

# SCANNER

A JOINT PUBLICATION OF THE NORTHERN VIRGINIA AND WASHINGTON SECTIONS

o embe — ecem be

ol me , o

## SECON Panel Discusses DoD Uses of Sensor Technologies

By Tim Weil  
Washington Section Editor

The IEEE Communication Society's Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON 2006) offered a thought provoking panel on the military's viewpoint of using this technology for DoD communication.

A group of distinguished speakers from industry, government and academia participated in the panel, "Ad-Hoc and Sensor Technology: The Defense Industry's Perspective," at the September conference in Reston, Virginia. They addressed the challenges and opportunities for next generation Department of Defense (DoD) wireless networks to provide critical support to the military Warfighter and to extend the reach of the Global Information Grid (GIG) to the tactical battlefield environment. Topics such as Mobile Ad-hoc Networks (MANETs), Future Combat Systems (FCS), Joint Tactical Radio Systems (JTRS), and GIG

*continues on page 6*

## EMBS Chapter Speaker Explores Tele-Medicine Security Protocols

By Debi Siering

On September 28, the Washington and Northern Virginia chapter of the Engineering in Medicine and Biology Society invited Fari Schlake to give a presentation on "Security Protocols and Their Impact on Quality of Service in Tele-Medicine Communications."

Ms. Schlake discussed the network protocols currently being used in the telemedicine and telehealth industry, and quickly identified some of their QoS loopholes while providing secure communications. She then introduced her design of a security protocol that combines the best of the three worlds of broadband, secure, and high quality



**SPS Kick-off Lecture**—Guest speaker Rama Chellappa (center) joins Signal Processing Society colleagues and chapter officers (left to right) Min Wu, chapter chair; Ramaraj Duraiswami, vice chair; Phillip Regalia, December speaker; and Ray Liu, SPS vice president. (Photo: Avinash Varna)

## Washington Signal Processing Chapter Hosts First Lecture, Elects Officers

Nearly 80 people from universities, industry, and government agencies attended the kick-off lecture of the Washington Section's new Signal Processing Society chapter, held in September at the University of Maryland, College Park.

The lecture was given by Rama Chellappa, Minta Martin Professor of Electrical and Computer Engineering and director of the Center for Auto-

mation Research of the Institute for Advanced Computer Studies at the University of Maryland, College Park.

Dr. Rama gave the audience an overview on the recent advances of using face and gait to identify persons and their activities. These advances are enabling the integration of these biometrics into video-based surveillance systems for homeland security and other applications. Through a number of fascinating examples, he discussed the challenges in getting the biometrics to work reliably, and how cutting-edge research, including award-winning work from his research group, can help address these problems.

*continues on page 7*

## MathCounts Needs Coaches

By Michael Flicker

In Fairfax County, 14 of 26 middle schools participated in the nationally-recognized MathCounts program during the 2005-06 school year. We would like to extend MathCounts to more schools this year, and are seeking volunteers who want to help middle school students prepare for mathematics competitions.

MathCounts is a math enrichment, coaching and competition program that promotes middle school mathematics achievement through grassroots involvement in every U.S. state and territory. With over 23 years experience, MathCounts is one of the most successful education partnerships involving volunteers, educators, industry sponsors, and students. The MathCounts program has received two White House citations as an outstanding private sector initiative.

After several months of coaching, participating schools select students to compete individually or as part of a team in one of the more than 500 written and oral competitions held nationwide and in U.S. schools overseas. Winners at the local level proceed to state competitions, where the top four "Mathletes" and top coaches earn the right to represent their state or territory at the national level. At all levels, MathCounts challenges students' math skills, develops their self-confidence and rewards them for their achievements.

There are a variety of reasons why

*continues on page 7*

## Washington Section Elections: Call for Nominations

The Washington Section will hold its annual elections at its November 7 meeting (see Calendar). At that time, all members present may vote for 2007 Section Officers: Chair, Vice-Chair, Treasurer, and Secretary. Officers serve a one-year term. Election of four of the eight-member Board of Directors will also take place that evening. Section Direc-

tors serve two-year terms. A slate of candidates will be announced in the eScanner ([www.ieee.org/escanner](http://www.ieee.org/escanner)) on or about Nov 1. Officers and Directors must be IEEE members in the Washington Section. Nominations will also be accepted from the floor on Nov 7. Please contact Ron Ticker at [rtlticker@ieee.org](mailto:rtlticker@ieee.org) for more information.

*continues on page 6*

**WASHINGTON SECTION**<http://www.ieee.org/washsec>**Chair**

Haik Biglari, P.E.  
301-228-3538  
hbiglari@fairchildcontrols.com

**Vice Chair**

Kiki Ikossi  
703-960-0261  
ikossi@ieee.org

**Treasurer**

Richard Benjamin, P.E.  
301-228-3471  
rbenjamin@ieee.org

**Secretary**

Gerard J. Christman  
703-697-8195  
gerard.christman@ieee.org

**Past Chair**

Ron Ticker  
202-358-2429  
rticker@ieee.org

**Directors**

James Christian  
jchristian@wmata.com

Doug Holly  
dougholly@ieee.org

Howard Needham  
howardn@ieee.org

Harry Sauberman  
hrs@cdh.fda.gov

Debi Siering  
siering@ieee.org

Harold Stinger  
hstinger@sgt-inc.com

Tim Weil  
trweil@ieee.org

Steve Weiss  
sweiss@arl.army.mil

**NORTHERN VIRGINIA SECTION**<http://ieee-nova.org>**Chair**

Michael Cardinale  
703-788-7754  
cardinal@ieee.org

**Chair Elect**

Chuck Sisung  
703-267-9524  
sisung@ieee.org

**Treasurer**

Barry Tilton  
703-655-3621  
barrytilton@ieee.org

**Secretary**

Monica A. Mallini, P.E.  
703-387-6021  
m.a.mallini@ieee.org

**Past Chair**

Murty Polavarapu  
703-367-1497  
murtyp@ieee.org

**Directors**

Syed Ahmed  
syed.f.ahmed@ieee.org

Chuck Baldi  
cbaldi@ieee.org

Amarjeet Basra  
amarjeet.basra@ieee.org

Dave Booth  
dbooth@ieee.org

Scott Goldstein  
s.goldstein@ieee.org

Kerry Hartman  
hartman\_k@computer.org

Jeff Palermo  
jpalermo@kemaconsulting.com

Tim Settle  
settlet@saic.com

**NATIONAL CAPITAL AREA****Office Manager**

Debra Meale  
P.O. Box 6814  
Woodbridge, VA 22195-6814  
703-492-0047  
(voice and fax)  
nca-admin@ieee.org

**Editor-in-Chief**

Pete Sypher  
703-216-3203  
p.sypher@ieee.org

**Managing Editor**

Elsie Grant  
301-661-5921  
ncac-scanner@ieee.org

**IEEE REGION 2 SOUTH AREA\*****Chair**

Murty Polavarapu  
703-367-1497  
murtyp@ieee.org

\*Including Washington, Northern Virginia, and Baltimore Sections and Annapolis Subsection

**SCANNER STAFF****Northern Virginia Section Editor**

Kerry Hartman  
703-623-1432  
hartman\_k@computer.org

**Washington Section Editor**

Tim Weil  
301-452-3641  
trweil@ieee.org

**Webmaster**

Rex Klopfenstein  
703-610-1534  
r.klopfenstein@ieee.org

**Advertising Manager**

Dave Booth  
540-364-1350  
dbooth@ieee.org

**TECHNICAL SOCIETY CHAPTERS AND AFFINITY GROUPS****Technical Society Chapters****Aerospace and Electronic Systems Society (W/NV)**

