IEEE

The IEEE NATIONAL CAPITAL AREA

SCANNER

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March 11 Leadership Training Workshop is Designed to Assist Both New and Experienced Chapter Officers

New IEEE officers can learn about meeting planning, publicity, finances, reporting, and other aspects of running a successful chapter at the National Capital Area Leadership Training Workshop on Saturday, March 11.

The workshop is an excellent opportunity to learn about available IEEE resources for chapters, to share ideas with other chapter officers, and to meet section and region leaders. The half day of presentations, discussion and networking will help get new IEEE leaders off to a good start, and provide a refresher for those with some experience.

Every chapter and affinity group should send at least one officer to the workshop, which is sponsored by the Northern Virginia and Washington Sections and open to all IEEE members. Student branch officers are also welcome and encouraged to attend. Registration is free and lunch is included. The workshop will conclude in the early afternoon.

Why should you attend?

- Learn about the resources available to you
- Network with other officers to exchange ideas
- Learn how to run more effective meetings
- Explore ways to increase participation
- Interact with section and region leadership
- Contribute your suggestions for improving IEEE in the National Capital area

Topics to be covered include officer roles and responsibilities, finances, effective meetings, communications options, easy ways to handle reporting requirements, membership development, awards and recognition, and key IEEE support personnel.

IEEE provides a wealth of materials, tools and other resources to help organizations be successful. On March 11, find out how you can use these resources to strengthen your chapter. Preregistration is required for food and materials planning. See Calendar listing on page 3 for details.

NoVA Communications Society Chapter Recognized for Excellence in Programs and Member Services

The Northern Virginia Chapter of the Communications Society was named the second best Communications Society Chapter in the North American Region for 2005.

The honor came as a surprise to the chapter officers. Dennis Moen, the chapter's chair, indicated that he wasn't even aware such an award existed, because there is no application or nomination process at the local level.

The society's regional director selected the chapter for the award based on quality of the technical program, membership development, and commitment to improving membership experiences for the Society members.

When asked how the chapter was so successful, Moen indicated that it is quite simple: you just need a good leadership team that works together with a common goal to provide a quality program for the members and the Northern Virginia technical community at large.

***An Array of Good Programming**—Guest speaker John Draim (center) joins NoVA Communications Society Chapter officers (left to right) Syed Ahmed, treasurer; Dennis Moen, chair; Yang Weng, membership chair; and Fred Seelig, technical programs chair.*

The excellence of the chapter's programs was evident at the January meeting, when guest speaker John Draim, a retired Navy Captain, provided an incredible overview of the history of designing satellite constellations, also known as satellite arrays.

He traced the early history of constellation design from the days when satellites were first placed into orbit as single, unique, independent systems. He related many years of his personal experiences working with the best engineers in the field and how he worked for seven years to figure the minimum set of satellites needed to cover the Earth. His efforts resulted in identifying four as the minimum, and earned him one of his 40 patents.

Capt. Draim graduated from the U.S. Naval Academy and earned advanced degrees at the Navy Postgraduate School Monterey and MIT. He was a Navy carrier aviator, flying jet fighters and attack aircraft, and a test pilot. After retiring from the Navy, he designed the ELLIPSO, VIRGO, and COBRA communications constellations.

IEEE Members to be Recognized at April's Annual Awards Banquet

Dr. Ruth David

Dr. Ruth David, president and CEO of ANSER, will deliver the keynote address at the IEEE National Capital Area Awards Banquet on Saturday, April 22.

This year's banquet will be hosted by the Washington Section at the Rockville Doubletree Hotel. For complete details, please see the Calendar, p. 4, and reservations form, p. 8.

The new IEEE Fellows from the local area will be honored at the banquet, as well as the IEEE volunteers who made significant contributions to the success of the sections, chapters and affinity groups during 2005.

Dr. David has a Ph.D. in electrical engineering from Stanford University, and is the coauthor of three books on signal processing algorithms. Her professional experience includes leadership positions at Sandia National Laboratories and the Central Intelligence Agency. She frequently provides speeches, interviews, lectures, briefings, and articles on the many facets of homeland security.

ANSER (Analytic Services Inc.) is an independent, non-profit institution that provides research and analytic support on national and transnational issues.

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@fairchildcontrols.com

Secretary
Gerard J. Christman
703-695-2305
gerard.christman.ctr@osd.mil

Past Chair
Ron Ticker
202-358-2429
rlticker@ieee.org

Directors
James Christian
jchristian@wmata.com

Doug Holly
dougholly@ieee.org

Howard Needham
howardn@ieee.org

Harry Sauberman
hrs@cdrh.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

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

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

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

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
Robb Rourke
703-303-7567
robb.rourke@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

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)
Mr. Shahid Shah
703-475-6146
shahid.shah@ieee.org
or
Dr. Tirumale K. Ramesh
703-923-5380
tkramesh@ieee.org
www.cigital.com/ieee

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@wll.com

Electron Devices Society (NV/W)
Dr. Dimitris Ioannou
703-993-1580
dioannou@gmu.edu

