

SCANNER

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NoVA Computer Society Focuses on Key Future Technologies

The Northern Virginia chapter of the Computer Society revamped its technical activities this year under the leadership of its co-chairs, Tirumale Ramesh and Shahid Shah. Building on its tradition of offering presentations on key topics of interest to computer professionals, this year the chapter sponsored a number of technical meetings on topics ranging from reconfigurable computing to certification.

With emerging trends in system complexity and the integration of computing and communication technologies, Dr. Ramesh, a computer engineer and technologist for 25 years, predicts growing career opportunities for computer professionals in fields such as biotechnology, cyberspace, network-centric systems and platforms, and many other specialties.

"I have worked in key industries from aerospace to low level chip designs. But, what I see is a potential transformation from disparate entities to a complex system design mindset that will include underlying computing and communication technologies, integration and interoperability. This mindset is the key to career growth for the next century," Dr. Ramesh said.

NOVA COMPUTER SOCIETY
continues on page 6

NCA Consultants' Network is Best-Kept Secret in IEEE

By Monica Mallini-Rourke

In the early 1990s, IEEE member Wally Lee, freshly laid off from a job, attended a meeting of the IEEE Consultants' Network. That meeting would change the course of his career. Wally discovered the group to be "a lot more than a dinner club." Officially an Affinity Group of the Washington and Northern Virginia Sections, the National Capital Area Consultants Network (NCA-CN) is a sounding board, a support group, a training program, and an advocacy organization for its members, who may fall anywhere along the consultancy spectrum. A common tie is the wish to proactively control the flow of one's career, whether the member is a full-time consultant, "just thinking about it," or somewhere in between.

Later that same year, Dr. Bob Miller was elected president of the group. Like Wally, he remains an active member to this day. To Dr. Bob, as he is known professionally, the value of NCA-CN is its role in providing valuable, timely business information. Because

the members' practice areas represent diverse specialties, which, at times, intersect or are complementary, there are opportunities to enhance a competitive edge by forming fluid collaborations for specific jobs. In other words, two or more members may combine their expertise to bid on a larger job.

Inasmuch as the sharing of business information in the Consultants' Network forum brings such opportunities to light, the group serves as a "micro-incubator" for the individual members' small businesses.

The Consultants' Network further nurtures the small businesses by allowing members to feature their consulting practices in the NCA-CN web pages and other advertising vehicles.

Most engineers are not formally trained in non-technical arenas such as communication and interpersonal relationships, and this can be a barrier to a successful consulting practice. The NCA-CN addresses this void through its monthly meetings with optional dinner, which provide extended networking opportunities. Meetings open with an "elevator speech" from each person, to reinforce the contact and allow members to practice a perpetually valuable skill, delivering a 30-second pitch. Dinner is typically followed by a speaker presentation or panel discussion. Topics encompass any issue pertinent to being a consultant: forming a corporation, doing business with the



Consultants' Network President Sai Chiang leads a discussion.

MPAC 2005 Workshop

Leann Kostek, a contract manager for Puget Sound Energy in Seattle, shares her insights on writing effective resumes and presenting them to prospective employers or recruiters. She was one of six speakers at the September career management workshop organized by the Northern Virginia and Washington Sections, with assistance from IEEE-USA. Look for a story about the workshop in the next issue of the Scanner.



IEEE-USA Fellow Energizes State Department

By Dennis Moen and Monica Mallini-Rourke

The Northern Virginia Communications Society chapter's September meeting was a very special event as Emily Sopensky provided a moving account of her experiences as an IEEE-USA Fellow at the U.S. State Department. The Women in Engineering affinity group and the Society for Social Implications of Technology cosponsored the meeting, which was held at Mitre Corporation in McLean, Virginia.

Even if you had never considered the opportunity of applying for and representing the IEEE as a government fellow, you certainly would have left the meeting feel-

IEEE-USA FELLOW
continues on page 6

government, getting paid, presentation skills, marketing techniques, and a myriad of others.

The best-kept secret in IEEE is that any member may join the Consultants' Network. Visitors are welcome to attend a meeting, currently held on the first Tuesday of each month, and full memberships are available to IEEE members for only \$50 per year. Send inquiries to treasurer@ieee-consultants.org. The next meeting, on November 1, will feature the topic of search engine optimization, presented by professional website designer Nancy Kramer (see Calendar, page 3).

Wally Lee and Dr. Bob Miller contributed to this article.

NoVA Admin Committee to Meet at New Site in 2006

Due to renovation work at the Tysons Corner Marriott, the Northern Virginia Section plans to change the location of its monthly administrative committee meetings, starting in January.

The new venue will be announced in the January-February *Scanner* and in the online *eScanner* as soon as it is selected. There will be no meeting of the committee in December.

The latest information about IEEE meetings and activities in the National Capital Area is available online at www.ieee.org/escanner.