Mr. Roger Oliva  
703-573-6887  
axe@computer.org  
[http://ewh.ieee.org/r2/wash\\_nova/aess](http://ewh.ieee.org/r2/wash_nova/aess)

**Antennas and Propagation Society (W/NV)**

Dr. Scott Kordella  
703-883-6282  
kordella@mitre.org

**Communications Society (W)**

Mr. Doug Holly  
240-404-1601  
dougholly@ieee.org

**Communications Society (NV)**

Dr. Dennis Moen  
703-625-2611  
dennis.moen@ieee.org

**Computer Society (NV/W)**

Mr. Shahid Shah  
703-475-6146  
shahid.shah@ieee.org

or  
Dr. Tirumale K. Ramesh  
703-923-5380  
tkramesh@ieee.org

[http://ewh.ieee.org/r2/wash\\_nova/computer/](http://ewh.ieee.org/r2/wash_nova/computer/)

**Control Systems Society (W)**

Mr. Mike Gilliom  
301-228-3591  
mgilliom@fairchildcontrols.com

**Control Systems Society (NV)**

Mr. Seddik Benhamida  
703-414-4082  
sbenhamida@dc.devry.edu

**Electromagnetic Compatibility Society (W/NV)**

Mr. Greg Snyder  
301-417-0220  
gregs@will.com

**Electron Devices Society (NV/W)**

Mr. Murty Polavarapu  
703-367-1497  
murtyp@ieee.org  
[www.ieee.org/eds\\_nova](http://www.ieee.org/eds_nova)

**Education Society**

Mr. David Bourner  
410-455-2855  
bourner@umbc.edu

**Engineering Management Society (W/NV)**

Mr. Doug Holly  
240-404-1601  
dougholly@ieee.org  
[http://ewh.ieee.org/r2/wash\\_nova/ems/](http://ewh.ieee.org/r2/wash_nova/ems/)

**Geoscience and Remote Sensing Society (W/NV)**

Dr. James C. Tilton  
301-286-9510  
james.c.tilton@nasa.gov  
[http://ewh.ieee.org/r2/nova\\_virginia/grss](http://ewh.ieee.org/r2/nova_virginia/grss)

**Industry Applications Society (W/NV)**

Ms. Monica A. Mallini, P.E.  
703-387-6021  
m.a.mallini@ieee.org

**Information Theory Society (W/NV)**

Mr. Greg Strutt  
301-645-0380  
gstrutt@ieee.org

**Lasers and Electro-optics Society (W/NV)**

Dr. Mary S. Tobin  
301-394-2046  
mtobin@arl.army.mil

**Magnetics Society (W/NV)**

Dr. Can E. Korman  
202-994-4952  
korman@gwu.edu

**Microwave Theory and Techniques Society (W/NV)**

Dr. Joe Qiu  
202-404-4510  
joe.qiu@ieee.org  
[www.ieee.org/mtt-wnva](http://www.ieee.org/mtt-wnva)

**Nuclear and Plasma Sciences Society (W/NV)**

Mr. Harry Sauberman  
301-443-8879  
HRS@cdh.fda.gov

**Oceanic Engineering Society (W/NV)**

Mr. Mike Goldberg  
703-610-1717  
mgoldber@mitretek.org

**Power Engineering Society (NV/W)**

Mr. Sirak Belayneh  
703-472-4621  
sbelayne@ieee.org

**Signal Processing Society (W)**

Dr. Min Wu  
301-405-0401  
minwu@umd.edu

**Signal Processing Society (NV)**

Dr. Timothy Settle  
703-814-8247  
settlet@saic.com

**Society for Social Implications of Technology (NV/W/Baltimore)**

Mr. Murty Polavarapu  
703-367-1497  
murtyp@ieee.org

**Vehicular Technology Society, Land Transportation Committee**

Mr. Karl W. Berger, P.E.  
703-803-7917  
kwb@dcm-va.com

**Southern Maryland Communication, Computer and EMC Chapter**

Mr. Fred Heather  
301-342-6975  
heatherf@navair.navy.mil

**Affinity Groups****Consultants' Network (W/NV)**

Ms. Monica A. Mallini, P.E.  
703-387-6021  
m.a.mallini@ieee.org  
[www.ieee-consultants.org](http://www.ieee-consultants.org)

**Graduates of the Last Decade (NV)**

Mr. Kerry Hartman  
703-623-1432  
hartman\_k@computer.org

**Life Members (W/NV)**

Mr. Amarjeet S. Basra  
703-324-2821  
amarjeet.basra@ieee.org

**Women in Engineering (W/NV)**

Ms. Danielle Obuchon  
703-863-8852  
dobuchon@gmail.com

**Editorial Policies and Procedures****Calendar Items and Announcements**

Please submit calendar items in the format used in the Calendar of Events. You can send email to [ncac-scanner@ieee.org](mailto:ncac-scanner@ieee.org). If possible, include a synopsis of the event and a biographical sketch of the presenter including academic background, current position, notable achievements, and IEEE and other professional affiliations.

Other contributions, such as reports on chapter events and other member activities, reviews of books by or of interest to members, are most welcome. Please submit them to the managing editor, electronically if possible, at [ncac-scanner@ieee.org](mailto:ncac-scanner@ieee.org).

**On the Web****eSCANNER Calendar of Events**

The calendar is available at [www.ieee.org/escanner](http://www.ieee.org/escanner). Check here for events submitted too late for print publication.

**IEEE National Capital Area Virtual Community**

Exchange ideas and participate in discussions with local IEEE members at [www.ieee-communities.org/ncac](http://www.ieee-communities.org/ncac).

**Advertising**

Contact the advertising manager about ad rates and to place advertising orders. Ads must be submitted by the deadline below.

**Deadlines**

The editor reserves the right to set policies and procedures necessary to provide members with a newsletter that is informative and timely. Deadlines must be strictly adhered to keep the publication on schedule. If you are planning an event and have insufficient information by the deadline, please contact the managing editor.

The deadline for the upcoming issue will always be published on this page.

*The deadline for the January-February issue is December 1, 2006*

IEEE National Capital Area SCANNER is published bimonthly by The Institute of Electrical and Electronics Engineers, Inc. Corporate Office: 3 Park Avenue, 17th Floor, New York, NY 10016-5997. It is sent automatically at a cost of \$1.00 per member per year (included in annual dues) to each member of the Washington and Northern Virginia Sections. Periodicals postage paid at New York, NY, and at additional mailing offices. Postmaster: Send address changes to IEEE National Capital Area SCANNER, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331. (ISSN 0894-0452)

# CALENDAR OF *events*

## Wednesday, November 1, 2006

### ◆ Global Earth Observation System of Systems

**Sponsor:** Geoscience and Remote Sensing Society  
**Speaker:** Ms. Kathy Fontaine, Global Change Data Center, NASA Goddard Space Flight Center, Greenbelt, MD  
**Time:** Refreshments 3:00 pm; lecture 3:30 pm  
**Place:** NASA Goddard Visitor Center  
**Directions:** See [www.nasa.gov/centers/goddard/visitor/directions/index.html](http://www.nasa.gov/centers/goddard/visitor/directions/index.html).  
**More Info:** See Diamond story, p. 4, and [http://ewh.ieee.org/r2/no\\_virginia/grss](http://ewh.ieee.org/r2/no_virginia/grss).  
**Contact:** James C. Tilton at [james.c.tilton@nasa.gov](mailto:james.c.tilton@nasa.gov).