Engineering Management Society (W/NV)
Mr. Doug Holly
240-404-1601
dougholly@ieee.org
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/no_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

Nuclear and Plasma Sciences Society (W/NV)
Mr. Harry Sauberman
301-443-8879
HRS@cdrh.fda.gov

Oceanic Engineering Society (W/NV)
Mr. James Barbera
301-460-4347
j.barbera@ieee.org

Power Engineering Society (NV/W)
Mr. Sirak Belayneh
703-472-1621
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. Brad Luse
703-247-4491
bradley.luse@wgint.com

Southern Maryland Communication, Computer and EMC Chapter
Mr. Fred Heather
301-342-6975
heatherf@navair.navy.mil

Affinity Groups

Consultants Network (W/NV)
Mr. Sai Chiang
703-203-0771
creativesystem@ieee.org
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. John Margosian
301-365-1257
jmargo@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. 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.

On the Web

eSCANNER Calendar of Events
The calendar is available at **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.ieeecommunities.org/nca**.

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 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 May–June issue is April 1, 2006

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CALENDAR OF *events*

Wednesday, March 1, 2006

◆ Understanding the West Antarctic Ice Sheet from Space: Beyond Dogsleds and Frozen Toes

Sponsor: Geoscience and Remote Sensing Society, Washington and Northern Virginia Chapter
Speaker: Dr. Robert Bindschadler, Chief Scientist, Hydrospheric and Biospheric Science Laboratory, NASA Goddard Space Flight Center
Time: 3:30 pm
Place: NASA Goddard Space Flight Center Visitor Center, Greenbelt, MD
Directions: From the south, take the Baltimore-Washington Parkway to Greenbelt Rd. East (Route 193). Follow Greenbelt Rd. past NASA's main gate. Turn left onto Soil Conservation Rd., then take the next left to reach the Visitor Center.
More Info: See Diamond story, p. 4, or http://ewh.ieee.org/r2/no_virginia/grss.
Cost: Free, including refreshments.
Contact: Please RSVP to James Tilton at 301-286-9510 or james.c.tilton@nasa.gov.

Tuesday, March 7, 2006

Washington Section Administrative Committee Meeting

Time: Dinner at 6:00 pm; meeting at 6:30 pm
Place: Allie's American Grill, Bethesda Marriott, 5151 Pooks Hill Rd., Bethesda, MD
Directions: From the north, take 270 South to Route 355 and exit at Wisconsin Ave. From the south, take 495 exit 34 (which is Wisconsin Ave.) to Pooks Hill Rd.
More Info: All interested IEEE members are welcome to attend.
Contact: Debra Meale at 703-492-0047 or nca-admin@ieee.org. Please include the term IEEE in the subject line of your email.

Tuesday, March 7, 2006

◆ Self publishing: Process, Pitfalls and Rewards

Sponsor: National Capital Area Consultants' Network
Cosponsors: Women in Engineering; Graduates of the Last Decade; Computer Society; Lasers and Electro-optics Society; and Oceanic Engineering Society
Speaker: Rick Miller, Senior Software Engineer, SAIC
Time: Dinner at 6:00 pm; speaker at 7:00 pm
Place: Corner 7 Cafe, Tysons Corner Marriott, 8028 Leesburg Pike, Vienna, VA
Directions: From the east or I-495, take Route 7 West, turn right on Towers Crescent Drive, then immediately right into the Marriott parking lot. From the west on Route 7, turn right onto Old Gallows Road just opposite the Marriott, proceed around to the left until you have completed almost a full circle, and turn left into the Marriott parking lot. Free parking.
More Info: Following Miller's talk, Jerry Castellucci will present a short review of the NIST Advanced Technology Program. For more information about both presentations, see Diamond story, p. 5.
Cost: Attendees are responsible their individual orders.
Contact: Rick Cunningham at 703-624-6551 or rick@corridor-rd.com.

Wednesday, March 8, 2006

Northern Virginia Section Administrative Committee Meeting

Time: 6:30 pm
Place: Wickers Cafe, Tysons Corner Holiday Inn, 1960 Chain Bridge Road, McLean, VA
Directions: From I-495 or I-66, take Route 267 West. Exit at Route 123 West (Chain Bridge Road). Turn right on International Drive, then left on Greensboro Drive. Look for the Holiday Inn entrance on the left. Free parking.
More Info: All interested IEEE members are invited to attend.
Contact: Debra Meale at 703-492-0047 or nca-admin@ieee.org. Please include the term IEEE in the subject line of your email.

Saturday, March 11, 2006

National Capital Area Leadership Training

Time: Continental breakfast at 8:30 am; program at 8:50 am
Place: 1910 Oracle Way, Reston, VA
Directions: From I-495, take the Dulles Toll Road (Route 267) to Exit 12, Reston Parkway. Turn right onto Reston Parkway, right onto Sunset Hills Road, and right onto Oracle Way.
More Info: IEEE provides a wealth of materials, tools and other resources to help organizations be successful. We are planning a half day of presentations, discussion and networking to help get you off to a good start. The training is open to all members, but we particularly encourage every chapter to send at least one officer to the session.
Cost: Free, including breakfast and lunch.
Contact: To register, contact Debra Meale at 703-492-0047 or nca-admin@ieee.org by March 7. Please put "IEEE Leadership Training Registration" in the subject line of your email.