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Women in Engineering (W/NV)
To be determined
www.ieee.org/wie_wash

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 January-February issue is December 1, 2005

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CALENDAR OF

events

Tuesday, November 1, 2005
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, November 1, 2005
◆ Search Engine Optimization

Sponsor: National Capital Area Consultants' Network
Speaker: Nancy Kramer
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: As a search engine optimization consultant, Nancy Kramer helps small businesses get found in Google, Yahoo, and other major search engines. Learn how website design impacts rankings. See Diamond story, p. 4.
Contact: Sai Chiang at 703-203-0771 or creativesystem@ieee.org.

Tuesday, November 8, 2005
◆ Terahertz-Frequency Sensing Science & Electronic Technology for Defense

Sponsor: Microwave Theory and Techniques Society, Washington and Northern Virginia Chapter
Speaker: Dr. Dwight Woolard, Army Research Office, U.S. Army Research Laboratory
Time: Lecture 7:00 pm, dinner TBD
Place: Mitre Corporation, Building 2, 7515 Colshire Drive, McLean, VA
Directions: Off Route 123 in Tysons Corner. See www.mitre.org/about/locations/mitre2_map.html.
More Info: See Diamond story, p. 4, and MTT Chapter website at www.ewh.ieee.org/r2/mtt-wnva (for dinner updates).
Cost: Lecture free, dinner TBD.
Contact: RSVP for dinner only to Roger Kaul at 301-394-4775 or r.kaul@ieee.org.

Wednesday, November 9, 2005
Northern Virginia Section Administrative
Committee Meeting

Time: 6:30 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: 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.

Thursday, November 10, 2005
Fall Power Fiesta

Sponsor: Power Engineering Society, Northern Virginia and Washington Chapter; Industry Applications Society, Washington and Northern Virginia Chapter; Graduates of the Last Decade affinity group; and Women in Engineering affinity group
Time: 5:00-8:00 pm
Place: Chevy's Fresh Mexican 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 a joint networking event, with door prizes, food, drinks and lively conversation.
Cost: No admission charge for IEEE members, a \$10 donation would be appreciated from non-members.
Contact: Please RSVP by Nov. 8 to Monica Mallini-Rourke at mmallini@vt.edu.

Friday, November 11, 2005
BP Solar Tour

Sponsor: Nuclear and Plasma Sciences Society, Washington and Northern Virginia Chapter
Cosponsor: Society for Social Implications of Technology, Washington, Northern Virginia and Baltimore Chapter
Time: 10:00 am to 12:00 noon (followed by lunch)
Place: BP Solar Headquarters, 630 Solarex Court, Frederick, MD
Directions: Take 270N to exit on Jefferson St. Proceed to U.S. 15/40. Stay in the middle lane and go through 2 lights. Take the exit to MD 180/351. Turn right on Ballenger Creek Pike. Left onto Solarex Court. Main entrance is the third driveway on the right. Free parking.
More Info: Attendees are invited to lunch (on their own) at one of Frederick's historic restau-

rants, to be identified at the time of the tour. This event was organized in support of the 2005 Solar Decathlon. The tour will provide engineers and other guests with background and technical information on solar technology research, development, manufacturing and system applications. Knowledge gained will benefit our cities and communities as we continue to explore viable options for efficient sources of electricity.

Contact: Please pre-register by calling Harry Sauberman, P.E., at 301-443-8879. A list of names must be submitted to the company prior to arrival.

Tuesday, November 22, 2005
Overlay Multicast

Sponsor: Communications Society, Northern Virginia Chapter
Speaker: Dennis Moen
Time: Dinner at 6:00 pm; speaker at 6:45 pm
Place: Mitre Corporation, Building 2, 7515 Colshire Drive, McLean, VA
Directions: Off Route 123 in Tysons Corner. See www.mitre.org/about/locations/mitre2_map.html.
More Info: Dr. Moen will give a presentation on overlay multicast to support real-time distributed visual simulation.
Cost: Free, including dinner.
Contact: Please RSVP to Fred Seelig at fseelig@mitre.org.

Tuesday, December 6, 2005
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, December 6, 2005
Consultants' Network Election,
Annual Business Meeting,
and Patent Application Process

Sponsor: National Capital Area Consultants' Network
Speaker: Matthew Hoel, U.S. Patent Office
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

CALENDAR

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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: The Consultants' Network will hold its annual election and business meeting. Mr. Hoel will discuss 35 U.S. Code Sections 101, 102, 103 and 112. He will address anticipation, non-obviousness, proper form for claims, and prior art searches. Mr. Hoel will also discuss the process a patent examiner goes through and what the applicants can expect in an office action. About 75 percent of applications are rejected, usually because the invention was either anticipated by, or obvious in view of, what has already been done in a particular discipline.

Contact: Sai Chiang at 703-203-0771 or creativesystem@ieee.org.

Wednesday, December 14, 2005**◆ Test System Serves Multiple Purposes and Provides Flexible Architecture**

Sponsor: Control Systems Society, Washington Chapter
Speaker: Mark Dempsey
Time: 12:00 noon, pizza provided
Place: Fairchild Controls Corp., 540 Highland Street, Frederick, MD
More Info: See Diamond story, below.
Contact: Please RSVP by July 18 to Mike Gilliom at 301-228-3591 or mgilliom@fairchildcontrols.com.

Wednesday, December 14, 2005

There will be no meeting of the Northern Virginia Section Administrative Committee in December.