## Wednesday, November 1, 2006

### ◆ Ubiquitous Multimedia Computing and Communication: Challenges and Future Trends

**Sponsor:** Signal Processing Society, Washington Chapter  
**Speaker:** C.-C. Jay Kuo, University of Southern California  
**Time:** Reception and networking 6:00 pm, lecture 6:30 pm  
**Place:** University of Maryland, Kim Engineering Building, Room 1110, College Park, MD  
**Directions:** From the north or I-495, take Route 1 South. Approx. 2 miles south of the Beltway, turn right onto Campus Drive, then immediately turn right onto Paint Branch Drive and the Kim Engineering Building will be on the left (after a stop sign). From the south on Route 1, turn left onto Campus Drive, and follow above directions. Free parking after 4:00 pm in Lots T and XX. See [www.parking.umd.edu/themap](http://www.parking.umd.edu/themap). From the College Park Metro Station (Green line), take the free UM campus shuttle, get off at the first stop, walk back for a hundred yards, turn left onto Paint Branch Drive and look for the Kim Engineering Building on the left.  
**More info:** See Diamond story, p. 4. All are welcome to attend.  
**Cost:** Free for IEEE members.  
**Contact:** Send an email message to [washington.sps@ieee.org](mailto:washington.sps@ieee.org).

## Thursday, November 2, 2006

### ◆ Spin Electronics

**Sponsor:** Magnetism Society  
**Cosponsor:** Electron Devices Society  
**Speaker:** Michael Coey, Trinity College, Dublin, Ireland  
**Time:** 2:00 pm  
**Place:** National Institute of Standards and Technology (NIST), Building 101, Lecture Room A, Gaithersburg, MD  
**Directions:** See [http://www.nist.gov/public\\_affairs/maps/nistmaps.html](http://www.nist.gov/public_affairs/maps/nistmaps.html).  
**More Info:** See Diamond story, p. 5. This is an IEEE Magnetism Society Distinguished Lecture.

**Contact:** For access to the NIST campus, attendees from outside NIST must preregister by contacting Philip Pong at 301-975-8876 or [ppong@nist.gov](mailto:ppong@nist.gov).

## Tuesday, November 7, 2006

### Washington Section Administrative Committee Meeting

**Time:** Dinner at 6:00 pm; meeting at 6:30 pm  
**Place:** Bethesda Marriott, 6711 Democracy Blvd., Bethesda, MD  
**Directions:** From Silver Spring, take I-495 West to Exit 36 North (Rt. 187, Old Georgetown Rd.), turn right onto Old Georgetown Rd., then left onto Democracy Blvd. and look for the Marriott on the right. From Rockville, take I-270, follow the signs for Northern Virginia at the divide, then take Exit 1 (Democracy Blvd.), turn left onto Democracy Blvd. and look for the Marriott on the left (make a U-turn at Fernwood Rd.). From Northern Virginia, take I-495 to I-270, then take Exit 1 (Democracy Blvd. East), and proceed as above.  
**More Info:** All interested IEEE members are welcome. Elections for 2007 section officers and 2007-2008 directors will be held at this meeting. See story, p. 1.  
**Contact:** Debra Meale at 703-492-0047 or [nca-admin@ieee.org](mailto:nca-admin@ieee.org). Please include the term IEEE in the subject line of your email.

## Wednesday, November 8, 2006

### Education Society Meeting

**Sponsor:** Education Society, Washington and Baltimore Chapter  
**Time:** 6:30-9:00 pm  
**Place:** University of Maryland Baltimore County, President's Room, ITE-456,  
**Directions:** From the south, take I-95 to Route 166 (Exit 47B, Catonsville), and follow signs to UMBC. See [http://www.umbc.edu/aboutumbc/campusmap/map\\_flash.html](http://www.umbc.edu/aboutumbc/campusmap/map_flash.html) and select "Information Technology/Engineering" from the Building Directory list.  
**More Info:** This is the first meeting of the joint Washington and Baltimore chapter of the IEEE Education Society. This will be an organizational meeting to plan future events and directions for the new chapter. Refreshments will be provided. All interested IEEE members are invited to attend.  
**Contact:** For more details, please contact Prof. David Bourner at 410-455-2855 or [bournerr@umbc.edu](mailto:bournerr@umbc.edu).

## Wednesday, November 8, 2006

### Northern Virginia Section Administrative Committee Meeting

**Time:** 6:30 pm  
**Place:** TBA (see [www.ieee.org/escanner](http://www.ieee.org/escanner))  
**More Info:** All interested IEEE members are invited to attend.  
**Contact:** Debra Meale at 703-492-0047 or [nca-admin@ieee.org](mailto:nca-admin@ieee.org). Please include the term IEEE in the subject line of your email.

## Friday, November 10, 2006

### ◆ Top Reasons Why Small Businesses Fail...and Avoiding Them

**Sponsor:** Women In Engineering  
**Cosponsor:** Consultants' Network  
**Speaker:** Vera Connolly  
**Time:** 7:00 pm  
**Place:** George Washington University (building and room TBD, please see [www.ieee.org/escanner](http://www.ieee.org/escanner))  
**More Info:** See Diamond story, p. 5.  
**Contact:** Please RSVP by November 7 to Debi Siering at [siering@ieee.org](mailto:siering@ieee.org).

## Tuesday, November 14, 2006

### ◆ Terahertz Technology in Outer and Inner Space

**Sponsor:** Microwave and Theory Techniques Society  
**Speaker:** Dr. Peter Siegel, Jet Propulsion Laboratory, Pasadena, CA  
**Time:** Social period 5:30 pm; dinner 6:00 pm; lecture 7:00 pm  
**Place:** Mitre Corporation, Building 2, 7515 Colshire Drive, McLean, VA  
**Directions:** See [www.mitre.org/about/locations/mitre2\\_map.html](http://www.mitre.org/about/locations/mitre2_map.html).  
**More info:** See Diamond story, p. 5. This lecture is the second event in the chapter-sponsored series, Millimeter-Wave and Terahertz Technologies and Applications.  
**Cost:** \$15  
**Contact:** Please RSVP by COB, Friday, November 10 to Roger Kaul at [r.kaul@ieee.org](mailto:r.kaul@ieee.org) or 301-394-4775.

## Tuesday, November 14, 2006

### Open Source and Free Tools for Engineers, Part 2

**Sponsor:** National Capital Area Consultant's Network  
**Time:** 6:00 pm  
**Place:** Chevy's Fresh Mex Restaurant, Ballston Common Mall, 4238 Wilson Blvd., Arlington, VA  
**Directions:** Ballston Common is two blocks south of Ballston Metro station (Orange line).  
**More Info:** This is the second installment in the Open Source Software series, which started with the September 19 meeting. Members will demonstrate their favorite "free" software programs and discuss the usefulness and limitations of each. See Diamond story, p. 5.  
**Contact:** Rick Cunningham at [rick@corridor-rd.com](mailto:rick@corridor-rd.com).

## Thursday, November 16, 2006

### Power Quality (Topic TBA)

**Sponsors:** Power Engineering Society; Industry Applications Society  
**Speaker:** TBA  
**Time:** Refreshments at 6:00 pm, speaker at 6:30 pm

CALENDAR  
continues on page 4

## CALENDAR

continued from page 3

**Place:** Virginia Tech Advanced Research Institute, 4300 Wilson Blvd., Suite 750, Arlington, VA

**Directions:** From Ballston Metro Station (Orange line), turn right at top of escalator then left on the street. Proceed two blocks toward Hecht's, turn right and walk one block to Ballston Point at the intersection of Wilson Blvd. and Glebe Rd. ARI is on the 7th floor. If driving, see [www.ari.vt.edu/ari\\_directions.htm](http://www.ari.vt.edu/ari_directions.htm).