Wednesday, March 15, 2006

◆ Grid Computing

Sponsor: Computer Society, Northern Virginia and Washington Chapter
Speaker: Dr. Jeffrey Hollingsworth, University of Maryland, College Park
Time: Networking and food 6:00 pm; technical presentation 7:00 pm
Place: Room 1115 CSIC, University of Maryland, College Park, MD
More Info: See Diamond story, p. 5.
Cost: Free for all IEEE members, $4 for all others.
Contact: Please register at least 48 hours in advance at http://ewh.ieee.org/r2/wash_nova/computer/current.html. For more information, contact T.K. Ramesh at tkramesh@ieee.org.

Thursday, March 16, 2006

◆ Arc Flash Protection

Sponsor: Power Engineering Society, Northern Virginia and Washington Chapter; Industry Applications Society, Washington and Northern Virginia Chapter
Speaker: Dan Hollingsworth, Oberon Company
Time: 6:00-8:00 pm
Place: Virginia Tech Advanced Research Institute, 4300 Wilson Blvd., 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, 4300 Wilson Blvd. ARI is on the 7th floor in suite 750. Ballston Point is located at the intersection of Wilson Blvd. and Glebe Rd. There is a parking garage in the building with a $1 charge for 3 hours, and limited free street parking.
More Info: This presentation will review causes of arc flash, OSHA standards, NEC (NFPA 70) and NFPA 70E, and product innovation to address the PPE challenges of NFPA 70E. A light dinner buffet will be served, followed by the program. For information about the speaker, see Diamond story, p. 5.
Cost: Free for IEEE members, $10 for all others.
Contact: RSVP to Monica Mallini at 703-387-6021 or m.a.mallini@ieee.org.

Tuesday, April 4, 2006

◆ Virginia's Center for Innovative Research

Sponsor: National Capital Area Consultants' Network
Speaker: Peter Jobse, President, Virginia's Center for Innovative Research
Time: Dinner at 6:00 pm; speaker at 7:00 pm
Place: Corner 7 Cafe, Tysons Corner Marriott, 8028 Leesburg Pike, Vienna, VA
Directions: From the east or I-495, take Route 7 West, turn right on Towers Crescent Drive, then immediately right into the Marriott parking lot. From the west on Route 7, turn right onto Old Gallows Road just opposite the Marriott, proceed around to the left until you have completed almost a full circle, and turn left into the Marriott parking lot. Free parking.
More Info: See Diamond story, p. 5.
Cost: Attendees are responsible their individual orders.
Contact: Rick Cunningham at rick@corridor-rd.com.

Tuesday, April 4, 2006

Washington Section Administrative Committee Meeting

Time: Dinner at 6:00 pm; meeting at 6:30 pm
Place: Allie's American Grill, Bethesda Marriott, 5151 Pooks Hill Rd., Bethesda, MD
Directions: From the north, take 270 South to Route 355 and exit at Wisconsin Ave. From the south, take 495 exit 34 (which is Wisconsin Ave.) to Pooks Hill Rd.

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More Info: All interested IEEE members are welcome to attend.
Contact: Debra Meale at 703-492-0047 or nca-admin@ieee.org. Please include the term IEEE in the subject line of your email.

Thursday, April 6, 2006

◆ Millimeter and Sub-Millimeter Wave Vacuum Electronics Sources

Sponsor: Microwave Theory and Techniques Society
Speaker: Dr. Bruce G. Danly, Naval Research Laboratory
Time: Dinner at 5:30 pm, lecture at 7:00 pm
Place: University of Maryland, Jeong H. 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 take Paint Branch Drive and continue past Stadium Drive to Parking Lot P, where parking is free after 4:00 pm. The Jeong H. Kim Engineering Building is adjacent to the parking lot. From the south on Route 1, turn left onto Campus Drive, and follow above directions. See http://www.parking.umd.edu/themap (campus map oriented with North at lower right).
More Info: See Diamond Story, p. 5 or www.ieee.org/mtt-wnva.
Cost: Lecture free, dinner $15.
Contact: RSVP for dinner reservations (required) by Monday, April 3 to Roger Kaul at 301-394-4775 or r.kaul@ieee.org.

April 7–9, 2006

IEEE Region 2 SAC Conference

Place: Drexel University, Philadelphia, PA
More Info: The 2006 Student Activities Committee (SAC) Conference includes competitions and a Leadership Training Workshop for student IEEE leaders. See www.sacconference.com.
Contact: Student branch members should contact their IEEE faculty counselor, or Dr. Shreekanth Mandayam, IEEE Region-2 Student Activities Chair, at 856-256-5333 or shreek@rowan.edu.