Letter

To the Editor:

I attended the MPAC 2005 workshop that was held on Sept. 24, 2005, and would like to say that I found this to be a very informative and well-organized event. Its timing was quite apropos, given the current trend of nearly all aspects of our field getting outsourced to other countries. I would definitely welcome future workshops on this topic.

Please let me know if there's anything I can do to help.

Puneet Puri

**DIAMOND STORIES****Tuesday, November 1, 2005****Search Engine Optimization**

Google, Yahoo, and other major search engines are the new "Yellow Pages." Getting listed at search engines is free—if you know how to do it. This presentation will teach you how to ensure that your website will be found at the major search engine sites for your targeted key words and phrases (the words and phrases you expect your potential customers to use).

Most small consulting businesses have a website these days but cannot afford professional help for search engine optimization. Small business owners and website developers need to be aware that design issues can cause a website to be difficult for search engine spiders to index and prevent the website from getting the desired results at the most popular search engine websites. Learn what these design issues involve, avoid them, create websites that are search engine friendly, and you'll save the time and money of redesign and relaunch.

Nancy Kramer designs and maintains websites, and she has several in the top 10 positions for their targeted key words at Google and other search engine sites. Recently her Web content properties served more than 1.1 million page views, resulting in more than 3.1 million ad impressions for ad networks, including Google Ad Sense, Burst Media, Tribal Fusion, and FastClick. Serving Internet ads since 1999, Nancy's websites continue to produce significant regular income.

With more than 25 years of experience in information technology, Ms. Kramer has extensive experience in system integration, management of software development efforts, full system life cycle, and the Software Engineering Institute's (SEI) capability maturity model (CMM). In addition, she is knowledgeable in database design, structured query language (SQL), and object-oriented design.

Tuesday, November 8, 2005**Terahertz-Frequency Sensing Science & Electronic Technology for Defense**

During the last few years, new research programs have emerged within the U.S. Army and the Department of Defense (DoD) that have been focused on advancing the state-of-the-art in terahertz (THz) frequency electronic technology and investigating novel applications of THz frequency sensing. This last research frontier in high-frequency electronics, which lies in the terahertz (or submillimeter-wave) regime between microwaves and the infrared (i.e., ~ 0.3 - 3.0 THz), has always offered many technical advantages (e.g., wider bandwidth, improved spatial resolution, compactness). Now, applications with relevance to basic science and national defense appear to be emerging. A noteworthy application is the use of fundamental interactions of THz radiation at the molecular level for sensing and characterizing chemical and biological (CB) systems. Of course, such applications have broad ramifications to such areas as CB defense, bio-medical and molecular science.

This presentation will focus on the main science and technology issues that are relevant for assessing the future utility of THz sensing for national defense. Dr. Woolard will provide an overview of the current progress of basic research programs in THz sensing and technology that are under joint support of the U.S. Army, DTRA and DARPA. Then he will elaborate on the future directions of programs that seek to investigate novel methodologies (e.g., integrated molecular-level sensor platforms) with the potential for point and remote detection of biological warfare agents.

Dwight Woolard manages the U.S. Army Research Laboratory (ARL)—U.S. Army Research Office (ARO) Research Program on Solid-State & High-Frequency Electronics which emphasizes: (1) THz-frequency and ultra-fast electronics, (2) nano-electronic engineering science, and (3) advanced solid-state device concepts. Dr. Woolard presently leads one of the largest U.S. research programs

in THz-frequency science and technology, and pioneered the development of THz spectroscopy for biological agent sensing. Dr. Woolard has been active in the research areas of THz-frequency bio-sensing science and THz-frequency oscillations in solid-state tunneling devices since joining the ARL in 1993.

Dr. Woolard is a graduate of North Carolina State University—Raleigh and was elected to IEEE Fellow in 2004 "for leadership in the discovery and development of novel sensing methodologies and advanced electronic devices at terahertz frequencies."

Wednesday, December 14, 2005**Test System Serves Multiple Purposes and Provides Flexible Architecture**

This presentation will focus on a test system developed to serve the purposes of testing production hardware, software testing and hardware in the loop control algorithms development. Plant models are created using Labview test software and implemented through the test hardware to controller interface, allowing early control algorithm development testing before real system hardware is in place. Using National Instruments (NI) Labview test software, NI PXI hardware, and special interface hardware, the test system offers the reconfiguration flexibility of interfacing it to various embedded controller hardware designs. The test software and hardware designs also offer the advantage of use for production hardware testing as well as for embedded software testing.

Mark Dempsey has more than 16 years of product design and development experience. He has worked with products at the component level as well as system level. The products include analog, digital and high power electronics. He has supported test system development throughout much of his career. Mr. Dempsey has a B.S. in electrical and computer engineering from the University of Buffalo.

