IEEE Scanner

September Newsletter of Baltimore, Northern Virginia & Washington Sections

Editor: Murty S. Polavarapu

Welcome to September.

Happy Labor Day! I hope you had an enjoyable summer break and re-energized for the Fall. As you will note in the calendar of activities below, we have a host of IEEE activities for you this month.

This Day in Technology History: It was on the Labor Day of 1995 that Pierre Omidyar launched the online service called Auction Web, which became eBay. Omidyar has a local connection. He attended The Potomac School in McLean, VA where apparently, he became interested in computers. I wonder what his project was for the Science and Engineering Fair!

2024 IEEE Elections: Voting for the 2024 IEEE Election is now open and ends at 12:00 Noon ET on October 1. All IEEE Higher Grade members (Graduate Student Members and above) can vote for IEEE President-Elect, IEEE-USA President-Elect, and Region 2 Director-Elect. Higher Grade members belonging to any IEEE Technical Society can also vote for Vice President-Elect (Technical Activities) and Division Director(s)-Elect (depending on society memberships). For more information, visit www.ieee.org/elections.

IEEE 2024 Digital Platforms and Societal Harms Conference, October 14-15, American University, Washington, DC : This Conference is like no other IEEE conference. It brings together industry, government, not-for-profits, and academic researchers to discuss the threats and emerging solutions to **online hate speech, extremism, exploitation, misinformation and disinformation**. We consider AI and other technology approaches, corporate and public policy matters, and the role of governments. Until September 22 you can get 25% of registrations for the full conference using the discount code **25off2we** (register at: https://tech-forum.computer.org/societal-harms-2024/registernow/) or join us for free for the keynote panels (register at: https://tech-forum.computer.org/societal-harms-2024/free-access-to-keynote-panels/). This conference is sponsored by IEEE Computer Society, IEEE Society on Social Implications of Technology and the Northern Virginia/Washington Chapter of Computer Society. **We need local volunteers** to assist with the conference logistics. If you can help, please contact Murty Polavarapu at murtyp@ieee.org.

Reminder of Northern Virginia Section Call for Nominations (Deadline September 5): We have exciting opportunities for you to make a real impact and help shape the future of our Section! We are currently seeking dedicated and enthusiastic volunteers for positions on the 2025 Executive Committee of Northern Virginia Section. Self-nominations for these positions are welcome! If you are passionate about driving change and contributing to the success of our Section, we encourage you to submit your self-nomination by going

to https://nominations.vtools.ieee.org/tego_/nominate_or_petition/R20049. Log in using your IEEE account credential to nominate yourself or another member. You will be asked to present a biography and a position statement. The deadline for nominations is September 5, 2024. If you have questions, please contact Murty Polavarapu at murtyp@ieee.org.

Senior Member Elevations: Congratulations to our newest Senior Members! Did you know that only about 10% of IEEE members achieve Senior Member status? If you meet the requirements for senior membership and need help with references, please contact Murty Polavarapu at murtyp@ieee.org. More information on senior membership requirements can be found here.

Baltimore Section:
Sasibhushan rao Chanthati
Cynthia Matuszek
David Wallis
Sebastian Zanlongo

Northern Virginia Section:
Stanislas Bianou
Sandip Gami
Jintao Jiang
Mohammad Ghadir Khoshkholgh Dashtaki
Himanshu Kubba
Richard Metzger
Siva Movva
Liyakathali Patan
Anand Polamarasetti
Sahil Shah
Sharon Woodruff

Washington Section:
Hongbae Jeong
Rajashekar Reddy Kanubaddi
Naveen Kunchakuri
Michael Pesin
Sanjib Sarkar

In Memoriam: One of our long-time members, **Jim Barbera**, of the IEEE Oceanic Engineering Society (OES) passed away on 5 June 2024 at the age of 87. He was preceded in death in early 2023 by his wife, Peggy. They were married 62 years and he was survived by his four children and multiple grandchildren and great-grandchildren. Jim was a past President and Treasurer of the OES and he was a major contributor to both our annual conferences and special symposiums held around the world. Jim was also a good friend of mine who lived close to where I do in the Washington, DC area. I

enjoyed seeing him sometimes for lunch and I can't begin to tell you how informative he was in teaching me about OES policies and procedures.
Jim was also the Chair of the OES Washington/Northern Virginia Chapter in the past. I enjoyed attending one his OES Chapter meetings in Maryland where Dr. James Candy gave a presentation to an audience related to underwater acoustic signal processing techniques. Jim also was instrumental in expanding conferences and symposia and workshops throughout Europe, including the Baltic states, as well as in China, Taiwan, India, Japan and Australia.
On a more personal note, I enjoyed being Secretary to him years ago and my wife (Dorothy) and I really enjoyed attending his 50th wedding anniversary with Peggy. He truly loved the oceans and all of its many wonders. He will be very sadly missed and I also thank him for all of his service to the IEEE OES and also the US Navy.
Submitted by
Steve Holt (Vice Chair of IEEE OES Standards Committee)

