

**Brains Behind the Robots—**  
Organizers of the Autonomous Robot Speedway Competition included (standing, left to right): Prof. Gil Blankenship, ECE Dept.; Leon Escobar, 2009 Vice Chair of the RAS chapter; Dr. Raj Madhavan, 2009 Chair of the RAS chapter; Ted Knight and Jess Molina, ECE Dept.; and Robert Noteboom, 2009 Treasurer of the RAS chapter. In the front row are the winning teams with their robots.



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## Autonomous Robots Score Points for Speed, Distance

By Dr. Raj Madhavan  
Chair, Washington Section

The second annual Autonomous Robot Speedway Competition was held at the University of Maryland College Park campus on Saturday, October 24. The event was jointly sponsored

by the Washington and Northern Virginia Chapter of the IEEE Robotics and Automation Society (RAS) and the Department of Electrical and Computer Engineering (ECE).

The 10 teams that competed were from the Robotics@Mary-

land student organization and Prof. Gil Blankenship's 408I Autonomous Robotics Capstone Design Course. This systems engineering exercise provided students engaged in the competition with an opportunity to practice an integrated, interdisciplinary approach to solving problems and optimizing performance.

Due to inclement weather, the competition was held indoors in the rotunda of the Kim Engineering Building. Competing teams were required to autonomously traverse two laps of a circular track outlined with orange cones. The teams were then scored on both speed and distance traversed (best lap out of three runs).

The Autonomous Systems Lab teams placed first and second, followed by an undergraduate team. The teams were awarded \$250, \$150 and \$100 (provided via a local chapter grant awarded through RAS), respectively, at a November 17 RAS meeting held on campus. They demonstrated their robots and gave technical talks on the underlying algorithms and design of their entries.

About 70 people attended the competition. For photos and movies of the event, see the RAS website at <http://ewh.ieee.org/r2/washsec/ras>.

## MITRE Biodefense Researchers Explore Use of Llama Antibodies in Bio-sensors

By Jeff Poston

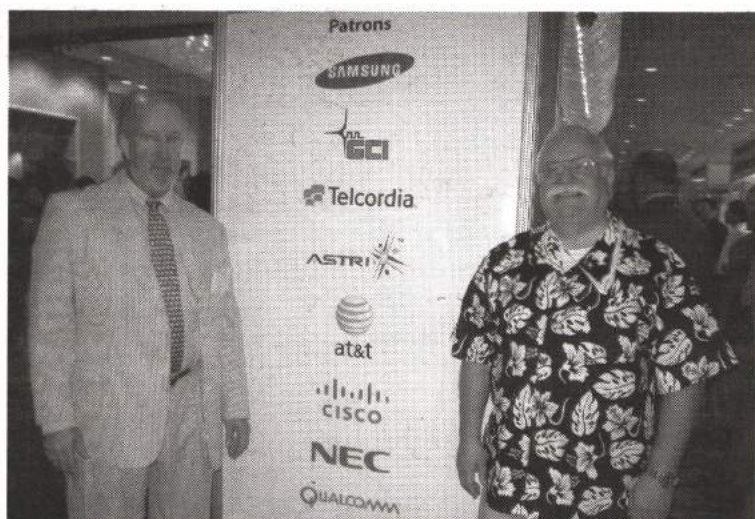
What do llamas have to do with developing biodefenses against anthrax? The answer came in a recent IEEE Engineering in Medicine and Biology Society (EMBS) seminar, "Improving the United States Bio-sensing Capabilities with Advanced Immunomolecules," presented by Lynn Cooper and her colleague at MITRE, Russ Graef.

Dr. Cooper began the seminar with a review of antibody-based detection of biological agents and noted the difficulties of developing sensors with

reliable detection in harsh field environments. She then noted that animals in the camelid family, such as llamas, produce antibodies with heavy chain only molecules and greater thermostability in contrast to other animals. This led her team to posit the hypothesis that camelid immunomolecules from llamas (a.k.a., llamabodies) could be the basis of a new generation of field deployable biosensors.

Dr. Cooper described the experimental protocol that aimed to detect toxins in addition to

See EMBS, p. 5



**Experience Counts**—IEEE GLOBECOM 2007 veterans Tim Weil and Jerry Gibbon helped present a proposal to host the event in 2013.

## Maryland Venues Proposed for GLOBECOM

The three sections in the IEEE Region 2 South Area (Baltimore, Northern Virginia, and Washington) have submitted a joint proposal to bring the IEEE Global Communications Conference (GLOBECOM) to Baltimore–Washington in 2013.

GLOBECOM is a premiere international conference\* held annually by the IEEE Communications Society. The three sections hosted the successful IEEE GLOBECOM 2007 at the Hilton Hotel in Washington. The sec-

See GLOBECOM, p. 5



**EMBS Seminar**—(left to right) Paul Otto, Jr., EMBS chapter Program Director; Russ Graef, speaker's research collaborator; Jeff Poston, Vice Chair of EMBS chapter; Dr. Lynn Cooper, speaker; and Harry Sauberman, Chair of EMBS chapter. Photo: Paul Otto, Jr.



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\*Washington, Northern Virginia, and  
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**ON THE WEB****eScanner Calendar of Events**

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

**IEEE National Capital Area Virtual Community**

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

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Please submit calendar items in the format used in the Calendar of Events. You can send email to [ncac-scanner@ieee.org](mailto:ncac-scanner@ieee.org). Events must have an IEEE or affiliate sponsor.

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.

**Articles**

Other contributions, such as reports on chapter events and other member activities, are most welcome. Please submit articles to the managing editor at [ncac-scanner@ieee.org](mailto:ncac-scanner@ieee.org).

**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 observed 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.

**March–April issue deadline:**  
**February 1, 2010**

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# calendar of events

## Tuesday, January 5, 2010

### ◆ Undersea Exploration Technologies with Potential Aerospace Applications

**Sponsor:** Aerospace and Electronic Systems Society  
**Speaker:** Karen Kohanowich, Office of Ocean Exploration and Research, NOAA  
**Time:** 6:00–7:30 pm  
**Place:** The Keck Center of The National Academies, 500 Fifth Street NW, Room 105, Washington, DC  
**Directions:** Take the Metro to the Judiciary Square station (Red line) or the Gallery Place–Chinatown station (Green, Yellow lines). See [www.nationalacademies.org/about/contact/nax.html](http://www.nationalacademies.org/about/contact/nax.html) for walking or driving directions.  
**More Info:** Ms. Kohanowich will discuss advanced undersea capabilities with potential aerospace dual-use applications. See Diamond story, p. 4, or [http://ewh.ieee.org/r2/wash\\_nova/aess/Future.html](http://ewh.ieee.org/r2/wash_nova/aess/Future.html). Dinner at a local restaurant will follow the lecture. Guests are welcome.  
**Cost:** Free (attendees pay for optional dinner)  
**Contact:** Please RSVP by Thursday, Dec. 31 to Mr. Eun Oh at [eun.oh@nrl.navy.mil](mailto:eun.oh@nrl.navy.mil), or Mr. Roger Oliva at [roger.oliva@ieee.org](mailto:roger.oliva@ieee.org) or 703-346-3146. Photo ID required to enter the building.