Historical Electronics Museum Features Analog Devices, Military Radars

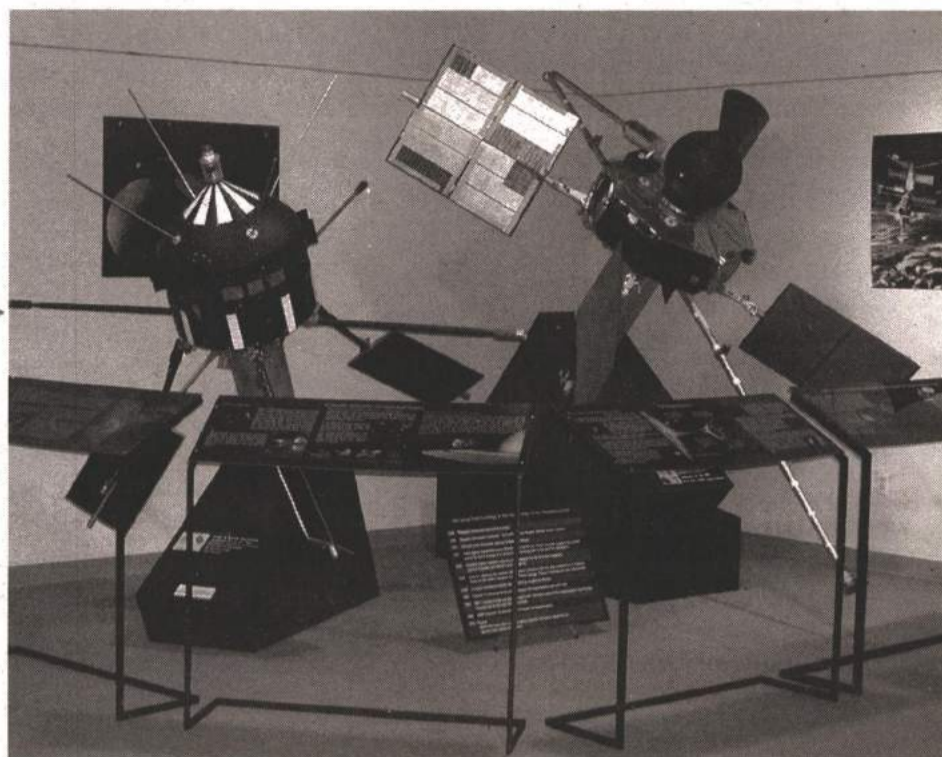
By Pete Sypher
Scanner Editor

An interesting way to spend a cold, rainy late fall or winter day would be a visit to the Historical Electronics Museum next to the Baltimore-Washington International Thurgood Marshall Airport.

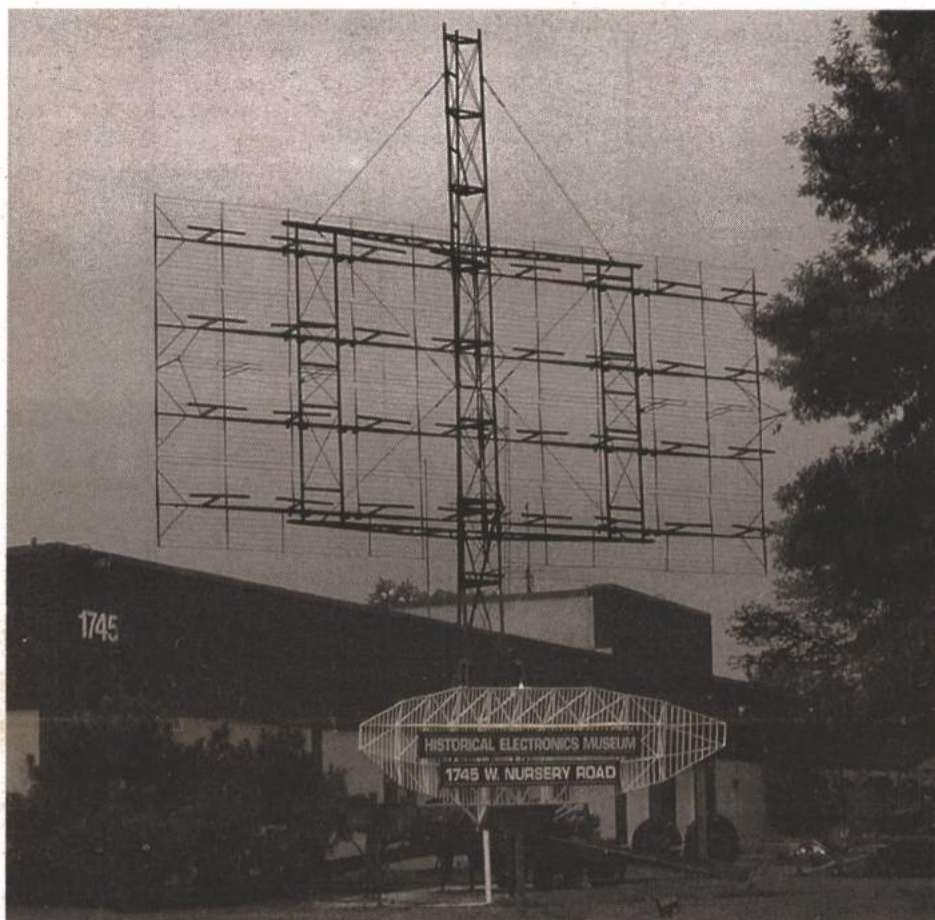
Founded in 1980, the 10,000

square foot museum focuses mainly on military electronics. The main emphasis is on radar, including jammers and other countermeasures. The displays mostly relate to analog devices that were developed before the introduction of micro and mini-computers. The displays are therefore of most interest to those who developed or operated military or space equipment. For young people, there is a Fundamentals Gallery, with hands-on exhibits of the basics of electricity and electronics.