Wednesday, April 12, 2006

Northern Virginia Section Administrative Committee Meeting

Time: 6:30 pm
Place: Wickers Cafe, Tysons Corner Holiday Inn, 1960 Chain Bridge Road, McLean, VA
Directions: From I-495 or I-66, take Route 267 West. Exit at Route 123 West (Chain Bridge Road). Turn right on International Drive, then left on Greensboro Drive. Look for the Holiday Inn entrance on the left. Free parking.
More Info: All interested IEEE members are invited to attend.
Contact: Debra Meale at 703-492-0047 or nca-admin@ieee.org. Please include the term IEEE in the subject line of your email.

Wednesday, April 19, 2006

◆ Identity Federation in Cancer Biomedical Informatics Grid (caBIG)

Sponsor: Computer Society, Northern Virginia and Washington Chapter
Speaker: Kenneth Lin, Booz Allen Hamilton; introduction by Tim Weil
Time: Networking and food 6:00 pm; technical presentation 7:00 pm
Place: 1910 Oracle Way, Reston, VA
Directions: From I-495, take the Dulles Toll Road (Route 267) to Exit 12, Reston Parkway. Turn right onto Reston Parkway, right onto Sunset Hills Road, and right onto Oracle Way.
More Info: See Diamond story, p. 5. Pizza and soft drinks will be served.
Cost: Free for all IEEE members, $4 for all others.
Contact: Please register at least 48 hours in advance at http://ewh.ieee.org/r2/wash_nova/computer/current.html. For more information, contact T.K. Ramesh at tkramesh@ieee.org.

Thursday, April 20, 2006

◆ Electric Vehicle Drag Races and All Other Things EV

Sponsor: Power Engineering Society, Northern Virginia and Washington Chapter; Industry Applications Society, Washington and Northern Virginia Chapter
Speakers: Charlie Garlow and David Goldstein
Time: 6:00-8:00 pm
Place: Virginia Tech Advanced Research Institute, 4300 Wilson Blvd., 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, 4300 Wilson Blvd. ARI is on the 7th floor in suite 750. Ballston Point is located at the intersection of Wilson Blvd. and Glebe Rd. There is a parking garage in the building with a $1 charge for 3 hours and limited free street parking.
More Info: A light dinner buffet will be served, followed by the program. This presentation will review selective trip coordination principles, highlighting the latest technology in electronic circuit breaker trip units. For more information about the speakers, see Diamond story, p. 6.
Cost: Free for IEEE members; $10 for non-members
Contact: RSVP to Monica Mallini at 703-387-6021 or m.a.mallini@ieee.org.

Saturday, April 22, 2006

IEEE National Capital Area Awards Banquet

Sponsors: Northern Virginia and Washington Sections
Speaker: Dr. Ruth David, President and CEO, ANSER
Reception: Registration and reception at 6:30 pm; dinner at 7:30 pm; awards presentation at 8:30 pm
Place: Rockville Doubletree Hotel, 1750 Rockville Pike, Rockville, MD
Directions: From Northern Virginia, take I-495 into Maryland to Exit 38, I-270 North. Exit at Montrose Road East. Go 1.7 miles to Rockville Pike (Route 355) and turn left. Continue 0.6 mile to the hotel on the right. From the Frederick area, take I-270 South and follow above directions. From the Greenbelt area, take I-495 to Exit 34, Rockville Pike (Route 355), turn north and go 3 miles to the hotel on the right.
More info: Join us to recognize distinguished IEEE members in the local area for their contributions. See story, p. 1.
Cost: $45 per person.
Contact: Please use the form on page 8 to make reservations (required) by April 8.

DIAMOND STORIES

Wednesday, March 1, 2006

Understanding the West Antarctic Ice Sheet from Space: Beyond Dogsleds and Frozen Toes

The West Antarctic ice sheet continues to be a climatic wild card in scientists' attempts to predict the future of the planet. The mystery rests as much on what we do know about ice sheets as what we don't know. The West Antarctic ice sheet rests on a bed below sea level where ice-free periods have layered a bed of thick marine ooze. Ice can, and does, slide rapidly on this slippery material. All other ice sheets of this type have slid back into the ocean, raising sea level over 100 meters. Will the West Antarctic ice sheet be the last to go? If it happens as rapidly as its icy kin disappeared, a potential 5-meter increase in sea level around the globe could occur fast enough to cause widespread economic and ecological damage. Others have argued that the West Antarctic ice sheet is uniquely stable pointing to its persistence in our warm climate.

The study of the peculiar case of West Antarctica has been full of fascinating discoveries. These have come through a combination of wearying field work in a hostile environment, intense scrutiny from a vast stable of satellite sensors and complex numerical models. Remote sensing data are used for everything from making better maps of field areas, to quantifying surface elevations and velocities. Detailed imagery also allows us to detect surface features that record past flow directions. Twenty-five years of concentrated research have revealed a multifaceted dynamic system that responds to what falls on it, what it rests on and what it must push against. The ice sheet is changing constantly and is a collage of different basins all behaving with a high degree of independence. But what of its future?