## Tuesday, January 12, 2010

### Land Transportation Committee Meeting

**Sponsor:** Land Transportation Committee of the IEEE Vehicular Technology Society and American Society of Mechanical Engineers  
**Speaker:** TBA  
**Time:** 11:30 am  
**Place:** American Public Transportation Association, 11th Floor Conference Room, 1666 K Street NW, Washington, DC  
**Directions:** Take the Metro to Farragut North station (Red Line, use K Street exit) or Farragut West station (Orange and Blue lines, use 17th Street exit).  
**More Info:** All interested persons are invited. Membership in ASME or IEEE is not required.  
**Cost:** \$20 cash at the door for lunch.  
**Contact:** Please make lunch reservations by 4:00 pm, Friday, Jan. 8 with Karl Berger at [karl.berger@dcm-va.com](mailto:karl.berger@dcm-va.com) or 703-803-7917, or Ken Briers at [ken.briers@parsons.com](mailto:ken.briers@parsons.com) or 202-775-3397.

## Tuesday, January 12, 2010

### ◆ High Performance SOI Embedded DRAM: Looking Beyond Conventional Scaling

**Sponsor:** Electron Devices Society  
**Speaker:** Dr. Ravi Todi, IBM  
**Time:** 4:00 pm  
**Place:** BAE Systems, Manassas, VA  
**More Info:** Dr. Todi is an IEEE EDS Distinguished Lecturer. See Diamond story, p. 4.

**Contact:** Due to the security restrictions at the location, advance registration is required by 4:00 pm on Thursday, Jan. 7. Send an email to Murty Polavarapu at [murtyp@ieee.org](mailto:murtyp@ieee.org) with your name, contact information and citizenship status. Detailed directions will be sent to registrants.

## Tuesday, January 12, 2010

### Washington Section Administrative Committee Meeting

**Time:** 6:45 pm  
**Place:** American Association for the Advancement of Science (AAAS), 1200 New York Avenue NW, Washington, DC  
**Directions:** Use the 12th Street entrance. The AAAS building is one block from Metro Center (Red, Orange and Blue lines). Street parking is free after 6:30 pm (no parking 4:00–6:30 pm). There is a pay parking lot at the intersection of 9th St. and New York Ave., and a parking garage at 14th St. and New York Ave. See map at [www.aaas.org/dcwest.pdf](http://www.aaas.org/dcwest.pdf).  
**More Info:** All interested IEEE members are welcome. A video link is available at [www.ieee.org/washsec/video1.html](http://www.ieee.org/washsec/video1.html).  
**Contact:** RSVP to Monica Taysing-Lara at [m.taysinglara@ieee.org](mailto:m.taysinglara@ieee.org) or 202-725-2225.

## Wednesday, January 13, 2010

### Northern Virginia Section Administrative Committee Meeting

**Time:** 6:00–8:00 pm  
**Place:** Olive Garden Restaurant, 8133 Leesburg Pike (Tysons Corner), Vienna, VA  
**Directions:** From I-495, take Route 7 West (Exit 47A) toward Tysons Corner. Turn left at Gallows Road. Parking garage is behind the restaurant.  
**More Info:** All interested IEEE members are invited to attend.  
**Contact:** Dan Cross-Cole at [dcrosscole@devry.edu](mailto:dcrosscole@devry.edu) or 703-527-8072.

## Thursday, January 14, 2010

### SPS Officer Election and Event Planning

**Sponsor:** Signal Processing Society, Northern Virginia chapter  
**Time:** 6:30 pm  
**Place:** MITRE Corp., Building 2, Conference Room 1N100, 7515 Colshire Drive, McLean, VA  
**GPS:** Latitude 38.92219 (+38° 55' 19.88") Longitude -77.20561 (-77° 12' 20.20")  
**Directions:** See [www.mitre.org/about/locations/va\\_mclean\\_mitre2.html](http://www.mitre.org/about/locations/va_mclean_mitre2.html). Free parking.  
**More Info:** All interested IEEE members or non-members are welcome. Only IEEE members in the Signal Processing Society are eligible to vote and hold office.  
**Contact:** RSVPs by January 13 are appreciated, but walk-ins are welcome. Contact Jeff Poston at [poston@ieee.org](mailto:poston@ieee.org).

## Tuesday, January 19, 2010

### ◆ The Swift Gamma-Ray Burst Mission

**Sponsor:** Aerospace and Electronic Systems Society  
**Speaker:** Dr. Neil Gehrels, NASA  
**Time:** 6:00–7:30 pm  
**Place:** The Keck Center of The National Academies, 500 Fifth Street NW, Room 105, Washington, DC  
**Directions:** Take the Metro to the Judiciary Square station (Red line) or the Gallery Place–Chinatown station (Green, Yellow lines). See [www.nationalacademies.org/about/contact/nax.html](http://www.nationalacademies.org/about/contact/nax.html) for walking or driving directions.  
**More Info:** Dr. Gehrels will give a presentation on the operational Swift program, which observes gamma-ray bursts using specialized robotics. See Diamond story, p. 5, or [http://ewh.ieee.org/r2/wash\\_nova/aess/Future.html](http://ewh.ieee.org/r2/wash_nova/aess/Future.html). Dinner at a local restaurant will follow the lecture. Guests are welcome.  
**Cost:** Free (attendees pay for optional dinner)  
**Contact:** Please RSVP by Friday, Jan. 15 to Mr. Eun Oh at [eun.oh@nrl.navy.mil](mailto:eun.oh@nrl.navy.mil), or Mr. Roger Oliva at [roger.oliva@ieee.org](mailto:roger.oliva@ieee.org) or 703-346-3146. Photo ID required to enter the building.

## Tuesday, February 2, 2010

### Washington Section Administrative Committee Meeting

**Time:** 6:45 pm  
**Place:** American Association for the Advancement of Science (AAAS), 1200 New York Avenue NW, Washington, DC  
**Directions:** Use the 12th Street entrance. The AAAS building is one block from Metro Center (Red, Orange and Blue lines). Street parking is free after 6:30 pm (no parking 4:00–6:30 pm). There is a pay parking lot at the intersection of 9th St. and New York Ave., and a parking garage at 14th St. and New York Ave. See map at [www.aaas.org/dcwest.pdf](http://www.aaas.org/dcwest.pdf).  
**More Info:** All interested IEEE members are welcome. A video link is available at [www.ieee.org/washsec/video1.html](http://www.ieee.org/washsec/video1.html).  
**Contact:** RSVP to Monica Taysing-Lara at [m.taysinglara@ieee.org](mailto:m.taysinglara@ieee.org) or 202-725-2225.