In the Electro-Optical Gallery, you can try out a television-type infrared (IR) imaging system by standing on a raised platform, where you are



The Space Sensor Gallery includes two satellites from the 1960s: the Ariel-2 (left), a joint venture of the U.S. and U.K. to study Earth's ozone, micrometeoroids, cosmic and galactic radio noise; and the Anchored Interplanetary Monitor Platform D (right), designed to investigate Earth's magnetosphere.



Towering over the Historical Electronics Museum's entrance is a 1943 version of the SCR-270 Radar Antenna of Pearl Harbor fame.

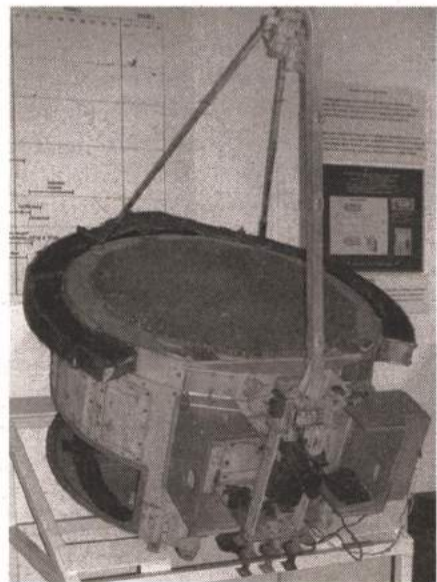
illuminated with infrared radiation from heaters. You can view yourself both on a regular monitor using visible light and on the infrared monitor. You quickly learn

what is highly reflective of IR and what is not. The museum's 8,000-volume library has an extensive collection of military and intelligence books and videos. Those of us who make presentations to clubs or school classes about historical military or electronic topics can borrow videos. The videos feature people who play prominent roles in the Cold War and the American manned space program.

The Communications Gallery has an extensive collection of radios from World War II days ranging from "walkie-talkie" hand-held radios to command sets and vans. There is a well-equipped amateur radio station for visitors' use.

The Space Gallery has good displays on the Amateur Radio Satellite Corporation (AMSAT) and on the magnetosphere.

Pioneer Hall has a wall display on the IEEE. Societies briefly



One of the earliest (1960) phased array radar antennas, the APQ-40 Reflect Array Radio Frequency (RARF) antenna.



A WWII radio direction finder set comprised of CRM-69014 loop antenna, CRM-46153 receiver and the IP-740/GR azimuth indicator.

what is highly reflective of IR and what is not.

The museum is located at 1745 West Nursery Road, Linthicum, Maryland, and the phone number is 410-765-3803. Directions can be found on the website at www.hem-usa.org. Hours are 9:00 a.m. to 3:00 pm Monday through Friday (except holidays), 10:00 a.m. to 2:00 pm Saturday. Admission is free.

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NCA Welcomes New Admin Manager

Debra Meale has been selected as the new Administrative Manager for the IEEE National Capital Area. Her contact information can be found on page 2.

Ms. Meale brings a wealth of experience and enthusiasm to IEEE and is looking forward to supporting the Northern Virginia and Washington Sections as well as the local chapters and affinity groups.

Her experience includes planning catered events for Marriott hotels, and administrative work in the corporate world.

IEEE National Capital Area also wants to thank outgoing Administrative Manager Jackie Hunter for her valued contributions over a long period of time and to wish her continued success.

IEEE's e-Notice Helps Chapters, Affinity Groups Communicate with Members

Once you have the speaker scheduled and the location set, how do you get the word out to your chapter or affinity group members? With rising concerns about privacy issues, one cannot maintain private databases of addresses and mailing lists. Even if you could, you could get blocked by your Internet Service Provider from sending large amounts of email.

IEEE e-Notice is an electronic newsletter subscription service that has been developed for IEEE organizational units such as local chapters and affinity groups to facilitate email

distribution of meeting notices and newsletters. The following is taken from the IEEE e-Notice website at <http://www.ieee.org/organizations/vols/e-notice/index.html>.

The source of email addresses for e-Notice is the IEEE Membership Database. New members are automatically added, members who move to a new Section are automatically moved, and deceased members are automatically omitted.

Each message includes an unsubscribe URL to give the recipient an opportunity to opt-out of future e-mail-

ings. Members who unsubscribe from the list will automatically be omitted from all subsequent mailings for that particular list.

Organization unit (OU) e-mailings are limited to the members of that organizational unit (local Chapter or Affinity Group). Conference e-mailings are limited to the sponsoring IEEE OU and include Call for Papers, Advance Programs and reminders. Conference mailings will be authorized by the IEEE Conference Services Manager before being processed and must be

included in the IEEE Meetings Database prior to mailing. Please allow extra time for this.