Robert Bindschadler is a chief scientist of the NASA's Hydrospheric and Biospheric Sciences Laboratory, a senior fellow of the Goddard Space Flight Center, a fellow of the American Geophysical Union and a past president of the International Glaciological Society. He maintains an active interest in the dynamics of glaciers and ice sheets, primarily on Earth, investigating how remote sensing can be used

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to improve our understanding of the role of ice in the Earth's climate. As the leader of thirteen Antarctic field expeditions, he has extensive first-hand knowledge of the hazards and challenges of working in the Antarctic environment. Other research has taken him to Greenland and various glaciers throughout the world.

During his 26 years at Goddard, he has developed numerous unique applications of remote sensing data for glaciological research including measuring ice velocity and elevation using both visible and radar imagery, monitoring melt of the ice sheet by microwave emissions, and detecting changes in ice-sheet volume by repeat space-borne radar altimetry. He has testified before Congress and briefed the U.S. Vice President on the issue of ice-sheet stability and served on many scientific commissions and study groups as an expert in glaciology and remote sensing of ice. He has published over 130 scientific papers, numerous review articles and has appeared on television, radio and is often quoted in print media commenting on glaciological impacts of the climate on the world's ice sheets and glaciers.

Tuesday, March 7, 2006

Self Publishing: Process, Rewards, Pitfalls

When **Rick Miller**, a senior software engineer and manager with a major Washington area defense contractor, decided to write a book on the C++ language, he set out to find a good publisher. After a number of promising forays into the various publishing houses, he finally decided he wanted to control his destiny just a little more than they could promise, so he decided to become his own publisher. Miller's books (his second book, on Java, was recently released) are not the "vanity press" variety; rather, they are mainstream texts designed to teach what Rick felt was the poorly understood, and subtle, art of good software and system design.

Miller will discuss the trying process of bringing a good book to fruition, the pros and cons of becoming your own publisher, and lessons learned from his self publishing efforts. He will explain how he approaches the writing process, tools he uses to prepare the text, the critical subject of marketing, and related issues. In addition, he'll share some innovative ideas to provide a steady stream of royalty revenue by teaming with organizations like IEEE and ACM that provide members access to an online library.

He'll also address various e-commerce alternatives, and the use of open source (i.e. free) e-commerce technology. His publishing "empire" is Pulp Free Press, and his e-commerce website is pulpfreepress.com. He has learned a lot about the self publishing process and wants to help others achieve similar success, without as much trial and error. Anyone interested in writing a book, technical or non-technical, should find his presentation interesting and informative.

Following Miller's talk, **Jerry Castellucci** will present a short recap of the NIST Advanced Technology Program. He will discuss current prospects for FY06 funding, and be available to answer questions after the meeting. (His talk will supplement the material presented at the Feb. 7 NCA-CN meeting on the SBIR/STTR program.)

Mr. Castellucci has been with NIST since July 2002, working as a project manager in the Advanced Technology Program, Information Technology and Electronics Technology Office. His recent experience includes leading power electronics work for the U.S. Navy Office of Naval Research. He is active in the IEEE and is also a member of the American Acoustical Society.

Wednesday, March 15, 2006

Grid Computing

The grid offers the potential for more efficient use of computational resources both within an organization and between organizations. By allowing individuals or organizations to pool their computing power and share resources, peaks and valleys in utilization can be smoothed out. In this talk, Dr. Hollingsworth will describe the technical challenges to build grid systems and some of the current solutions to these problems. Challenges include security, scheduling, resource monitoring, and fault tolerance. He will also touch on some of the non-technical aspects of cooperative resource sharing such as social contracts.

Jeffrey Hollingsworth is an associate professor in the Computer Science Department at the University of Maryland, College Park, and affiliated with the Department of Electrical Engineering and the University of Maryland Institute for Advanced Computer Studies. His research interests include instrumentation and measurement tools, resource aware computing, high performance distributed computing, and programmer productivity.

Dr. Hollingsworth's current projects include the Dyninst runtime binary editing tool, and Harmony, a system for building adaptable, resource-aware programs. He received his Ph.D. and M.S. degrees in computer science from the University of Wisconsin in 1994 and 1990 respectively. He earned his B.S. in electrical engineering from the University of California at Berkeley in 1988. Dr. Hollingsworth is a senior member of IEEE and a member of ACM.

Thursday, March 16, 2006

Arc Flash Protection

Daniel E. Hollingsworth is a senior manager with Oberon Company in Easton, Maryland. He holds a B.S. and an M.B.A. from Pacific Western University in California. He has almost 20 years of experience working with specialty fabrics and supplying major manufacturers of pharmaceuticals, semiconductors, microelectronics, and automotive and medical devices with garments suited for critical environment clean room applications.