## Tuesday, February 9, 2010

### Land Transportation Committee Meeting

**Sponsor:** Land Transportation Committee of the IEEE Vehicular Technology Society and American Society of Mechanical Engineers  
**Speaker:** TBA  
**Time:** 11:30 am  
**Place:** American Public Transportation Association, 11th Floor Conference Room, 1666 K Street NW, Washington, DC

See CALENDAR, p. 4



## CALENDAR, from p. 3

**Directions:** Take the Metro to Farragut North station (Red Line, use K Street exit) or Farragut West station (Orange and Blue lines, use 17th Street exit).

**More Info:** The National Capital Land Transportation Committee holds monthly lunch meetings from September through June. All interested persons are invited. Membership in ASME or IEEE is not required.

**Cost:** \$20 cash at the door for lunch.

**Contact:** Please make lunch reservations by 4:00 pm, Friday, Jan. 8 with Karl Berger at [karl.berger@dcm-va.com](mailto:karl.berger@dcm-va.com) or 703-803-7917, or Ken Briers at [ken.briers@parsons.com](mailto:ken.briers@parsons.com) or 202-775-3397.

**Tuesday, February 9, 2010****◆ Technical Aspects of the International Space Station**

**Sponsor:** Aerospace and Electronic Systems Society

**Speaker:** Ron Ticker, NASA

**Time:** 6:00–7:30 pm

**Place:** The Keck Center of The National Academies, 500 Fifth Street NW, Room 105, Washington, DC

**Directions:** Take the Metro to the Judiciary Square station (Red line) or the Gallery Place-Chinatown station (Green and Yellow lines). See [www.nationalacademies.org/about/contact/nax.html](http://www.nationalacademies.org/about/contact/nax.html) for walking or driving directions.

**More Info:** See Diamond story, p. 5, or [http://ewh.ieee.org/r2/wash\\_nova/aess/Future.html](http://ewh.ieee.org/r2/wash_nova/aess/Future.html). Dinner at a local restaurant will follow the lecture. Guests are welcome.

**Cost:** Free (attendees pay for optional dinner)

**Contact:** Please RSVP by Friday, Feb. 5 to Mr. Eun Oh at [eun.oh@nrl.navy.mil](mailto:eun.oh@nrl.navy.mil), or Mr. Roger Oliva at [roger.oliva@ieee.org](mailto:roger.oliva@ieee.org) or 703-346-3146. Photo ID required to enter the building.

**Wednesday, February 10, 2010****Northern Virginia Section Administrative Committee Meeting**

**Time:** 6:00–8:00 pm

**Place:** Olive Garden Restaurant, 8133 Leesburg Pike (Tysons Corner), Vienna, VA

**Directions:** From I-495, take Route 7 West (Exit 47A) toward Tysons Corner. Turn left at Gallows Road. Parking garage is behind the restaurant.

**More Info:** All interested IEEE members are invited to attend.

**Contact:** Dan Cross-Cole at [dcrosscole@devry.edu](mailto:dcrosscole@devry.edu) or 703-527-8072.

**Tuesday, February 23, 2010****DOE's Implementation of Renewable and Energy-Efficient Programs**

**Sponsor:** Aerospace and Electronic Systems Society

**Speaker:** Mr. Tyler Huebner, Dept. of Energy

**Time:** 6:00–7:30 pm

**Place:** The Keck Center of The National Academies, 500 Fifth Street NW, Room 105, Washington, DC

**Directions:** Take the Metro to the Judiciary Square station (Red line) or the Gallery Place-Chinatown station (Green and Yellow lines). See [www.nationalacademies.org/about/contact/nax.html](http://www.nationalacademies.org/about/contact/nax.html) for walking or driving directions.

**More Info:** See [http://ewh.ieee.org/r2/wash\\_nova/aess/Future.html](http://ewh.ieee.org/r2/wash_nova/aess/Future.html). Dinner at a local restaurant will follow the lecture. Guests are welcome.

**Cost:** Free (attendees pay for optional dinner)

**Contact:** Please RSVP by Friday, Feb. 19 to Mr. Eun Oh at [eun.oh@nrl.navy.mil](mailto:eun.oh@nrl.navy.mil), or Mr. Roger Oliva at [roger.oliva@ieee.org](mailto:roger.oliva@ieee.org) or 703-346-3146. Photo ID required to enter the building.

**Tuesday, February 23, 2010****Beware of Cloud Computing Myths... Continued**

**Sponsors:** Computer Society, American Society for Quality (ASQ) Section 509 Software SIG, Society for Software Quality (SSQ)

**Speaker:** Shahid N. Shah, Netspective

**Time:** 6:30 pm

**Place:** Video teleconference with sites in McLean and Silver Spring. Addresses are provided at the registration link below.

**More Info:** This talk is a continuation of Mr. Shah's September presentation on Cloud Computing Myths. All interested IEEE members and guests are invited to attend. Pizza and soda will be served.

**Cost:** Free

**Contact:** Advance registration is required to enter the facilities. Please register online at [www.asq509.org/ht/d/sp/i/2499/pid/2499](http://www.asq509.org/ht/d/sp/i/2499/pid/2499). If your plans change, please send an email to [ankums@mitre.org](mailto:ankums@mitre.org) to cancel your reservation.

# diamond◆stories

**Tuesday, January 5, 2010****◆ Undersea Exploration Technologies with Potential Aerospace Applications**

NOAA has a long history of undersea exploration and research using traditional and advanced technologies. Manned capabilities, such as shallow saturation diving, advanced technical diving and submersibles, compliment unmanned, remotely operated and autonomous underwater vehicles to unlock the secrets of the sea. The promise of telepresence and new ocean sensor capabilities has excited the ocean community about the potential for observing and predicting the marine environment, and relaying that excitement and knowledge to scientists and the public. This talk will touch on the spectrum of undersea technology that has been and will be used to address the oceanic scientific and management challenges faced by the nation.

**Karen Kohanowich** is the Extramural and Technology Coordinator for the Office of Ocean Exploration and Research (OER) at NOAA. She oversees cooperative agreements with several universities to conduct research with advanced undersea technologies such as autonomous undersea vehicles, submersibles, remotely operated vehicles, and NOAA's Aquarius undersea laboratory. As the Chair of NOAA's Autonomous Undersea Vehicle (AUV) Working Group, Ms. Kohanowich is leading the agency's efforts towards cross-NOAA coordination and enterprise solutions for the use and procurement of AUVs for the agency.