The basic process of sending an e-Notice starts when an organizational unit (OU) registers for the service at <http://www.ieee.org/organizations/vols/e-notice/index.html>. Staff creates the email list from the IEEE Membership Database. After an OU volunteer creates and submits the mail piece, staff sends the mail piece using a commercial outbound email system, and receives and handles bounced messages.

NOVA COMPUTER SOCIETY

continued from page 1

"The same [mindset] needs to be translated into how academic curricula are developed in computer engineering and related engineering disciplines for the future, and some of this is already taking place today," he said.

The Computer Society sponsored many presentations this year, including a talk on reconfigurable computing by Dr. Ramesh, which offered insight into architectural shifts and high level system synthesis challenges. He was invited to give the same talk in October at a meeting of the Seattle chapter of the IEEE Aerospace and Electronic Systems Society.

At another chapter meeting, Dr. Luiz A. DaSilva spoke about Ad Hoc Networks and their application to military, commercial and transportation systems, and stressed the key point of cooperation between network nodes. Another

interesting talk on Secured Computational Grids by Dr. Steven L. Armentrout focused on security threats to grid systems and discussed some practical approaches to address those issues. A presentation on CISSP by Dr. Van B. Le provided valuable guidance to professionals and an insight into the importance of the certification to career development.

Future meetings may focus on topics such as intellectual property, service-oriented architecture, bioinformatics, and model driven architecture. The chapter also plans to develop technical panel discussions on selected areas of general interest to its audience.

For more information on chapter activities, visit www.cigital.com/ieee or contact one of the co-chairs, Tirumale Ramesh at tkramesh@ieee.org or Shahid Shah at shahid.shah@ieee.org.

ARI Moves to Ballston

The Alexandria Research Institute (ARI), a fixture in Old Town Alexandria since October 1998 and a popular location for IEEE technical society chapter meetings, relocated to Arlington in August and became the VT-Advanced Research Institute. Its new offices will be located at Ballston Point, 4300 Wilson Blvd., Suite 750, Arlington, Virginia. ARI brings together Virginia Tech faculty, students and visiting researchers in a multidisciplinary environment and fosters the emergence of new ideas and collaborations on cross-cutting initiatives. For more information, visit www.ari.vt.edu.



IEEE-USA FELLOW

continued from page 1

ing like you would want to participate. Ms. Sopensky presented her experience from application to selection to indoctrination to completion of her fellowship.

A chance hit on an IEEE website a few years ago led Ms. Sopensky to the experience of a lifetime. IEEE-USA was launching its Engineering and Diplomacy Fellow program to complement the existing Congressional Fellowships, and was soliciting applications from seasoned professionals to serve as technical advisers to the U.S. Congress and the State Department. Always on the lookout for adventure, the professed "IEEE junkie" jumped at the opportunity to become a fellowship candidate. Undaunted by an initial rejection—she was the only semifinalist who was not selected—she analyzed the failure and revised her strategy, resulting in success in the next application cycle.

A consultant and corporate communications expert specializing in technology, Ms. Sopensky used polished writing skills, patience, and a systematic approach at each step in the process to win the fellowship, land a choice assignment, and complete her tasks. Her accomplishments began

with a flagship State Department brochure that showcases the entire Professional Science and Engineering Society Fellows Program, formed in 2001 as collaboration between the State Department and the American Institute of Physics. Her experiences also included updating an antiquated messaging system, advocating the efficient use of technology, and assisting a global task force charged with implementing virtual consulates around the world using local websites.

After her fellowship year wrapped up late in 2004, Ms. Sopensky was so energized by her Washington experience that she relocated to this area, where she has roots. In Austin, Texas, her home for 20 years, she was an active member of IEEE's Central Texas Section, serving as its treasurer and founding its Women in Engineering affinity group. She has also served as an officer for the IEEE Intelligent Transportation Systems Society and its predecessors. The local IEEE community will no doubt continue to be a beneficiary of this distinguished Senior Member's presence.

Ms. Sopensky is president and CEO of The Iris Company. For more information about her work, visit her website at www.iriscompany.com.

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Scanner Welcomes Feature Stories, Meeting Reports, Letters to Editor

The *Scanner* editors would like to encourage chapter officers and the general membership to submit articles and letters that may be of interest to IEEE members in the Washington metropolitan area.

The bimonthly *Scanner* publicizes the activities of the Northern Virginia and Washington sections and their technical society chapters, affinity groups and student branches. As space permits, the newsletter also includes articles about awards received by individual members, engineering career trends, the activities of organizations affiliated with IEEE, and many other topics.

Scanner readers are involved in diverse fields of electrical engineering, ranging from power generation to nanotechnology. The *Scanner's* circulation of more than 14,000 includes practicing electrical and electronics engineers in the commercial and public sectors, researchers, university faculty, students and retirees.

What to Submit

Relevant topics for *Scanner* articles include chapter meetings, workshops and special events, student branch activities, conference news involving the local sections, awards and recognition programs, science and engineer-

ing competitions, Engineers Week and similar commemorative events, volunteer opportunities, professional development and career management strategies.