Hollingsworth served as vice president of sales at UIC in Chicago for more than seven years. He joined Oberon four years ago to assist with continued growth of their electrical division. He has extensive hands-on knowledge of NFPA 70E and has helped companies implement the NFPA 70E Standard and requirements outlined under OSHA Compliance. He enjoys and values interaction with end-users and safety professionals throughout the petroleum, military, general industrial manufacturing and power generation industries.

Tuesday, April 4, 2006

Virginia's Center for Innovative Research

Virginia's Center for Innovative Technology (CIT) is a state-chartered nonprofit corporation that accelerates Virginia's next generation of technology and technology companies. CIT provides the only statewide suite of programs and services for technology researchers, technology entrepreneurs and small technology businesses in all regions of the Commonwealth.

CIT President **Peter Jobse** will talk about CIT's mission and goals, and will provide examples of what CIT is doing today to spur technological advancements. He will discuss ways in which the organization aids companies of all sizes and will identify the various programs the center has to offer, such as the GAP Investment Fund for Virginia's early-stage tech firms and the Procurement Technical Assistance Center that helps Virginia businesses gain access to government markets.

Jobse joined Virginia's Center for Innovative Technology in October 2002 as executive VP and COO and in May 2003 was promoted to president. Prior to joining CIT, he held a number of senior management positions with organizations such as EDS, ArcSight, and Condor Technology Solutions.

He serves on a number of boards and committees, including the Virginia Research and Technology Advisory Commission, the Virginia Institute for Defense and Homeland Security, the Fairfax County Chamber of Commerce, the Virginia Space Authority, Virginia's A.L. Philpott Manufacturing Extension Partnership (VPMEP) Board of Trustees, and the Northern Virginia Technology Council.

Thursday, April 6, 2006

Millimeter and Sub-Millimeter Wave Vacuum Electronics Sources

The millimeter and sub-millimeter wave through THz frequency bands are receiving considerable attention for many applications. Source technologies for providing power in these frequency bands are available from a wide range of both solid-state and vacuum electronic technologies. This seminar will present an overview of vacuum electronic based source technologies for the realization of high power oscillators and amplifiers in the 30 GHz to 1 THz frequency range. Devices to be discussed in this overview will include slow-wave devices such as TWTs, BWOs, and orotrons or Smith-Purcell FELs. Fast-wave devices such as gyrotrons and their varients will also be discussed. Examples will include NRL developments of a 10 kW average power 94 GHz gyro-klystron amplifier, and recent work by a variety of groups on higher frequency sources.

Bruce Danly received a B.A. from Haverford College (1978), and a Ph.D. from MIT (1983), both in physics. From 1983-1995, he was on the research staff at the MIT Plasma Fusion Center, where he developed high power microwave and millimeter wave sources for fusion and advanced accelerator applications.

In 1995, Dr. Danly joined the Naval Research Laboratory, as Head, high Power Devices Section, Vacuum Electronics Branch, where he carried out work on high power vacuum electronic devices, including gyroamplifiers for radar applications and high data rate communications TWTs. In January 2006, he assumed the position of Head, Microwave Technology Branch, Electronics Science and Technology Division. The branch carries out fundamental and applied research in wide bandgap power semiconductors, high-speed low-power-consumption antimonide-based compound semiconductors, and innovative microwave control components. Dr. Danly is a member of APS and IEEE, and was elected Fellow of the IEEE in 2003.

Wednesday, April 19, 2006

Identity Federation in Cancer Biomedical Informatics Grid (caBIG)

The completion of the Human Genome Project sparked the development of many new tools for today's biomedical researcher to use in finding the mechanism behind disease. However, the lack of common infrastructure has prevented life science research institutions from being able to mine and analyze disparate data sources. Research facilities have been working with islands of isolated data and informatics tools. The inability to share technologies and data among different cancer research institutions can severely hamper the research process. The Cancer Biomedical Informatics Grid (caBIG) project was created to provide the organizational framework that could tackle these issues.

DIAMOND STORIES

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DIAMOND STORIES

continued from page 5

The National Cancer Institute Center for Bioinformatics (NCICB) built the caBIG prototype to satisfy simple data integration and share use cases using the Globus Toolkit. In anticipation of 1000+ grid services in the production release, Booz Allen Hamilton was asked to examine the current caBIG authentication and authorization architecture, propose a notional Federated Identity Management (FIM) architecture, evaluate a list of candidate technologies, and provide guidance on how to create identity federation in caBIG.

This presentation starts with the evolution of grid computing and Web services technology, illustrates the challenges of identity federation across many security domains, and presents a recommended FIM architecture. Findings of every grid technology evaluated, such as Globus Toolkit, Shibboleth, GridShib and Signet, will be presented and mapped to the proposed FIM architecture. The combination of FIM scenarios, architecture and technologies provides critical insights to create identity federation in a complex data sharing environment.

Kenneth Lin, a senior consultant with Booz Allen Hamilton, is an enterprise technical and security architect with eight years of professional experience managing the development, integration, and architecting secure business solutions. He focuses on implementing large-scale, technical projects with highly diverse, cross-functional teams. He is experienced in a variety of enabling technologies including service oriented architectures, grid computing, FEA, identity federation, Web services, public key infrastructure and smart cards. Lin holds B.S and M.S. degrees in computer science from National Chiao-Tung University at Taiwan and an M.S. degree in electronic commerce from Carnegie Mellon University. He is a Certified Information Systems Security Professional (CISSP).