Prior to joining NOAA, Ms. Kohanowich completed a 23-year career as an oceanographer, ocean policy expert, and salvage diver in the U.S. Navy. She served as liaison between the Navy and NOAA, addressed marine mammal and sonar issues, and coordinated international ocean agreements. Her operational experience includes numerous shipboard deployments, deep diving operations, and qualification as a submersible pilot.

Ms. Kohanowich holds a B.S. in geology from Vanderbilt University (1982), an M.S. in air ocean sciences from the U.S. Naval Postgraduate School (1995), and an M.S. in environmental science and policy from Johns Hopkins University (2005).

**Tuesday, January 12, 2010****◆ High Performance SOI Embedded DRAM: Looking Beyond Conventional Scaling**

For over 40 years, industry has been able to deliver performance simply by focusing on the challenges of what has been known as classical scaling. However, with non-classical scaling fast approaching advanced development and manufacturing, it has become apparent that one must take a broader view of delivering productivity and performance gains at the systems level. While progress in both Front End of the Line (FEOL) and Back End of the Line (BEOL) will continue to make strides through the innovative use of stress engineering and novel materials, such as high k dielectrics and metal gates in the FEOL and low k dielectrics and high

conductivity interconnects in the BEOL, there is much more to be gained by addressing the issues of memory integration. The scaling of memory poses a very significant challenge as it is quickly becoming a dominant part of the chip real estate and easily exceeds 70 percent of the chip area and contributes immensely to processor performance.

We will examine the tradeoffs and technological and design advances that have made possible the use of embedded DRAMs to replace large blocks of SRAM memory. These are being used extensively in high performance computing. More recently, we have been able to integrate trench based eDRAM in high performance processor technology as well, and show a significant improvement in DRAM performance through a combination of process technology, DRAM architecture and circuit design. This talk will also include some of the future directions for high performance technology.

**Ravi M. Todi** received his M.S. in electrical and mechanical engineering from the University of Central Florida, and his doctoral degree in electrical engineering in 2007. His graduate research work was focused on gate stack engineering, with emphasis on binary metal alloys as gate electrode and on high mobility Ge channel devices. His research interest includes semiconductor process integration and device technology for non-conventional CMOS scaling. Since 2007 he has been an Advisory Engineer-Scientist at the Semiconductor Research and Development Center of the IBM Microelectronics Division, focusing on high performance eDRAM

See DIAMOND STORIES, p. 5



## Engineers Can Take IEEE Issues to Legislators on Capitol Hill

By Barry Tilton, P.E.  
Chair, SSIT Chapter

The local chapter of the Society on Social Implications of Technology (SSIT) recently invited IEEE-USA Legislative Liaison Russ Harrison to give a talk on the nature and value of the relationship between engineering professionals and legislators.

The highly interactive dialog at the November meeting focused on the various ways that professionals such as those in the engineering disciplines can engage in the legislative process. The key message was that for individuals who are both knowledgeable in an issue area and residents of a Congressional district, almost ANY effort to advocate for a position will be both well received and given serious consideration by the elected official representing the district.

For IEEE members in the Capital region, the implications of this potential influence are manifold. Any effort that IEEE corporately considers to be of import to the profession can be a subject for active participation in the legislative process by the local membership. For the most part, the only legislators who are likely to be directly impacted by our membership are the Senators and Representatives from Northern Virginia and Southern Maryland; but given the lack of available resources for sound technical advice on the Hill, a concerted effort by societies such as IEEE can introduce inroads where members may be consulted as case experts to help in the formulation and review of policy and legislation.

This type of interaction already happens with IEEE-USA, which is always looking for volunteers to increase exposure for our Hill agenda. There are several events throughout the year where IEEE, together with other engineering societies, engages with Congress as a group. These events present excellent opportunities to learn more about the processes of interacting with Congress, and I personally can attest (from my joining in those interactions last year) that participation can be exciting. The 2010 scheduled interactions (called Fly-Ins) are Education on Feb. 8-9; R&D Funding on April 28-29, and Energy on May 17-18.

The meeting was held at the corporate headquarters of Integrity Applications Incorporated.

For more information on Harrison's activities and those of the IEEE Legislative Affairs Office, see [www.ieeeusa.org/policy/lac](http://www.ieeeusa.org/policy/lac).

The SSIT chapter looks forward to spearheading an activist policy for engineering and technical issues in the year to come. Needless to say, in a nation which prides itself in active representative Democracy, the prospect of influence is and should be exciting!

## Scanner Reader Answers History Challenge

In response to the History Challenge on p. 5 of the November-December *Scanner*, an anonymous reader identified the laboratory experiment being performed by Dr. F. A. Wolff in a 1903 photo.

"Dr. Wolff, the man at the right in the picture at [www.ieeehln.org/wiki/images/6/68/Labpic.jpg](http://www.ieeehln.org/wiki/images/6/68/Labpic.jpg) is operating an oil bath maintained at a particular temperature while observing a temperature gauge graduated to tenths of a degree in order to measure the temper-

ature response of several Weston cells, used to calibrate voltmeters at the time," the reader wrote.

"His colleague may be crafting the mercurial thermometers used in the experiment, and undoubtedly resting his eyes for the next batch of measurements he was to take following Dr. Wolff. Apparently Dr. Wolff was one of the first to make use of least squares fitting to produce a calibration curve, a result of this experiment."

### GLOBECOM, from p. 1

tions want to host the early December 2013 conference in Maryland, either at Baltimore's Inner Harbor or at National Harbor on the Potomac River south of Washington.

A committee chaired by Wally Lee presented the proposal to the GLOBECOM/ICC Management and Strategy Committee (GIMS), the Communications Society's standing committee that oversees the annual conference, at its board meeting at IEEE GLOBECOM 2009 in Hawaii on November 30.

GLOBECOM 2007 veterans Jerry Gibbon, General Chair; Tim Weil, Patron Chair; and Monica Mallini, 2009 Chair of the Northern Virginia Section, assisted Lee with the presentation to the GIMS Committee. While he addressed the committee, Mallini and her daughter gave everyone in the room a package of Old Bay seasoning, a crab mallet, and copies of the current *Scanner* and the GLOBECOM 2007 special issue.

"We felt that the presentation was well received. The greatest strength that we can offer as a GLOBECOM host is the support of our three local sections and our outstanding volunteers, who are experienced in executing GLOBECOM. That message was delivered very effectively by our delegation, which included our Family Liaison, Betsy Gibbon, and two other family members," Mallini said.

Roger Hardwicke, Past Chair of the Washington chapter of the Communications Society; Dr. Wole Akpose, Region 2 Membership Development Chair; and other members from all three sections contributed to the proposal development, visited potential venues, and supported the effort in numerous other ways, Mallini said.

Dr. William Semancik, Past Chair of the Baltimore Section, was at the conference, but he could not attend the GIMS presentation because he was chairing a technical session.

The next step for the Baltimore-Washington committee is to propose candidates for key positions, such as General Chair, before the next GIMS meeting in January, and to respond to questions and requests for more information.