Chapters should submit information about upcoming meetings for the Calendar of Events, with Diamond story material if available (see guidelines under Editorial Policies, p. 2). Calendar items must have a National Capital Area IEEE sponsor or cosponsor. Incomplete listings will be published if the date is certain; additional information can be added later to the online eScanner calendar.

How to Submit Articles

Bimonthly deadlines fall on the first of the month (February, April, June, August, October, December) preceding publication, as stated on p. 2 of the *Scanner*. Priority is given to articles with a strong IEEE focus.

Articles may be submitted to Kerry Hartman, Northern Virginia Section Editor, at hartman_k@computer.org; Tim Weil, Washington Section Editor, at trweil@ieee.org; or Elsie Grant, Managing Editor, at ncac-scanner@ieee.org. Photos should be submitted in high resolution JPEG or TIFF format, with a caption identifying the event and the people in the picture.

NIST to Offer Two Workshops at ARFTG Conference in December

The National Institute of Standards and Technology is offering two workshops at this year's Automatic RF Techniques Group (ARFTG) conference in Washington. More information about the December conference can be found at www.arftg.org.

Future of High-Speed Electrical Waveform Metrology

This workshop will address emerging issues in electrical waveform metrology required to support modern telecommunications and wireless applications. The workshop will focus on new classes of high-bandwidth electrical instruments that must measure both temporal and frequency-domain signals and, because of the high frequencies involved, must be mismatch corrected, magnitude and phase calibrated, and may generate energy beyond connector cutoff frequencies. The workshop will focus on new high-speed oscilloscopes, vector signal analyzers, high-speed pattern generators, bit error rate testers, and large-signal analyzers. Friday, December 2, afternoon. Contact Dylan Williams at dylan@boulder.nist.gov or 303-497-3138.

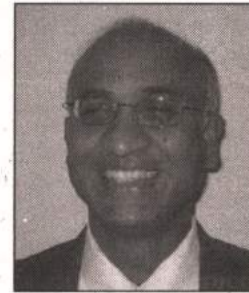
Broadband Measurements for Wireless Telecommunication Systems

The workshop will address the challenges of making accurate RF measurements of nonlinear systems, specifically issues related to increasing the measurement bandwidth of instrumentation such as vector signal generators and vector signal analyzers. The workshop will consist of short (approx. 15 minutes) presentations and an interactive panel discussion by representatives of industry, academia, and government. Wednesday, November 30, 1:00 to 5:00 pm. Contact Kate Remley at remley@boulder.nist.gov or 303-497-3652.

Both workshops will also help with NIST's U.S. Measurement System (USMS) roadmapping effort to assess measurement needs for future innovation in key industry sectors. Find out more about USMS at http://usms.nist.gov/workshops/broadband_telecomm.htm.

Northern Virginia Chair's Column

By Murty Polavarapu



Murty Polavarapu

This is my last message to the Northern Virginia Section membership as chair. At the beginning of this year, we identified our priorities as:

- Offer a wide range of professional development activities for the members
- Build on the established pre-college and college level activities
- Support the activities of our technical chapters
- Increase involvement in public outreach and policy activities.

I hope that the programs and results over the past ten months in our section in the above areas are visible to the membership. I would like to take this opportunity to highlight a few of the significant activities. In the area of professional development, Amarjeet Basra and Shyam Bajpai successfully organized the first Member Professional Development Conference (MPAC) in the National Capital Area with excellent feedback from the attendees. There was also a workshop on intellectual property scheduled in October.

This year, we helped inaugurate an IEEE Club at Woodson High School in Fairfax, Virginia, in addition to the one already in place at Thomas Jefferson High School for Science and Technology. It is gratifying to see the enthusiasm of the Woodson High School students in pursuing projects outside their standard curriculum. We are also supporting FIRST Robotics teams at Chantilly Academy and at Oakton High School. We can, however, use help in bringing more IEEE members as mentors into our pre-college activities. In the college area, the student chapters at George Mason and DeVry continue to thrive with regular meetings and Student Professional Development Conferences (SPACs).

Our technical chapters (with the Northern Virginia Section as 'primary') include Communications Society, Computer Society, Control Systems Society, Electron Devices Society, Industry Applications Society, Power Engineering Society, Signal Processing Society and Society for Social Implications of Technology. All these chapters have offered a vigorous set of technical talks by leaders in their fields, one example of which is the lecture by Dr. Hans Stork, senior vice president of Texas Instruments, at a recent Electron Devices Society chapter meeting. In addition, our members contribute significantly to the success of joint chapters with the Washington Section. The time and effort put in by the volunteers in charge of organizing

these chapter meetings is much appreciated.