**More Info:** A light dinner buffet will be served, followed by the program.

**Cost:** Free for IEEE members; \$10 for guests.

**Contact:** RSVP to Monica Mallini at 703-387-6021 or [m.a.mallini@ieee.org](mailto:m.a.mallini@ieee.org).

**Tuesday, December 5, 2006**  
**Washington Section Executive Committee Meeting**

**Time:** Dinner at 6:00 pm; meeting at 6:30 pm

**Place:** Bethesda Marriott, 6711 Democracy Blvd., Bethesda, MD

**Directions:** From Silver Spring, take I-495 West to Exit 36 North (Rt. 187, Old Georgetown Rd.), turn right onto Old Georgetown

Rd., then left onto Democracy Blvd. and look for the Marriott on the right. From Rockville, take I-270, follow the signs for Northern Virginia at the divide, then take Exit 1 (Democracy Blvd.), turn left onto Democracy Blvd. and look for the Marriott on the left (make a U-turn at Fernwood Rd.). From Northern Virginia, take I-495 to I-270, then take Exit 1 (Democracy Blvd. East), and proceed as above.

**More Info:** This meeting is for officers only.

**Contact:** Debra Meale at 703-492-0047 or [nca-admin@ieee.org](mailto:nca-admin@ieee.org). Please include the term IEEE in the subject line of your email.

**Wednesday, December 6, 2006**

◆ **Information Hiding: A Tutorial Information Theory Viewpoint**

**Sponsor:** Signal Processing Society, Washington Chapter

**Speaker:** Phillip Regalia, Catholic University of America

**Time:** Reception and networking 6:00 pm, lecture 6:30 pm

**Place:** University of Maryland, Kim Engineering Building, Room 1110, College Park, MD

**Directions:** From the north or I-495, take Route 1 South. Approx. 2 miles south of the Beltway, turn right onto Campus Drive, then

immediately turn right onto Paint Branch Drive and the Kim Engineering Building will be on the left (after a stop sign). From the south on Route 1, turn left onto Campus Drive, and follow above directions. Free parking after 4:00 pm in Lots T and XX. See [www.parking.umd.edu/themap](http://www.parking.umd.edu/themap). From the College Park Metro Station (Green line), take the free UM campus shuttle, get off at the first stop, walk back for a hundred yards, turn left onto Paint Branch Drive and look for the Kim Engineering Building on the left.

**More info:** See Diamond story, p. 5.

**Contact:** Send an email message to [washingt.sps@ieee.org](mailto:washingt.sps@ieee.org).

**Tuesday, December 19, 2006**

◆ **Open Source Web Content Management Systems**

**Sponsor:** National Capital Area Consultant's Network

**Time:** 6:00 pm

**Place:** Chevy's Fresh Mex Restaurant, Ballston Common Mall, 4238 Wilson Blvd., Arlington, VA

**Directions:** Ballston Common is two blocks south of Ballston Metro station (Orange line).

**Contact:** Rick Cunningham at [rick@corridor-rd.com](mailto:rick@corridor-rd.com).



## DIAMOND STORIES



**Wednesday, November 1, 2006**  
**Global Earth Observation System of Systems**

The international Group on Earth Observations (GEO) was established in 2003 to engage all the nations of the Earth in building a coordinated, comprehensive, and sustained Earth observation capability. Key to that capability, and perhaps the greatest challenge, is the realization of a Global Earth Observation System of Systems, or GEOSS. The GEOSS 10-Year Implementation Plan has identified nine Societal Benefit Areas to which member agencies and participating organizations can focus relevant assets—anything from actual sensors and data sets to processing expertise to user requirements. GEO members and organizations strive to make GEOSS a reality by pooling their collective expertise to address critical issues either within one or more of those areas, or across all nine at once. The GEO website describes GEOSS this way: "GEOSS will build on and add value to existing Earth-observation systems by coordinating their efforts, addressing critical gaps, supporting their interoperability, sharing information, reaching a common understanding of user requirements, and improving delivery of information to users."

Each member nation has responded to GEO by establishing some sort of coordinating body; within the United States, that is the United States Group on Earth Observations (USGEO). This talk will describe the establishment of GEO and USGEO, will provide an overview of the activities and challenges in the area of architecture and data management, and will highlight some of the major efforts underway within USGEO today.

Kathy Fontaine works on general policy issues of interest to NASA and its Earth science data commu-

nity. She co-authored a study which recommended the way forward for NASA's Earth science data systems (referred to as the SEEDS Study). She now manages a set of community-based working groups which are a follow on of that study, and which examine issues of interest to the Earth science community, including standards adoption, technology infusion, metrics reporting, and software reuse. Part of her work also involves developing a cost estimation tool to determine what both Earth and space science data systems should cost (this software tool is currently in the preliminary stages of the patent process at Goddard).

She received a B.S. in physics (astrophysics) from the New Mexico Institute of Mining and Technology in 1984, and an M.A. in science, technology, and public policy from the Elliott School of International Affairs at The George Washington University, Washington, D.C., in 2002. She has authored or co-authored more than a dozen papers and articles on various aspects of earth science policy.

**Wednesday, November 1, 2006**  
**Ubiquitous Multimedia Computing and Communication: Challenges and Future Trends**

With recent flourishing of embedded media applications such as MPEG-2, H.264 and VC-1 encoders/decoders and wireless broadband communication infrastructures such as 3G, WiMax and Wi-Fi, real-time multimedia computing and communications on embedded systems becomes a major focus for both software and hardware designers. In the first part of the talk, the tradeoff between several design choices is analyzed, including the RISC processor, the SIMD processor and the dedicated ASIC.

Then, in the second half of the talk, three emerging R&D efforts will be highlighted. First, the design of a multi-format video codec to strike a balance between flexibility and performance is addressed. This is motivated by the observation that there are multiple audio video compression formats to be adopted currently. The trend of embedded processors is to support a wide range of audio video formats such as MPEG-2, H.264 and VC-1. The design of multi-format codec demands a careful architecture consideration. Second, we consider the design of low-complexity integrated encryption and compression speech and video coding algorithms, which can significantly lower the power consumption of mobile terminals for the digital rights management (DRM). This gives an example of lower power design from an algorithmic level. Third, the rate-distortion-complexity (RDC) optimized video coding techniques are discussed. We emphasize a concept called "decoding-friendly encoder design," where many computational heavy operations can be saved at the decoder end while high visual quality can still be preserved.

C.-C. Jay Kuo received a Ph.D. from the Massachusetts Institute of Technology in 1987. He is now with the University of Southern California (USC) as director of the Signal and Image Processing Institute and professor of electrical engineering, computer science and mathematics. His research interests are in the areas of digital media processing, multimedia compression, communication and networking technologies, and embedded multimedia system design. Currently, there are about 40 Ph.D. students in his research group at USC, which is one of the large-

**DIAMOND STORIES**  
 continues on page 6

est academic research organizations in multimedia technologies (see <http://viola.usc.edu>).