If the GIMS Committee selects Baltimore-Washington for the 2013 conference, there will be many opportunities for members to assist with the four-year effort to plan and execute it. A virtual community for volunteers has been established at [www.ieeecommunities.org/ieeeglobecom](http://www.ieeecommunities.org/ieeeglobecom).

For additional information about the GLOBECOM proposal effort, contact Wally Lee at [w.h.lee@ieee.org](mailto:w.h.lee@ieee.org).

### EMBS, from p. 1

those produced by anthrax, including toxins associated with *Ricinus communis* (ricin from castor beans), *Clostridium botulinum* (botulinum toxin), and *Staphylococcus aureus* (a source of food poisoning). After immunizing the test subject llamas, the team later drew blood samples and separated out white blood cells. Cloning technology permitted bulk generation of llama antibodies that then served as the basis for a bio-sensor.

Initial tests show both good specificity; that is, the sensors only detected the targeted toxin, and were not falsely triggered by other substances in the environment. Also, the sensors showed thermostability even when heated to 85°C (185°F).

Dr. Cooper's seminar, held at MITRE in McLean, VA, had a lively interaction with an audience having a broad range of technical and professional backgrounds.

The EMBS chapter is always seeking new technical presentations on biotechnology topics. If you are interested in offering such a seminar, please contact the program director, Paul Otto, Jr. at [potto@ieee.org](mailto:potto@ieee.org).

### DIAMOND STORIES, from p. 4

integration on 45nm and 22nm SOI logic platforms. Dr. Todi is Editor-in-Chief of *IEEE Potentials*, an elected member of IEEE-EDS, and a Director of IEEE-USA.

**Tuesday, January 19, 2010**

#### ◆ The Swift Gamma-Ray Burst Mission

Swift is a first-of-its-kind multi-wavelength observatory dedicated to the study of gamma-ray burst (GRB) science. Its three instruments work together to observe GRBs and afterglows in the gamma-ray, X-ray, ultraviolet, and optical wavebands.

Neil Gehrels has been interested in astronomy since spending his youth as a "night assistant" for his father at various mountain-top telescopes. He did his graduate research at Caltech with Professor Ed Stone working on the Voyager data from the Jovian magnetosphere.

He has been at NASA Goddard Space Flight Center since 1981, developing instruments for gamma-ray astronomy. Dr. Gehrels was the Project Scientist for the Compton Gamma-Ray Observatory in the 1990's. In 1998 he led an international team to propose the Swift Gamma-Ray Burst Mission to NASA as part of the Ex-

plorer program. It was selected and launched in 2004, and has made amazing discoveries about gamma-ray bursts and the distant universe.

Dr. Gehrels has over 300 scientific papers, has edited seven books and has won numerous awards including, recently, the Henry Draper medal of the National Academy of Science and the SPIE George W. Goddard Award. Dr. Gehrels is Chief of the Astroparticle Laboratory at NASA Goddard and has adjunct professorships at the University of Maryland and Penn State.

**Tuesday, February 9, 2010**

#### ◆ Technical Aspects of the International Space Station

The International Space Station (ISS) is a collaboration of five space agencies from Russia, Europe, Japan, Canada, and the U.S. It is a unique multifaceted orbiting laboratory supporting research, development, test and evaluation of new innovative space and earth based applications. Assembly of the space station is on track for completion in September 2010.

While NASA-sponsored investigations on the ISS have been focused largely on enabling future long duration human space exploration missions, Congress designated the U.S. portion of the space station as a National Laboratory, making its facilities available to other Federal agencies and private entities for non-exploration related ventures. Engineering RDT&E activities on the ISS encompass a wide range of technical areas including environmental control and life support, communications, materials science, guidance, navigation and control, propulsion, electrical power, thermal control systems, robotics, and sensor and instruments for Earth and space science.

Ron Ticker earned an M.B.A. from Johns Hopkins University, an M.S. in electrical engineering from George Washington University and B.S. degrees in physics and astronomy from the University of Maryland College Park. He is a senior member of IEEE, past-chair of the IEEE Washington Section, and a former member of the Aerospace and Electronic Systems Society Board of Governors.



## Incoming Northern Virginia Section Chair

# Looking Forward as Electrical Engineering Professionals

By Barry Tilton, P.E.  
Chair, Northern Virginia Section

Many of you who either participate in IEEE activities and programs (or at least read the official Institute publications) are aware that 2009 was the 125th anniversary of the organization. The international, national and local communities acknowledged the history and evolution of the organization and the varied disciplines now grouped under the heading of Electrical Engineering.

Looking through the lens of the newly selected organization motto, Inspire Enable Empower Engage, we collectively reviewed the roles of circuitry, telegraphy, radio, telephony, power production, the microchip, and other exciting innovations that have transformed and shrunk our world – along with the role that Double-E's held in pioneering the changes. Speaking as a fan of both history and technology, I hope you found the year's activities as exciting as I did. Having put the past in perspective, however, it is now

good to turn once again to the territory we naturally occupy as innovators and doers—the future.

The life we lead as technologists is about new possibilities, and the challenges and opportunities provided therein. Many of us grew up reading either science fiction or science journals, and found wonder and hope bound to the ideas and tools presented. I personally still look to publications such as *Wired*, *Scientific American* and our own *Spectrum* to find ideas that will improve the projects for which I am responsible. With this in mind, I—along with my counterpart in the Washington Section, Dr. Raj Madhavan—have decided to make this year's theme “IEEE—The NEXT 125 years.” Our collective energy will be applied during functions this year to determining the future path of both technology and our own organization. Both the banquet in the spring and activities sponsored by the Northern Virginia Section Administrative Committee will take

on a future focus.

Since the sources of our collective future are the newly-minted and not-yet-trained engineers, one of the features of the theme in practice will be a focus on GOLD and student activities. Programs such as the Future City Competition, high school robotics, and science fairs provide excellent venues for our futuristic emphasis. I strongly encourage members of the Virginia engineering community to become more heavily involved in these efforts.

Looking forward, the joint print publication of the Northern Virginia and Washington sections, the *Scanner*, is also under review to see if the current format and scope is appropriate to the increasingly online makeup of the engineering community. Raj and I will jointly sponsor a review committee that will look at both the paper and online *Scanners*, along with communication tools such as Facebook, LinkedIn and Twitter to find the right mix of outreach and news plat-

forms for the southern part of Region 2. I look forward to input from our section membership on which media elements will best serve the needs of the members, societies and affiliated groups we interact with. In addition, our section will also be working to implement the modernizing efforts initiated by the Membership and Geographic Activities Board, such as the vTools meeting software introduced last year.

Benjamin Franklin, one of the earliest practical manipulators of electricity, said of the future, “Tis easy to see, difficult to foresee.” Be that as it may, I believe that in the effort to foresee, we make the future we want. I sincerely invite the participation and involvement of all of the members and affiliates of our section to help start the next 125 years of our profession by making a future we can be proud of.