Tim Weil, a security architect with Booz Allen Hamilton, will provide an introduction to Lin's talk. With more than 20 years experience in data processing, communications engineering, and information assurance, Weil's technical areas of expertise include enterprise security architecture, FISMA compliance, identity management, and network engineering. He is a senior member of IEEE and serves as Washington Section Editor of the IEEE Scanner. He has also been a technical editor for several IEEE publications. His degrees include an M.S. in computer science from Johns Hopkins University, and a B.A. in sociology from Immaculate Heart College. He is a Certified Information Systems Security Professional (CISSP) and Certified Information Systems Auditor (CISA).

Thursday, April 20, 2006

Electric Vehicle Drag Races and All Other Things EV

Ask any electric power company, and they will tell you that it is a lot more fun to race electric cars, especially with help from kids, than it is to push a 765-kV power line through an unwilling community. We welcome Charlie Garlow and David Goldstein, who will talk about drag racing electric vehicles for fun, saving money, national security and environmental protection. They will also discuss the new concept of plug-in hybrid electric cars, which can be described as "Toyota Prius on steroids." With more batteries for a longer "battery only" range and new battery technologies, plug-ins may spark the electric vehicle revolution!

National security issues, i.e., importing oil from politically volatile regions, are a major reason that "neoconservatives" have allied themselves with environmentalists in advocating plug-in hybrid electric cars. The plug-in hybrids use clean, renewable energy, such as electricity from wind and solar resources. Setting new drag racing times is the incentive for "gear heads" to compete in the National Electric Drag Race Association races. Have we mentioned that promoting a clean environment is lots of fun? This forum will explore all these issues and more. Check out these websites: www.powerofdc.com, www.pluginaustin.org, and www.nedra.org, and come with plenty of questions for the experts, and find out how you can get involved with the local EV community.

David Goldstein has been an electric vehicle consultant for more than 30 years, having built/repaired/driven/designed electric vehicles of all sorts for government and private parties. He has been the President of the Electric Vehicle Association of Greater Washington, D.C. (EVA/DC) since the first 1973 oil crisis. EVA/DC's most recent project is the reconstruction of MIT's solar-assisted two-seater electric three-wheeled vehicle, which can be viewed at www.evadc.org. He is also a consultant to Altair, a battery components company that is promoting lithium ion nanotechnology.

Charlie Garlow is vice president of EVA/DC and a proud owner of an all electric, battery powered Chevy S-10 pickup truck, which he races at the June NEDRA drag races every year. A clean air enforcement lawyer with the U.S. Environmental Protection Agency by day, Charlie believes in walking the walk, talking the talk, and driving the jive! Charlie also helps to organize the Junior Solar Sprint races for middle school students. The races use a solar panel and an electric motor on board a car of the student's design in drag races every May, with East Coast Championship races in Massachusetts every June.

GOLD Project Features Laser Beams

***GOLD Volunteers**—Front row, left to right: Kenya Allmond Raabe, and Van Le, Chuck Baldi. Back row: Senthil Ramiah, Kerry Hartman, Tom McKiernan, Bruce Lipton, William Benard, and Abhay Bakshi.*

The Graduates of the Last Decade (GOLD) Affinity Group of the Northern Virginia Section wrapped up its 2005 season with a community outreach event at the Emery Recreational Center in Washington D.C. on December 10.

About 20 middle- and high-school students participated in a laser communicator project, supported by facility director Mark Thomas and the GOLD team pictured above.

The students used modified laser pointers to modulate laser beams with a music signal. The beams were directed at solar-cell targets, which provided input to amplified computer speakers used as receivers. Fingers and mirrors were also used to create "special effects," and principles of signal modulation were discussed.

Look for more announcements of GOLD networking and outreach events in 2006 at http://ewh.ieee.org/r2/no_virginia/NovaGOLD/.

FIRST Robotics Competition

Basketball-playing robots built by students from 60 regional high schools will compete in the fourth annual FIRST Chesapeake Regional Robotics Competition in Annapolis on March 16-18.

The event, organized by FIRST (For Inspiration and Recognition of Science and Technology), will feature robots built to play a modified style of basketball. The high school teams received a kit of parts in January and had six weeks to design, build and practice remotely maneuvering their robots before shipping them off to Annapolis in mid-February. The teams will be competing for a chance to advance to the national contest.

Many IEEE members are among the professional engineers and technicians who work side-by-side with the teams, offering the students a glimpse of what engineering is all about and providing them the opportunity to gain knowledge of and experience in teamwork, time management, task sequencing and computers.

The event will be held at the Naval Academy's Halsey Field House in Annapolis. If you want to attend, please read the information on the Naval Academy's FIRST website at www.usna.edu/FIRST, or email Janet Lathan at janetlathan@comcast.net for access procedures. Times, dates, and an agenda can be found at www.usfirst.org/robotics/2006/regional/md.htm.