Dr. Kuo is a Fellow of IEEE and SPIE. He received the National Science Foundation Young Investigator Award and Presidential Faculty Fellow Award in 1992 and 1993, respectively. He is a co-author of about 800 technical publications in international conferences and journals as well as seven books. Dr. Kuo is editor-in-chief for the *Journal of Visual Communication and Image Representation*, and editor for the *Journal of Information Science and Engineering* and the *EURASIP Journal on Applied Signal Processing*. He was on the editorial board of the *IEEE Signal Processing Magazine*, and served as associate editor for *IEEE Transactions on Image Processing*, *IEEE Transactions on Circuits and Systems for Video Technology* and *IEEE Transactions on Speech and Audio Processing*.

#### Thursday, November 2, 2006

##### Spin Electronics

Conventional electronics has ignored the spin on the electron. Besides its fundamental unit charge, the electron has a magnetic moment due to its quantum of angular momentum. Things began to change in 1988, with the discovery of giant magnetoresistance in metallic thin film stacks. This led to the development of spin valves and magnetic tunnel junctions, which allowed magnetic recording to ride the tiger of 100 percent year-on-year growth of recording density for the past ten years. Tunnel junctions are the active elements for most schemes for nonvolatile magnetic random-access memory, which will be briefly surveyed.

These devices, which underpin the multi-billion dollar magnetic recording industry, are nothing more than sophisticated magnetoresistors, the simplest two-terminal electronic device. If we are to see a second generation of spin electronics, it will be necessary to develop more complex devices such as a three-terminal spin transistor with gain. Here magnetic semiconductors are required, or at least the ability to manipulate spin-polarized currents in normal semiconductors. The puzzling new family of dilute magnetic oxides, such as ZnO:Co or SnO<sub>2</sub>:Mn, and the emerging class of d<sup>0</sup> ferromagnets such as HfO<sub>2</sub> or CaB<sub>6</sub> may produce a new paradigm for magnetism in solids, and support entirely new device concepts. A major challenge is to separate spin and charge currents in solids, and transmit information magnetically, without dissipation.

#### Friday, November 10, 2006

##### Top Reasons Why Small Businesses Fail... and Avoiding Them

Have you thought about pursuing the American Dream of becoming your own boss? Despite all the wonderful incentives that motivate individuals to become self-employed, within a year most self-starters are in the red and have to go back to work for someone else. This presentation will identify the major causes of small business failure and how to avoid them, thus creating an opportunity to be successful as a small business owner.

Vera Connolly is president of Connolly Business Solutions. Before starting her own business, she was an executive manager for 26 years in the retail and federal government sectors, and held a variety of management and leadership positions in operations, customer relationships, education and training, and human resources.

Mrs. Connolly has substantial management experience in a multi-cultural work environment, as well as expertise in standing-up new organizations, developing marketing strategies, and budget management. As a skilled facilitator and mentor, she

helped management teams develop strategic plans, and guided senior executives in creating a communications strategy, performance expectations, and management processes for customer relationship management hubs within a global enterprise. During a two-year assignment in Australia, she designed new hire orientation, on-the-job training, and train-the-trainer programs for a diverse set of operational positions.

She has an M.S. in nonprofit management and expects to receive her M.B.A. in December from the University of Maryland, University College.

#### Tuesday, November 14, 2006

##### Terahertz Technology in Outer and Inner Space

After more than 30 years, the field of terahertz technology is entering a true renaissance. The past few years have seen an unprecedented expansion of terahertz applications, components and instruments. Broad popular interest in this unique frequency domain has emerged for the first time, spanning applications as diverse as biohazard detection and tumor recognition. This talk will broadly survey terahertz technology from the cradle applications in space science and spectroscopy to more recent biomedical and chemical users.

Peter H. Siegel has been involved in the analysis and development of millimeter and sub-millimeter sensors for 30 years. Dr. Siegel has worked at the NASA Goddard Institute for Space Studies and the National Radio Observatory, and he is currently at the Jet Propulsion Laboratory. At JPL, he has contributed to more than 60 R&D programs as well as developing and delivering hardware for four major space flight instruments. Dr. Siegel is chair of the IEEE MTT Technical Committee on Terahertz Technology and a Distinguished Microwave Lecturer.

#### Tuesday, November 14, 2006

##### Open Source and Free Tools for Engineers, Part 2

Open source isn't just for software developers and programmers any more! It's not necessary to write code and extend open source software just to be able to use it. In fact, you don't even need to know what a compiler is, let alone know how to use it in order to benefit from open source. Lots of complete, highly functional tools for engineers are available as free, open source projects, and can greatly enhance the consultant's bag of tricks. Similarly, many commercial programs, while not open source, are frequently available in "lite" or express versions for the occasional user, with hopes of eventually making you a paid user. However, there's a lot of junk out there, too, and it's not always easy to know whether obtaining and learning to use a particular

tool will be worth the time investment.

At this meeting, members of the Consultant's Network will discuss a number of free tools that they are using in their work, and will give attendees an idea of just what can be accomplished with them. The format will be a series of brief demonstrations of the actual use of the software to solve a real-world engineering problem. Features and limitations of the free versions of each tool will be highlighted. Attendees should come away from the meeting with a good idea of whether a particular tool would be right for them, what the learning curve might entail, and where to find some local expertise on its use.

If you have a favorite tool you would like to demonstrate in a 10-15 minute time slot, please contact Rick Cunningham at [rick@corridor-rd.com](mailto:rick@corridor-rd.com) and mention "November Meeting Topic" in the subject line.

#### Wednesday, December 6, 2006

##### Information Hiding: A Tutorial Information Theory Viewpoint

Information hiding is a recent viewpoint of watermarking, which exploits information theory to deduce fundamental limits on how much information can be hidden in a cover signal, subject to distortion constraints from embedding, and resilience due to signal degradation. Applications include copyright protection, fingerprinting, embedding confidential patient information in medical images, and other areas of stenography.

This talk presents a tutorial overview of recent results in information hiding stemming from an information theory viewpoint, along with coding techniques which are adapted to information hiding, including dirty paper coding and nested lattice codes. Some standard techniques for watermarking are revisited in this framework, and gaps between theoretically achievable embedding capacity and practical attainable rates are emphasized. Relationships to cryptography, dual source coding problems, and high-capacity multi-user communications are also reviewed.

Phil Regalia received his Ph.D. from the University of California, Santa Barbara in 1988. He spent many years working in France at the National Institute of Telecommunications, with sabbatical visits at the Delft University of Technology and the Army Research Lab in Adelphi, Maryland. He returned to the United States two years ago and is now at the Catholic University of America in Washington, D.C.

Dr. Regalia was elected as an IEEE Fellow in 2000 for his contributions to adaptive filtering, and has been active in signal processing for communications in recent years. He is the founding editor-in-chief of the *EURASIP Journal on Wireless Communications and Networking*, and serves as an associate editor with the *IEEE Transactions on Circuits and Systems*, the *International Journal of Adaptive Control and Signal Processing*, and the *EURASIP Journal on Applied Signal Processing*.

## DeVry Student Branch Holds First SPAC

The first annual DeVry University-IEEE Student Professional Awareness Conference (SPAC) was held on September 27. More than 40 students, faculty and visitors attended the event, which was sponsored by the IEEE Student Branch at DeVry University, Arlington and the IEEE Northern Virginia Section.

The conference included excellent presentations on the following topics: Intellectual Property Law by Kerry Hartman; Project Management by Doug Holly; Interviews and Resumes by Dr. Van B. Le; and Preparation for Career Changes

by Tom Wellington. Each speaker was presented a DeVry University coffee mug and T-shirt in appreciation of their support. Breakfast and lunch was also provided for the attendees.