Thank you for selecting me as Chair.



## Incoming Washington Section Chair

# Strengthening Our Foundation for the Next 125 Years

By Dr. Raj Madhavan  
Chair, Washington Section

Coming on the heels of a successful 2009 during which we celebrated the 125th anniversary of the IEEE, I would like to continue the momentum by taking



lessons from the past and applying them to plan for a better future for the Washington Section. It is my utmost honor and privilege to serve as the 2010 Section Chair. During my tenure,

with your help and support, I am confident that we can make a difference and strengthen our section's foundation by providing a fertile ground for ideas and innovations.

I joined IEEE as a student member 18 years ago and have found the experience rewarding every step of the way. From my undergraduate years as an EE major to my graduate student years as a systems engineering and field robotics major, IEEE helped me connect with my peers and has offered unparalleled networking opportunities, all the while keeping me abreast of the latest developments in my field. Within the Washington Section, I served as treasurer and vice chair in the preceding years and had an opportunity to better understand our strengths and the areas where we can improve. I also served as the founding chair of the joint Robotics and Automation Society chapter for two and a half years, which again allowed me to appreciate the value of working closely together to foster collaboration.

This year I am fortunate to have the

support and counsel of Harry Sauberman (Vice Chair), Dr. Mary Tobin (Treasurer), Monica Taysing-Lara (Secretary), and the following Directors: Dr. Paul Cota, James Christian, Gerard Christman, Roger Hardwicke, Dr. Guru Madhavan, Tom Starai, and Tim Weil. I would also like to acknowledge the support of Region 2 officers: Bill Walsh (Director), Gerard Christman (South Area Chair), and Murty Polavarapu (Employment & Career Activities Coordinator). I intend to work closely with the region and section officers and directors by drawing upon their wisdom and the experiences they have gained in their many leadership roles over the years.

Fiscal responsibility and innovative ways to improve the Section's finances will be an area where I will focus my energy in order to ensure the quality and diversity of sponsored activities. Towards this, I will actively seek funding from various programs within IEEE by highlighting the successes we have had in the past, and how those play a vital role in shaping the section's outreach and paving the way to a better future. It is my hope that our section's success stories and innovative ideas will serve as a model, not only within Region 2, but among the other 324 local sections in 10 geographic regions.

The Washington Section supports many programs that are beneficial to members and the community by raising awareness and informing the public of the important role engineers and scientists play in improving the quality of life. It has been a central tenet of the section that our actions and activities benefit budding engineers by offering them the needed guidance and mentorship so that they can go on to serve their communities with professionalism and ethically strong values. Our student branch-

es and the Graduates of the Last Decade (GOLD) chapter are two equally important and effective means of realizing this goal. I will work with advisors, mentors and officers of colleges and universities to provide any requested support. Some of the prominent programs that the section has been an integral part of include the Future City Competition, the annual robotics speedway competition, the poster contests sponsored by the IEEE foundation and PACE, and high school science fairs, to name a few. The Section recognizes the invaluable efforts and service of its volunteers and officers via various awards and by nominating outstanding individuals for external awards such as DCCEAS Engineer of the Year.

I plan to work closely with other professional organizations to benefit our IEEE members in the Washington metropolitan area. The Washington Academy of Sciences (WAS) is one organization with whom our section has had a long standing association. The section supports the academy's Science & Technology Aptitude Recognition in Schools (STARS) program by providing both financial support and lending technical expertise as judges. WAS and its affiliated societies will host the biennial Capital Science conference at the National Science Foundation in Arlington, VA in March. The Washington Section has actively participated in this conference in the past and CapSci 2010 promises to be an apt venue to share the exceptional research that is being carried by our members. Interested presenters can expand their CapSci presentations to a technical article both for inclusion in the conference proceedings and the WAS journal. As the 2010 associate editor for engineering for the WAS journal, I strongly encourage you to consider submitting ar-

ticles for publication. On a related note, the inaugural USA Science & Engineering festival (see [www.usasciencefestival.org](http://www.usasciencefestival.org)) will provide a unique opportunity to showcase the section's depth and breadth of sponsored programs. I will work with Region 2, IEEE-USA, and the IEEE Foundation to ensure that our section contributes to the success of this festival.

Please attend our Administrative Committee meetings on the first Tuesday of every month at the American Association for Advancement of Science (see the Calendar on p. 3, or the eScanner website at [www.ieee.org/escanner](http://www.ieee.org/escanner)). I also urge you to write articles for the Scanner newsletter on interesting advancements and notable happenings, and to consider offering to give a talk to the technical society chapter appropriate to your field(s) of interest. Visit the section website at [www.ewh.ieee.org/r2/washsec](http://www.ewh.ieee.org/r2/washsec) for the roster of section and chapter officers, upcoming meeting dates, and other information.

The Washington and Northern Virginia sections not only share members geographically but have closely worked together on many areas of common interest. In fact, many of the technical societies have joint chapters, and our officer training, awards banquet, and other social events take place in a shared fashion. It is only symbiotic that we continue collaborating to bring interesting and useful events to the members. In this regard, I am looking forward to working with my counterpart in the Northern Virginia Section, Mr. Barry Tilton, and extend the same invitation to other members, as well as section and chapter officers.

In these uncertain economic times and with many thinking twice before renewing their IEEE membership, it is important that we provide services and

See MADHAVAN, p. 8



## Outgoing Northern Virginia Section Chair

# Taking Away Many Fond Memories of IEEE and Its Volunteers

By Monica A. Mallini, P.E.

In my outgoing Chair's message, I would like to recycle the departing words of Northern Virginia Section's first elected Chair, Dr. Jenny Bramley, as published in 1978 in the undated, unnamed Northern Virginia Section newsletter issue #3:

"The time has come," the Walrus said, "to speak of many things..." In this farewell message from the outgoing chairman, it is time to speak in appreciation of the hard work put in by the members of the Executive and Administrative Committees of the Northern Virginia Section. Thank you for making our Section a successful operating unit. Members occasionally complain that the IEEE does nothing for them. As engineers they should know that no output is possible where there is no input.

In conclusion, I want to recycle the advice on career advancement which I gave at the Awards Banquet: The writing of proposals, whether to our own management or to an outside funding source, is a vital aspect of the job for most of us. To optimize our performance of this critical function, we must re-

member what the IEEE stands for: Invent, Elaborate, Embellish, and Extract All the Money You Possibly Can.

God bless you all.

— Dr. Jenny Bramley  
IEEE Northern Virginia Chair  
1977-1978

While we must take Dr. Bramley's advice with a grain of salt, her message is still relevant today. My fellow section officers and our counterparts in Washington Section worked very hard together to accomplish our mission of serving members and ensuring the continued vitality of the section and our student branches, affinity groups, and technical society chapters. I could not have functioned as a successful Chair without their wisdom, vision, and leadership.