In the area of public outreach and policy activities, several of our members are active in supporting the policy committees of IEEE-USA, which is headquartered in Washington, D.C. I think this is one area where the local members

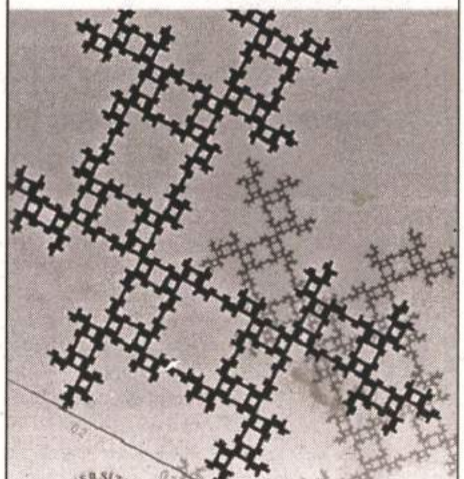
can make their impact felt in grassroots lobbying activities.

The Graduates of Last Decade (GOLD) affinity group continues to be a role model for others around the country and has organized several networking and outreach activities throughout the year. I am also pleased to see the resurgence of the Women in Engineering affinity group, as well as the continued array of programs from the Life Members affinity group and Consultants' Network.

In summary, it has been a great year and I thank the section officers, Mike Cardinale, Syed Ahmed and Chuck Sisung, and the past chair, Amarjeet Basra, for making my job easier. I am also thankful to the entire administrative committee and other volunteers for making the Northern Virginia Section a leader in Region 2 and all of IEEE. And if you are not yet involved in the professional, technical and outreach activities at the section level, I urge you to join in the fun!

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Alan Plait, Centennial Medalist

Former IEEE Reliability Society president and Centennial Medal recipient Alan O. Plait died at age 79 on September 14 at his home in Sarasota, Florida. He lived in the Washington area from 1962 to 1995. The Reliability and Maintainability Symposium named an award in his honor. He was also a fellow of the American Society of Quality, a fellow of the Washington Academy of Sciences and a member of the Naval Cryptographic Veterans Association.

Mr. Plait developed a mathematical basis for reliability studies and guided the enhancement of electronic system reliability. His early work included the development of test equipment and military battlefield surveillance systems, and medical devices for Apollo spacecraft. In the late 1950s he worked for Magnavox in Fort Wayne, Indiana.

He worked for Melpar (now Raytheon) for five years, then for Computer Sciences Corporation, and finally for ManTech International Corp., retiring as technical director in 1992.

Born in Chicago, he served in the Navy in the Pacific dur-

ing World War II. He attended the Illinois Institute of Technology, receiving a degree in math in 1951 and a second bachelor's degree in electrical engineering in 1957. Between earning these degrees, he was recalled to active duty during the Korean War. He completed a master's degree in systems engineering at Virginia Tech in 1976.

Mr. Plait taught math and engineering at Illinois Tech, Virginia Tech, George Washington University and the USDA Graduate School. He received the USDA faculty excellence award in 1986 and the Leo Schubert Award for Excellence in Teaching from the Washington Academy of Sciences in 1989.

After moving to Sarasota, Mr. Plait served on the board of the Sarasota Science and Technology Center and founded its library, which bears his name.

His wife of 52 years, Evelyn S. Plait of Sarasota, four children, seven grandchildren, and one great-grandchild survive him.

Submitted by Pete Sypher, from an obituary appearing in The Washington Post September 18.

A Belated Farewell to Walter Hamer

Electrochemist Dr. Walter Jay Hamer, a Fellow of the IEEE and several other professional societies, died June 29, 2004 at his home in Gaithersburg, Maryland.

He was born in Altoona, Penn. on November 5, 1907. After earning his Ph.D. in physical chemistry from Yale University in 1932, he did research at Yale and MIT and then joined the National Bureau of Standards in 1935. During World War II, Dr. Hamer extended the life expectancy of dry-cell batteries in tropical climates from a week to six months and worked on the Manhattan Project for two years.

Dr. Hamer was a leading authority on the chemistry of primary and secondary batteries, and had a long career with what is now the National Institute of Standards and Technology, serving as chief of the electrochemistry section for 20 years. In 1965, he was awarded the Commerce Department's Gold Medal for distinguished government service.

He was active in a number of technical societies, includ-

ing the American Standards Association, the Society of Automotive Engineers, and the American Institute of Electrical Engineers (a predecessor of the IEEE). He was president of The Electrochemical Society in 1963-64, and received the Robert T. Foley Award from the society's National Capital Area Section in 1991. In the early 1960s, a nomination by the IEEE Washington Section leadership resulted in his elevation to Fellow status.

Dr. Hamer was preceded in death by his wife of 61 years,

Alma Robinson Hamer, who graduated from Wellesley College in 1931 with a degree in chemistry and worked as a chemical examiner for the Civil Service Commission, helping to recruit scientists during World War II. A daughter and a grandson survive them.

An interesting online exhibit of early batteries can be viewed by clicking the link for The Walter J. Hamer Collection of Electrochemical Artifacts at www.chemheritage.org/exhibits/ex-nav4.html

Congratulations to These New Senior Members!

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Kenneth E. Gettman (NV)
Romel Gomez (W)
Irving Haber (W)
Charles J. Kim (W)

Judith Klein (W)
Wagdy Mahmoud (W)
James W. Myers (NV)
Nicholas F. Russo (NV)
Dennis Sweeney (NV)
Li Tian (NV)
Charles C. Zachry Jr. (NV)

If you need assistance with advancing to Senior Member level, please 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.

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