Individuals who helped to make the SPAC a success included Vernon Dickerson, student services; Vaughn Dabney, DeVry student; Broderick Pierce, facilities; Kevin Shanahan, DeVry student; Ryan Niles, student member; Melvin Menns, director of student services; Cary Whitcup, dean of student affairs; Christian Campos; and Aubrey Humphrey, student branch president.

## SECON PANEL

continued from page 1

provided for a wide ranging discussion by both speakers and conference attendees.

The panel was moderated by Les Owens, a principal with Booz Allen Hamilton and associate professor of computer science at Georgetown University. Mr. Owens opened the seminar by posing questions to panelists on the current DoD wireless environment, the impact of MANETs and sensor networks in the combat zone, information assurance and security issues, scalability problems and network routing challenges. To identify what are the right problems to fund and research in this field, Mr. Owens challenged his colleagues to focus on the key points in these areas so that "we don't study the fuzz on the bee."

The four speakers followed this lead with discussions from their unique professional viewpoints. The succession of presentations included Sherin Kamal (Booz Allen Hamilton) on "MANETs for DoD and DHS," Curtis White (U.S. Air Force) on "Integrated Battlefield Defenses—A Communications Overview," David Lofquist (Boeing) on "Software Communications—The Battleship Internet," and Scott Midkiff (NSF), on "Ad-Hoc and Sensor Technology: The Defense Industry's Perspective (As Seen by an Academic)."

Dr. Kamal's discussion pointed to the complexity of the interoperable networking environments used with MANETs to provide a Tactical Edge to the battlefield combat soldier. Soldier Radio Waveform (SRW), Mobile User

Objective Systems (MUOS), Wideband Network Waveform (WNW), Airborne Radio Frequencies and External Networks are the major components he presented as a networking integration problem. Dr. Kamal noted that the battlefield application of MANETs provides either "the worst nightmare for network designers" or a challenge to move beyond current design models (such as the OSI layers). Dr. Kamal noted that industry has moved beyond 'tweaking' the IETF MANET standards to the DoD requirements. He pointed to new standards, network building blocks, and vocabulary to expand the scope of what needs to be done.

The vantage point of an Integrated Base Defense and Battlefield Security Zone (BsZ), as presented by Curtis White, highlighted the overwhelming complexity of protecting the modern Warfighter with both sensors and AdHoc networking. In this BsZ model, soldiers are outfitted with Body Area Networks equipment (IEEE 802.15.4 standard) including cameras, VOIP communication, and multiple sensors (chemical, radiation, acoustic and biologic). And don't forget the canine companion ("dogs are the most reliable sensors we use"). Views of Close In Battles zones, C2 Situational Awareness models for Data/Voice/Video, and the Integrated Battlefield Defense introduced the complexities of meeting military design requirements (scalability, transparency, life cycle costs to name a few). Mr. White also highlighted the SMARTDUST project, which has been tested by DoD using wireless microelectromechanical systems (MEMS) sensors, and which can detect light, temperature, vibration pulsing signals.

## EMBS

continued from page 1

account the QoS parameter degradation caused by performing security operations, noting that QoS degradation values are specific to each network element containing a security agent, selected security service and algorithm. As one of the foremost requirements, the QoS should keep its end-to-end characteristics. Furthermore, the developed protocols should be based on and extend the existing standardized ATM SECURITY (SEC) protocols.

Ms. Schlake performed an ATM model network simulation of an existing network, the Health System in Minnesota (HSM). To perform this exercise, she demonstrated and used her own simulation software, which simulates all existing ATM SEC standardized security exchange protocols (SME) along with her newly developed protocols (SME\_Q). She compared three cases of a non-secure connection, a secure connection running the existing ATM SEC SME protocol, and a secure connection keeping the promised QoS using her developed SME\_Q protocol. She analyzed the end-to-end CTD over an increasing number of security associations. In this real-life example simulation, she used the typically available network devices (and their values) needed to transfer real-time video transmissions. Typical codecs introduce a wide range of delays from 4.8 microsec to 38.4 microsec per cell. Furthermore,

chanical systems (MEMS) sensors, and which can detect light, temperature, vibration pulsing signals.

Work on Joint Tactical Radio Systems was the subject of the next panelist, Boeing Technical Fellow David Lofquist. He presented a broad look at the requirements to transform today's wireless and radio networks into the Interoperable Battlefield Network of tomorrow. The challenges presented by Mr. Lofquist's talk highlighted such areas as multiple waveforms for heterogeneous mobile extension to GIG; interoperability through the capacity to communicate with legacy systems; and relay and translation nodes for tactical users. Multiple radio system (JTRS HMS, FAB-T, GMR, AMF) provide integration challenges for throughput, power, weight, size and cost. Boeing's JTRS program will continue to transform these radio platforms for the evolving Network-Centric Operations (NCO) model of tomorrow. "With all these interworking radio frequency channels, we have to save spectrum availability as a number one priority," he noted.

Dr. Scott Midkiff is an IEEE Senior Member with broad work in the wireless and mobile computing field ranging from Bell Labs, the University of Virginia electrical engineering department, and most recently the



Fari Schlake

she assumed a ballpark figure of 20 percent protocol processing overhead and ATM switches at 155 megabits, which introduce 2.8 microsec delay at the network nodes and encryptors with an average delay of 15 microsecs. The simulation showed that using her SME\_Q protocol increased the overhead only by about 2.6 percent, while securing the connection raised the CTD values from 200 percent to 800 percent!

Cosponsors of the meeting, held at the Mitre Corp. in McLean, Virginia, included local chapters of the Aerospace and Electronic Systems Society, Communications Society, Signal Processing Society, Computer Society, and Oceanic Engineering Society, the National Capital Area Consultants' Network, and the Women in Engineering affinity group.

National Science Foundation (NSF). In his panel presentation, Dr. Midkiff led the discussion on several key research and development themes. He noted that the DoD wireless and networking problems present 'hard problems' in fields such as MANET and Sensor integration. He urged the audience to focus on accurate research, and the right targets to look at problems such as radio frequency propagation and modeling problems in the areas of RF interference, networking, mobile computing and application workload.

This was a very informative panel discussion. Sensor networks are increasingly critical for providing Intelligence-Surveillance-Reconnaissance (ISR) capabilities across the battlefield. Future battlefields may have high mobility, high fidelity sensor nodes as well as an ever increasing number of lower-cost, expendable, multimode sensors—all serving as a backbone for an ad-hoc communications network capable of detecting, processing, and fusing battle data in real time. As presented to SECON attendees, this panel discussion demonstrated that this technology offers an urgent and challenging opportunity for the partnerships of industry, government and academia.

For more information about the conference, see [www.comsoc.org/confs/SECON/2006](http://www.comsoc.org/confs/SECON/2006).

# Learn more, Go further. It's that simple!

## WORLD-CLASS ENGINEERING EDUCATION IS AVAILABLE NEAR YOU!

## LIFELONG LEARNING

Professional Master of Engineering  
Graduate Certificate in Engineering

- upgrade/broaden your skill set
- stay competitive
- take classes at regional sites or online
- practice-oriented for working professionals
- renowned full-time and experienced adjunct faculty

## ENGINEERING OPTIONS

chemical and biomolecular  
electrical and computer  
civil and environmental  
project management\*  
energetic concepts\*  
materials science  
fire protection\*  
environmental  
mechanical  
reliability\*  
aerospace  
software  
systems  
nuclear  
(\* also available online)

## APPLY TODAY

- No GRE Exams
- No Thesis to Complete
- Classes Fit Your Schedule

## DEADLINES

May 15 - Summer  
Aug 1 - Fall  
Dec 15 - Spring



UNIVERSITY OF  
MARYLAND  
A. JAMES CLARK  
SCHOOL OF ENGINEERING

For more information go to - [WWW.OAEE.UMD.EDU/IEEE.HTML](http://WWW.OAEE.UMD.EDU/IEEE.HTML)

**MATHCOUNTS***continued from page 1*

a school might not participate, but a key reason is that no school staff members are available to coach the students. In some schools where the staff cannot support the program, the coaches are provided by the school's business partner. However, not all schools have business partners. In Northern Virginia, there is a small MathCounts volunteer organization whose primary function is to run the regional competition in February and support the state competition in March.