It is extremely gratifying to have served as a section officer for the past four years. The past year was the hardest but the most fun, and I am taking away many fond memories: Joe Lillie's visit; the IEEE-USA conference in Salt Lake City; the arrival of our section's newest IEEE volunteer, Daniel Ahmed, our Past Chair's new baby (coinciding with the Awards Banquet); the special anniversary issue of the *Scanner*; the IEEE History

Conference in Philadelphia; and many more.

I would like to extend my thanks to fellow officers Barry Tilton, Dr. Tim Settle, and Jeff Poston. I cannot imagine a more outstanding team, and it has been a privilege to work with them and dozens of others this year. Under Barry Tilton's leadership, I am certain that 2010 will be Northern Virginia Section's best year ever. Finally, my deepest gratitude is due

to Elsie Grant for her outstanding work and patient tolerance in crafting these pages and contributing to the success of the Awards Banquet, and to the entire *Scanner* team, especially Editor-in-Chief Pete Sypher, whose long history of service to the Northern Virginia Section is unsurpassed.



## Digging into the Scanner Archive

One of my most interesting experiences this year was the discovery of the boxes in storage containing the archive of *Scanner* and *Bulletin* issues, in whose pages our predecessors recorded the history of IEEE in the National Capital Area. The earliest issues in the archive are from 1962 and report the impending merger of American Institute of Electrical Engineers and the Institute of Radio Engineers. In the local area, the two institutes were already operating in parallel, with a common newsletter and many joint meetings.

When IEEE was formed, the AIEE and IRE branches did not automatically merge. Eventually, IEEE directed the local entities to complete a merger in 18 months. How do you think they accomplished that? The same way we would do it today: they formed a joint committee to study the matter and make recommendations. A year later, the new IEEE Washington Section elected officers and commenced joint operation, six months ahead of schedule. The *Washington IEEE Bulletin* reported that the merger went smoothly, as IRE did not have a gavel, and the AIEE gavel was adopted by acclamation.

— M.A.M.



## Outgoing Washington Section Chair

# Celebrating a Historic Year for the IEEE Washington Section

By Tim Weil

"The mission of the IEEE History Committee is to further the

preservation, research, and dissemination of information about the history of electrical science and technology, and in particular the technological and organizational history of IEEE, its members, and their professions, in order to increase awareness and understanding of the role of engineering and technology in the improvement of the quality of life for people throughout the world."

—IEEE History Center

The role of a Section Chair is to set a vision and a direction for our membership program and to provide the people, events and energy to benefit our organization. Fortunately, the IEEE 125th Anniversary gave an impetus to our 2009 program, and I hope the membership and leadership have enjoyed the history-related events we developed. In writing this recap, let's acknowledge some of the people and events which made 2009 a year to remember.

Early in the year, a trip to the IEEE-USA Annual Meeting set the stage for many of the follow-on section programs. With our section members PACE Chair Haik Biglari and GOLD Chair Ata Atanasov, I mingled other members from Region 2 while attending presentations about the diverse IEEE-USA programs. The meeting's theme, Engineering the

Alternative Energy Debate, introduced important topics about the smart grid, alternative energy, hybrid automobiles and clean coal. I was also introduced to Dr. John Vardalas of the IEEE Global History Network, who later provided support and direction for our Section History project.

In April, Saj Durrani, Haik Biglari and I participated in the Congressional Visit Day (CVD) program, Building Careers and Shaping Public Policy, a two-day event that brought scientists, engineers, researchers, educators, and technology executives to Washington to raise visibility and support for science, engineering, and technology. CVD provided an opportunity for IEEE members to interact with their Congressional representatives. We joined 250 scientists and engineers who came to Washington to promote R&D, innovation and U.S. technological competitiveness. As IEEE's representatives, we encouraged and supported federal investments in science and engineering research and development.

Leading up to our spring Awards Banquet, our section collaborated with our Northern Virginia Section colleagues and technical society chapters. Tom Starai and other Computer Society members organized a High School Science Poster contest, which identified 18 top science students and provided an exciting weekend competition at the University of Maryland. The top three winners were recognized at the Awards Banquet in May, which drew more than 125 mem-

bers to the Tysons Corner Marriott. New participants in this year's award program included Montgomery Community College's Student Branch, sponsored by Dr. Uche Abanulo and Wody Edji. The keynote speakers for the banquet program were Dr. Frederica Darema of NSF, former IEEE President Dr. Charles Alexander, and James Watson.

At the banquet, I unveiled the section's First 50 Years of AIEE poster, which features photographs of the AIEE branch chairs from 1903 to 1953. This effort started earlier when Doug Holly sent over a scrapbook that had been compiled in 1953 for the branch's 50th anniversary. With a bit of Photoshop magic and some editorial assistance from the *Scanner* Managing Editor, we produced a poster that focused interest and attention on our 100+ year legacy.

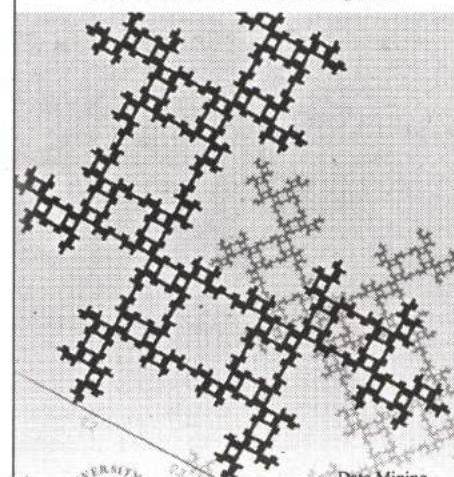
The CVD and Awards Banquet programs provided inspiration for our next major event—an IEEE 125th Anniversary Celebration and seminar at the Virginia Tech Advanced Research Institute. Working with Northern Virginia Section Chair Monica Mallini and ARI administrators Dr. Saifur Rahman and Robert Brown, we hosted a very memorable evening program. The history-themed talks included a reading of a resolution passed by the U.S. House of Representatives to recognize IEEE on its official May 13th anniversary date. This was initiated through IEEE-USA contacts with U.S. Representatives Bart Gordon and Clifford Stearns. A time capsule project was

initiated by Monica Mallini and Wally Lee to commemorate our 125th Anniversary year.

A series of fortuitous events kept the  
See WEIL, p. 8

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## NSF to Host Capital Science 2010 Conference

The Washington Academy of Sciences and its affiliated societies are holding their fourth biennial conference, Capital Science 2010, at NSF on March 27–28.

The conference will showcase the variety and the excellence of scientific investigation in the Washington area. Dr. Arden Bement, NSF Director, will be the keynote speaker.