New Region 2 South Chair Named

At the IEEE Region 2 Board meeting in February, Murty Polavarapu, former chair of the Northern Virginia Section, was appointed as the new Chair of the Region 2 South Area, which includes the Washington, Northern Virginia and Baltimore Sections, and the Annapolis Subsection.

He replaces Jerry Gibbon, who served four years in the position. Gibbon's new assignment is Region 2 Educational Activities Chair. In this capacity, he will be coordinating educational programs for about 40,000 members in the 20 sections of Region 2.

Membership development continues to be an important focus of Region 2 support, although the 1.3 percent decrease in IEEE membership last year was not as sharp the previous year's decline. Region 2 represents about 10 percent of all IEEE members.

One of the goals of the Region 2 Administrative Committee is to encourage members to expand their use of the web-based virtual community. Site usage is growing slowly as more users give it a try and discover a reliable source for sharing membership information. Plans are underway to increase the amount of information on the Region 2 virtual community page.

The Board made several changes to its organization and leadership to reflect volunteer interest and expansion into new areas. Details about these changes will be posted on the Region 2 website at http://ewh.ieee.org/reg/2.

Two nominees for Region 2 director-elect and delegate-elect were selected at the meeting, and their names will appear on the IEEE Fall 2006 election ballot.

The new Region 2 assessment will be reviewed at the next Regional Activities Board meeting for final acceptance and implementation before 2007.

Jerry Gibbon contributed to this article.

Senior Members

Congratulations to the following new Senior Members:

Eric Blalock (W)
J. Brackett (W)
Gerard Coutu (W)
Charles Ge (W)
Douglas Goldstein (NV)
David Hoeschen (W)
Li-Yueh Huang (W)
Deirdre Kaminski (W)
Robert Lavagno (W)
Walter Li (W)
Gregory Russo (NV)
Debi Soundarapandian (W)
Ryan Venkitachalam (NV)
Eric Welton (W)
Dongsong Zielinski (W)

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

IEEE National Capital Area Annual Awards Banquet

Saturday, April 22, 2006

Rockville Doubletree Hotel
1750 Rockville Pike, Rockville, MD

Reception: 6:30 pm
Dinner: 7:30 pm
Awards Presentation: 8:30 pm

Keynote Speaker:
Dr. Ruth David,
President and CEO,
ANSER

Reservations: Please make reservations by April 8. Mail the Reservation Form with the names of attendees and a check to Debra Meale, P.O. Box 6814, Woodbridge, VA 22195.

Directions:
From Northern Virginia, take I-495 into Maryland to Exit 38, I-270 North. Exit at Montrose Road East. Go 1.7 miles to Rockville Pike (Route 355) and turn left. Continue 0.6 mile to the hotel on the right.

From the Frederick area, take I-270 South and follow above directions.

From the Greenbelt area, take I-495 to Exit 34, Rockville Pike (Route 355), turn north and go 3 miles to the hotel on the right.

Reservation Form

(The cost is $45 per person or $450 for a table of ten)

Name:_____ $_____

Guest:_____ $_____

Table(s) _____ for 10 at $450 ..... $_____

Total $_____

____ Check enclosed. Please make check payable to IEEE Washington Section.

Please provide _____ vegetarian meal(s)

If you wish to be seated with your group (chapter or affinity group), please specify

_____

_____

Computer Society Joint Chapter Formed to Serve 4,000 Members

Washington Section members who belong to the IEEE Computer Society can once again participate in a local chapter of the society. The Northern Virginia chapter and Washington's dormant chapter became a single joint chapter after approval late last year by both sections, IEEE Region 2 and the IEEE Computer Society.

Strong technical activities in 2005 by the Northern Virginia Section's chapter prompted the decision to expand it to include Washington. The joint chapter will serve more than 4,000 Computer Society members in the two sections.

Many technical activities are being planned for this year (see Calendar entries for March 15 and April 19). The expansion is expected to provide several leadership opportunities for members.

If you have any questions about the Computer Society Chapter's activities or suggestions to share, please contact chapter co-chairs T.K. Ramesh at tkramesh@ieee.org or Shahid Shah at shahid.shah@ieee.org.

MEMS ALLIANCE MID-ATLANTIC SPECIAL TOPICS SYMPOSIUM

April 4, 2006

Micro- and Nano- Technologies in Biology and Medicine

Join leading researchers from university and government laboratories and private industry as they explore current and future trends in the application of MEMS (micro-electro-mechanical systems) and nano-technology to Biology and Medicine.

- Nationally recognized invited speakers in bio-MEMS and nanotechnology
- Platform presentations
- Poster session with award for best student poster

At the Kossiakoff Center
The Johns Hopkins University Applied Physics Laboratory

For registration information, paper/poster submission guidelines and a list of invited speakers, see:
www.memsalliance.org
Or contact Ms. Patricia Prettyman (240) 228-4187