This fall we are starting a pilot program to provide volunteer coaches to schools that did not participate in the last few years. Initially, the schools we will be working with are Poe Middle School in Annandale, and Holmes Middle School in Alexandria.

The MathCounts program is built around approximately 300 problems that the students and coaches work through together from October through February. The coaches meet with the students after school. Typically each volunteer will coach once a week on the same day. There should be sufficient flexibility to accommodate last minute changes in individual schedules. If we have more than six coaches, we can add a school.

This is a fun thing to do. The stu-

**SIGNAL PROCESSING***continued from page 1*

During the meeting, Washington chapter members also elected Min Wu as chapter chair and Ramani Duraiswami as vice chair. Dr. Wu is an associate professor of electrical and computer engineering at the University of Maryland, working on information security and multimedia signal processing. She has been coordinating the formation of the new chapter. Dr. Duraiswami is with the computer science faculty of the same university, with broad research interests on spatial audio, virtual environments, microphone arrays, computer vision, and statistical machine learning. Both individuals have been active in the professional activities of the Signal Processing Society.

dents are smart and motivated, and there are more schools interested in volunteer coaches, in addition to Poe and Holmes. What we need are the coaches! If you are interested, contact Michael Flicker at [mflicker@ieee.org](mailto:mflicker@ieee.org) or 703-860-1342.

For those who are interested in coaching in other parts of the Washington metro area, go to [www.mathcounts.org/volunteer/volunteersearch.asp](http://www.mathcounts.org/volunteer/volunteersearch.asp) to find volunteer coordinators for the District of Columbia and Maryland.

Many technical activities are being planned for this fall and next spring (see Calendar). If you have any questions about the chapter's activities or have suggestions to share, please send them to [washington.sps@ieee.org](mailto:washington.sps@ieee.org).

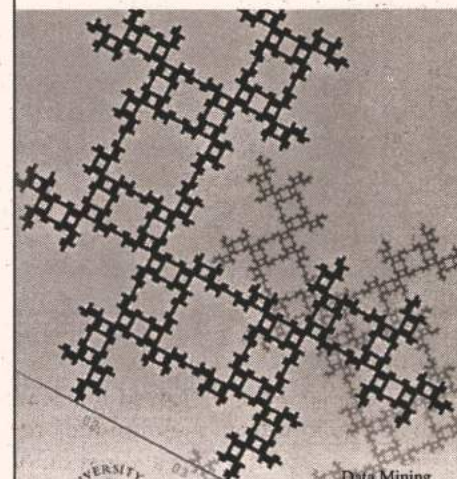
The guest speaker, Dr. Chellappa, received his Ph.D. from Purdue University. He served as director of the Signal and Image Processing Institute at University of Southern California before joining the University of Maryland faculty. Over the last 25 years, he has published six books and numerous book chapters, peer-reviewed journal and conference papers in image and video processing, analysis and recognition.

Dr. Chellappa has served on the IEEE Signal Processing Society's Board of Governors and as its vice president of awards and membership. He received the NSF Presidential Young Investigator Award, two IBM Faculty Awards, the Technical Achievement Award from the Signal Processing Society, and several paper awards and teaching recognitions. He is past editor-in-chief of the IEEE *Transactions on Pattern Analysis and Machine Intelligence*, and has served on the editorial boards of several leading journals. He is a Fellow of the IEEE and the International Association for Pattern Recognition, and a

Golden Core Member of IEEE Computer Society. Information about Dr. Chellappa's research can be found at <http://www.umiacs.umd.edu/~rama/index.html>.

**Norbert Wiener Center**

Advanced mathematical toolsets give the edge in creating tomorrow's technologies.



Data Mining  
Biominformatics  
Nanotechnology  
Waveform Design  
Σ-Δ Quantization  
**Evening Classes!** Signal and Image Processing  
Communications and Sensors  
Statistical Pattern Recognition  
Medical Imaging and Diagnostics  
Time-Frequency and Wavelet Methods  
Quantum Information, Detection, and Computation

Mathematics of Advanced Industrial Technology  
Master Degree and Graduate Certificates

[www.mait.umd.edu](http://www.mait.umd.edu) Phone: 301-405-5158

**Advance Your Career with an Online Master's Degree**

Specializing in engineering, technology, business and related sciences, Capitol College knows exactly what you want and need to advance your career.

Capitol College offers graduate courses that are convenient, accessible and respected. Capitol is one of a few colleges **selected by IEEE as an Education Partner**. The NSA named Capitol College as a **National Center of Academic Excellence in Information Assurance Education**.

Capitol's online courses are unique because they use real-time, live streaming audio. Listen to the lecture as it's given. Discuss with your classmates and professor. Experience a classroom in your home, office or wherever you access the Internet.

- \* Accelerated, graduate courses in electrical engineering, information assurance, computer science and more
- \* Courses taught by industry experts
- \* Several of Capitol's graduate degree programs have been named "Best Buys"
- \* **Added benefits for IEEE members**

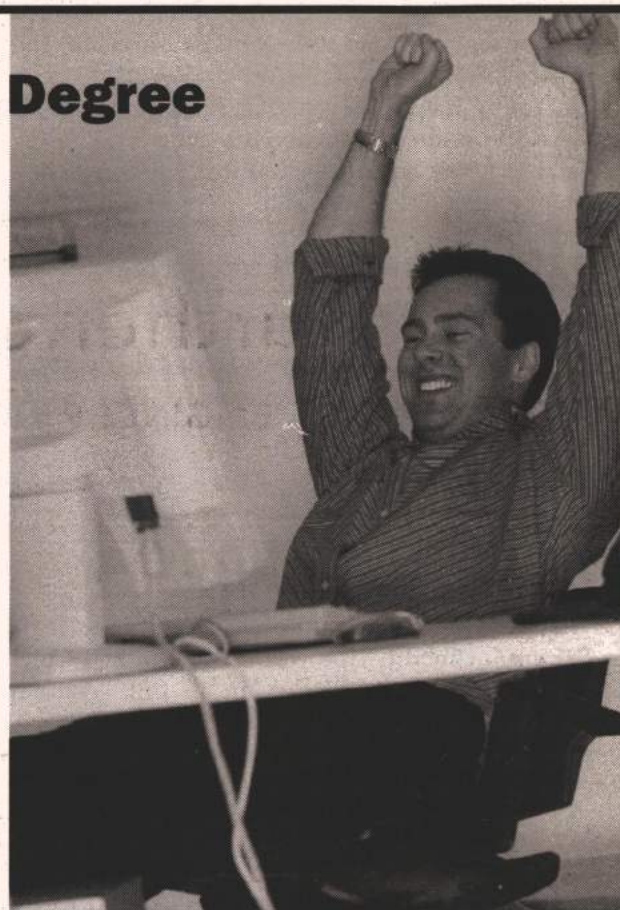
**Call 800-950-1992 or apply online**



**CAPITOL COLLEGE**

1927

[www.capitol-college.edu](http://www.capitol-college.edu)



## Leo Young

### Past President of IEEE and Microwave Pioneer

On September 14, 2006, IEEE lost a past president and pioneer in microwave technology when Leo Young, 80, passed away from complications with cancer at Johns Hopkins Hospital in Baltimore.