The Washington Academy, which was established in 1898, is an umbrella organization composed of both individual members and about 60 affiliated Washington-area scientific societies.

WAS held its first pan-affiliate conference, Capital Science 2004, on a weekend in March 2004 in the donated facilities of NSF in Arlington, VA.

This year's conference will include scientific presentations, seminars, tutorials and talks by about 20 of the academy's affiliated societies and institutions. To submit an abstract for presentation during an IEEE session, contact Raj Madhavan at [raj.madhavan@ieee.org](mailto:raj.madhavan@ieee.org).

For more information or to register, visit [www.washacadsci.org](http://www.washacadsci.org). Students are encouraged to attend and participate.

## Oakton High School's FIRST Robotics Team Demonstrates Robot at White House Event

When President Obama announced his "Educate to Innovate" initiative on November 23, the Oakton High School FIRST Robotics program was prominently featured in his presentation.

Students Brian Hortellano and Steven Harris demonstrated the team's robot and answered questions about the program during the White House event. Audience members included leaders from the STEM (science, technology, engineering and math) community.

During the President's address, Charles Harris was seated just behind and to the right of Dean Kamen, the founder of FIRST Robotics. "As I watched him during the presentation, he was ecstatic hearing the message he has been promoting for so many years coming directly from the President," Harris said.

A member of the IEEE Northern Virginia Section, Harris mentors the FIRST Robotics team at Oakton High School, which receives financial support from

the section. Harris and several students attended the Northern Virginia Section Administrative Committee meeting in October to talk about the team's activities. The school is in Vienna, VA. Each year, the team builds a robot from a kit provided by FIRST Robotics and competes in local and regional events for a chance to go to the national contest.

Educate to Innovate is a nationwide effort to improve the science and math achievement of American students. "Re-affirming and strengthening America's role as the world's engine of scientific discovery and technological innovation is essential to meeting the challenges of this century," the President said.

Five major public-private partnerships will harness the power of media, interactive games, hands-on learning, and community volunteers to reach millions of students over the next four years, inspiring them to be the next generation of inventors and innovators.

## Washington Section Archive Sets Example

A full-page story in the current issue of the IEEE History Center newsletter describes the Washington Section's recent additions to the digital archives of the IEEE Global History Network (GHN).

"The Washington, D.C. Section offers a wonderful example of how an IEEE organizational unit can use the GHN to preserve and showcase its institutional memory," the article states.

The contents page for the "Washington D.C. Section Archives" is currently number 13 on the GHN website's list of "most linked to pages," with 100 links from other websites. To view the contents page, go to [www.ieeeahn.org/wiki/index.php/Archives:Washington\\_Section\\_Archives](http://www.ieeeahn.org/wiki/index.php/Archives:Washington_Section_Archives).

Most of the material uploaded to the digital archive so far was scanned from a scrapbook created in 1953 for the 50th anniversary of the Washington Branch of the American Institute of Electrical Engineers, one of the organizations that merged to form IEEE in 1963. The material dates back to the founding of the AIEE branch in 1903.

Tim Weil, 2009 Chair of the Washington Section, lead the effort to put the historical documents online and plans to continue adding pages to the GHN archive this year. See Weil's column on p. 7 of this *Scanner* issue for more information about how he and other section members learned about the GHN website and created the section's archive. There is also a story about the AIEE scrapbook on p. 7 of the May–June 2009 issue of the *Scanner*, available online at [www.ieee.org/escanner/print.html](http://www.ieee.org/escanner/print.html).

The History Center article includes summaries of several amusing incidents recorded in the AIEE scrapbook, such as a British visitor's awed reaction to a statue of Benjamin Franklin in 1904.

The History Center newsletter is available online at [www.ieee.org/web/aboutus/history\\_center/about/newsletters.html](http://www.ieee.org/web/aboutus/history_center/about/newsletters.html). Click the link for Issue 81 (November 2009) to retrieve the PDF file, and go to p. 4 to read the story about the Washington Section Archives.

### WEIL, from p. 7

history theme moving forward past the mid-year mark. Raj Madhavan, Vice Chair of the Section and Chair of the Robotics and Automation Society chapter, encouraged the section to participate in the IEEE Conference on the History of Technical Societies, held at Drexel University in August. Working with Raj, I submitted a topic on the Washington Section's history and we were invited to attend the two-day program. Another encounter with the IEEE Global History Network, this time with John Vardalas and Rik Nebeker, launched our online history project, which made the AIEE 50-year anniversary scrapbook and archives available to all our members. There has been an excellent response to this program and we are planning to keep the history theme moving forward into 2010. Finally, working with Dr. Paul Cotae of the University of the District of Columbia, who is a Section Director and Communications Society chapter officer, I was able to deliver the Washington Section history talk to a group of students and faculty at UDC. The university also agreed to provide a home for the AIEE history poster and to manage artifacts from our section archives.

In support of the 125th Anniversary history project and the diverse programs of our section, I would like to personally thank our Past Chair Conrad Christman, Vice Chair Raj Madhavan, Treasurer Mary Tobin and Secretary Monica Taysing-Lara. We have also benefited from the counsel of our Directors Paul Cotae, Roger Hardwicke, Kiki Ikossi, Fari Schlake, and Tom Starai. Together this team has worked to 'Engineer the Future' for our 2009 IEEE program. A special thank you also goes to Peg Kay and the Washington Academy of Sciences for providing our section with an excellent meeting facility at the AAAS Building, and to the *Scanner* editors, Pete Sypher, Wally Lee, Chuck Baldi and Elsie Grant,

who have worked hard to keep our membership informed and engaged with the newsletter and website. To all of the IEEE members and my fellow officers at the section, society chapter, and affinity group levels, I thank you for your hard efforts and look forward to another successful program in the coming year.

### MADHAVAN, from p. 6

networking opportunities that offer a helping hand to members in need, while solidifying our strong foundation and being proactive in consolidating future opportunities. I encourage you to share your suggestions and thoughts on how the section can be useful to you and its other members by dropping me a note at [raj.madhavan@ieee.org](mailto:raj.madhavan@ieee.org).

I wish you a happy and prosperous 2010 and am very much looking forward to working with you.

## Senior Members

Congratulations to the following new Senior Members in the Northern Virginia (NV) and Washington (W) Sections:

Michael Dickerson (W)  
Timothy Hanson (W)  
Kenneth Ranney (W)  
Jinwoo Suh (NV)

If you are interested in becoming a Senior Member, please see [www.ieee.org/seniormember](http://www.ieee.org/seniormember) for qualification requirements. For assistance with references, Northern Virginia Section members may contact Monica Mallini at [m.a.mallini@ieee.org](mailto:m.a.mallini@ieee.org) and Washington Section members may contact Raj Madhavan at [raj.madhavan@ieee.org](mailto:raj.madhavan@ieee.org).

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