extent that your views differ from mine, the IEEE has no reason to endorse or promote my views over yours or vice versa. Doing so would not make us or the world more united.

You write, "I feel strongly that engineers and scientists have a special responsibility to get involved in matters of international significance... We, more than any other professionals, are "proficient" in addressing problems analytically, and in formulating realistic plans to solve them. So, let's use this problem-solving capability in a united and positive manner: Let's get involved in the international solutions needed to make life better and more meaningful for all mankind."

Our special responsibility is to share our technical expertise with those whose job it is to formulate public goals and policies. While our profession probably attracts analytical thinkers, we are absolutely NOT more proficient in analytical thinking than football coaches, doctors, journalists, lawyers, auto mechanics, economists, politicians, or many others. We are not an anointed elite with an inside track to solving the world's problems.

You ask the IEEE to unite behind some unspecified and perhaps utopian scheme. This would use the dues and good reputations of all IEEE members, and the reputation of the organization, in furtherance of a public policy whose details are yet to be determined (or revealed?), and whose objectives are to be chosen on political grounds. This call for unity sounds like the familiar politician's refrain: "We can accomplish so much if only we work together," which has always meant, "We can achieve my goals if you all do as I say."

Let us not politicize the IEEE by taking official positions on controversial public issues that are unrelated to our expertise. IEEE members already promote the public good individually according to their own lights. There is nothing wrong with this diversity.

Sincerely,

Franklin A. Jaeckle



## The Institute of Electrical and Electronics Engineers, Inc. United States Activities

### Announces the 23rd Annual Competition for 1996

## IEEE-USA Congressional Fellowships

**PROGRAM:** Electrical and Electronics Engineers and Allied Scientists are competitively selected to serve a one-year term on the personal staff of individual Senators or Representatives or on the professional staff of Congressional Committees. The program includes an orientation session with other Science-Engineering Fellows, sponsored by the American Association for the Advancement of Science (AAAS).

**PURPOSE:** To make practical contributions to more effective use of scientific and technical knowledge in government, to educate the scientific communities regarding the public policy process, and to broaden the perspective of both the scientific and governmental communities regarding the value of such science-government interaction.

**CRITERIA:** Fellows shall be selected based on technical competence, on ability to serve in a public environment, and on evidence of service to the Institute and the profession. Specifically *excluded* as selection criteria are age, sex, creed, race, ethnic background, and partisan political affiliations. However, the Fellow must be a U.S. citizen at the time of selection, must have been in the IEEE at Member grade or higher for at least four years, and must have at least 10 years' professional experience, which may include graduate education. Additional criteria may be established by the selection committee.

**AWARDS:** IEEE-USA plans to award at least two Congressional Fellowships for the 1996 term. Additional funding sources may permit expansion of awards.

**APPLICATION:** Further information and application forms can be obtained by calling Chris J. Brantley at (202) 785-0017, by faxing (202) 785-0835, by electronic mail to [c.brantley@ieee.org](mailto:c.brantley@ieee.org) (Internet), or by writing:

Congressional Fellows Program  
IEEE United States Activities  
1828 L Street, N.W.  
Washington, D.C. 20036-5104

Applications must be postmarked no later than March 31, 1995 to be eligible for consideration.



## PACE CORNER

EVENTS FOR NATIONAL ENGINEERS' WEEK 1995

### "Engineering for People — People for Engineering"

The District of Columbia Council of Engineering and Architectural Societies (DCCEAS) cordially invites you to join fellow engineers and architects of the member societies of this organization at the buffet luncheon and formal banquet to be held in celebration of National Engineers' Week, which will run from February 20th to February 25th, 1995. Outstanding engineers and architects from the Washington Metropolitan Area's member societies will be honored at these events. Help your society to fill one or more

tables for each event by sending your registration form (below) and check to the address indicated before the deadline for each event.

Details for the luncheon and banquet are provided in the "Calendar of Events" of this issue of the SCANNER for the dates February 22 and February 25, respectively.

Make checks payable to DCCEAS NEW'95 and mail, with the form below, to:

Paul Amesse  
PDI Corp.  
2301 Jefferson Davis Hwy, Suite 1528  
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 \_\_\_\_\_ banquet table(s) for ten @ \$300      \$ \_\_\_\_\_  
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Address \_\_\_\_\_

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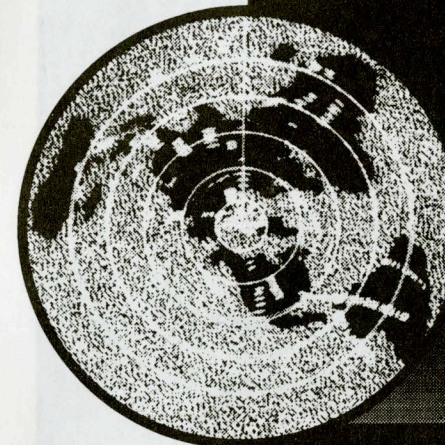
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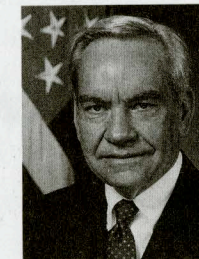
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