Dr. Young was president of IEEE in 1980 and a Fellow of IEEE. He was an expert on microwave technology and held 20 patents, published numerous scholarly papers and was the author, co-author or editor of 14 books, including *Microwave Filters, Impedance-Matching Networks and Coupling Structures* (1964). Considered "the bible" by those in the field, the reference book has been translated into Russian and Japanese, still sells well decades after publication and is included in the Microwave Hall of Fame.

Born in Austria to a prominent Jewish family—his father was a medical doctor—Dr. Young described in a memoir how his family escaped the Nazis. The year was 1938, and England seemed to be the most feasible destination for Jews desperate to leave Austria. Although the Youngs had relatives in the United States, they knew that the U.S. quota system would probably keep them on a waiting list for at least two years.

One morning, his parents went to the British Embassy in their home town of Vienna, where they joined a huge crowd of people waiting patiently for their turn to enter the compound before the gates closed for the day. They had been standing in line for hours when suddenly an embassy employee came running out. "Is there a doctor here?" he shouted. Someone inside had fainted. The elder Young's hand shot up, he and his wife were hustled inside the embassy and soon they had visas for the family to immigrate to England.

Dr. Young received an undergraduate degree in physics and math in 1946 and a master's degree in physics in 1949, both from Cambridge University. He then won a full scholarship from Westinghouse to come to the United States and study at Johns Hopkins University, where he received a doctorate in electrical engineering in 1957. He became a U.S. citizen.

As a Westinghouse engineer from 1953 to 1960, he worked on military radar research and development, including microwave components and

antennas. From 1960 to 1973, he was a fellow at the Stanford Research Institute in Menlo Park, Calif., where he worked on microwave filter design. He also taught at Stanford University and consulted for industry. He taught at the technology institute Technion in Israel during a 1970-71 sabbatical and then joined the Naval Research Laboratory in Bethesda, where he was an associate superintendent of the Electronics Division.

He joined the Office of the Secretary of Defense as Director for Research in 1981. His principal assignment was oversight of basic research, but he also played a key role in implementing a number of programs, including the Multidisciplinary University Research Initiative and the Small Business Innovation Research programs. He retired in 1994 but continued working as a consultant for several years. In retirement, he also served on the board of Filtronic, a maker of microwave components, wrote his memoirs and enjoyed studying Hebrew.

Throughout his career, he received numerous awards, including the Woodrow Wilson Award for Distinguished Government Service from Johns Hopkins, the Naval Research Laboratory Outstanding Performance Award and a letter of appreciation from the Secretary of Defense.

His first wife, Fay Young, died in 1981. His second wife, Ruth Breslow-Young, died in 1996. Survivors include his wife of seven years, Jo-Ellen Turner of Baltimore; three children from his first marriage, Philip Young of Chevy Chase, Sarah Krosner of Potomac and Joe Young of Lafayette, Calif.; three stepchildren from his second marriage, Faith Szydlowski of Acton, Mass., Rachel Seidel of Washington and Abby Jaffe of Longmeadow, Mass.; three stepchildren from his third marriage, Bobby Turner of Los Angeles, Jon Turner of Philadelphia and Suzy Turner of Bethesda; a sister; and 18 grandchildren.

## Patrick J. Gibbon

The Scanner staff announces with regret the death of Patrick J. Gibbon, 21, a student at Virginia Commonwealth University. He was in his fifth semester as a psychology major. A native of Falls Church, Virginia, he was the son of Betsy and Jerry Gibbon (the IEEE Region 2 Educational Activities Chair) and brother to Lisa Laing and Jeri Gibbon. A graduate of O'Connell High School, he attended Northern Virginia Community College before he transferred to VCU. He was a member of Saint Philip's Parish and performed many acts of charity for the community. His interests were wide-ranging, from building computers and writing code, to performing in plays and publishing his poems. Patrick was a gifted musician and active in track and field as a distance runner. An Education Foundation Fund has been established at VCU in memory of Patrick. Contributions may be made to the attention of Ann Hoffer, P. O. Box 842039, Richmond, VA 23284-2039.

## Senior Members

Congratulations to the following new Senior Members:

Daniel Adams (NV)  
Syed Ahmad (W)  
Syed Faisal Ahmed (NV)  
Jesse Alexander (W)  
Ryon Coleman (W)  
James Cross-Cole (NV)  
Izabela Gheorghisor (NV)  
Usman Goni (NV)  
Sinisa Peric (W)  
Gernot Pomrenke (NV)  
Bryan Reese (NV)  
Timothy Settle (NV)  
Carol Smidts (W)  
James Talman (NV)  
Richard Yentis (NV)  
Min Wu (W)

If you are interested in becoming a Senior Member, please consult [www.ieee.org/senior](http://www.ieee.org/senior) member for qualification requirements. For help with references, contact Michael Cardinale at [cardinale@ieee.org](mailto:cardinale@ieee.org) for Northern Virginia (NV) Section members, or Howard Needham at [howardn@ieee.org](mailto:howardn@ieee.org) for Washington (W) Section members.

## GlobeCom 2007 Seeks Applicants for Marketing Position

The IEEE GlobeCom 2007 committee (GC07) is organizing activities and participation for next year's 50th anniversary Communications Society event here in Washington DC (11/26-30).

To develop the corporate sponsorship for this milestone program, the GC07 committee is soliciting a Marketing Manager to work on a commission basis to develop our program for business participation and patronage.

Interested parties can apply for this position by contacting Tim Weil at 703 377-0948 or [trweil@ieee.org](mailto:trweil@ieee.org).

## GRADUATE DEGREE & CERTIFICATE PROGRAMS GW VIRGINIA CAMPUS - LOUDOUN

### ELECTRICAL ENGINEERING (MSEE) & TELECOMMUNICATIONS AND COMPUTERS (MS)

**Advance your career.** Earn your 30 credit Master's or 12-18 credit Graduate Certificate. All powerful credentials for today's engineers.

**Make an impact.** Engineering professionals provide the technical foundation for the modern information society and draw from several disciplines to provide innovative solutions.

**Convenient schedules.** Choose from Saturday-only or weeknight classes — both at the GW Virginia Campus in Ashburn. Complete your degree in as few as 19 months, or your graduate certificate in even less.

#### MSEE Focus Areas/Graduate Certificates:

- Telecommunications Networks
- Telecommunications Security and Electronic Warfare
- Wireless and Mobile Networks

#### Information Sessions

**Monday, November 6  
6:30 pm**

GW Virginia Campus  
20101 Academic Way  
Ashburn, VA 20147

**Rsvp Today!**

703.248.2800

[www.nearyou.gwu.edu/ece](http://www.nearyou.gwu.edu/ece)

THE GEORGE  
WASHINGTON  
UNIVERSITY  
VIRGINIA CAMPUS

BRING US YOUR  
AMBITION.

[www.gwu.edu/gradinfo](http://www.gwu.edu/gradinfo)

31463 THE GEORGE WASHINGTON UNIVERSITY IS AN EQUAL OPPORTUNITY/ AFFIRMATIVE ACTION INSTITUTION CERTIFIED TO OPERATE IN VA BY SCHEA.