IEEE Day 2024: IEEE Day is an annual event commemorating the first technical meeting of American Institute of Electrical Engineers (AIEE) that took place on October 7-8, 1884 in connection with the International Electrical Exhibition in Philadelphia. It is celebrated on the first Tuesday of October every year. Northern Virginia Section is pleased to organize an event in this connection featuring Dr. Mary Ann Hellrigel from IEEE History Center. She will be speaking about Thomas Edison, one of the co-founders of AIEE. See the October 3 event in the table below.

Upcoming Events:

Date/Time	Title	Speaker(s)	Location
Sep 06, 2024 05:45 PM	Photonic Integrated Circuits (PIC) Best Practices and Development Lifecycle	Mahmoud J. Mehrabad, Paul M. Pellegrino and Jeremiah J. Wathen	Laurel, MD
Sep 09, 2024 06:30 PM	Baltimore Section Executive Committee Meeting		Virtual
Sep 10, 2024 1:00 PM	Automating Empathy in Human-AI Partnerships: Issues, Ethics and Governance Virtual	Andrew McStay	Virtual
Sep 10, 2024 06:00 PM	Northern Virginia Section ExCom Meeting		Arlington, VA and Virtual
Sep 13, 2024 08:22 AM	100 Years of STEM Celebration		Washington, DC
Sep 22, 2024 10:00 AM	Fall Picnic		Arlington, VA
Sep 24, 2024 07:00 PM	Signage: Traffic Control Devices	Deb McAvoy and Dianna Deeney	Virtual

Oct 03, 2024 06:00 PM	Thomas Edison's Plan to Illuminate America in the Late Nineteenth Century	Mary Ann Hellrigel	Oakton, VA and Virtual

Date: September 6, 2024 (Friday)
Topic: Photonic Integrated Circuits (PIC) Best Practices and Development Lifecycle
Time: 5:45 PM
Place: JHU Applied Physics Lab, 11100 Johns Hopkins Road, Laurel, MD
Registration: https://events.vtools.ieee.org/m/429745
Abstract: Featuring a panel of speakers from JHU-APL, Joint Quantum Institute at UMD, and the US Army Research Laboratory. Come and hear insights from PIC design practitioners, learn best practices, and network with colleagues.
Registration is required. Refreshments will be provided! Please be sure to register so we can order enough food and drink.

Panel Speakers

Mahmoud J. Mehrabad received his PhD in quantum Optics from the University of Sheffield, UK, in 2021. His work was focused on developing semiconductor topological quantum photonic integrated circuits, for the generation, transfer, and manipulation of light at the single photon limit on-chip. He joined the Joint Quantum Institute at the University of Maryland in 2022 to work in Prof. Hafezi's Lab. His postdoc work is focused on the generation and manipulation of a new class of optical frequency combs on topological silicon nitride as well as semiconductor photonic crystal circuits.

Paul M. Pellegrino is chief of the Integrated Photonics Branch within Army Research Directorate (ARD) in U.S. Army Research Laboratory (ARL). He received his B.S. and Ph.D. degrees in Physics from New Mexico State University, in 1989 and 1996, respectively. Has been employed with ARL as a Physicist and manager, for over 25 years. He is a recipient of several Army Research & Development Achievement (RDA) Awards (2001, 2010, and 2012). He has authored over 95 technical papers in the area of optics, is a member of the OPTICA (formerly OSA) and SPIE (Fellow). Currently chairs the (Optical) Sensors conference for OSA and is an advocate for DoD's continued support of AIM Photonics institute for integrated photonics manufacturing.

Dr. Jeremiah J. Wathen is a former submarine officer in the US Navy and is now the Section Supervisor of JHU/APL's Experimental Optics Section, a 12-person team devoted to realizing new optics and photonics technologies to address critical needs of the US Government and the US Department of Defense. In addition to his 8 years of active duty in the Navy, he has over 14 years of experience in prototyping and deploying integrated optical systems, fiber-optic systems and free-space optical systems for a variety of applications including telecommunications, tissue imaging and coherent imaging in turbid media. His academic record includes more than 20 publications spanning topics in quantum opto-electronics, integrated nonlinear optics and non-invasive coherent and diffuse imaging of tissue. Recently, Dr. Wathen has been instrumental at JHU/APL in building a team and capabilities devoted to the design, fabrication, testing and packaging of photonic integrated circuits and photonic microsystems.

Location and Directions

The meeting will take place in Howard County Cafeteria located in Lobby 1 of JHU APL's campus. Lobby 1 can be reached through APL Drive off of Johns Hopkins Road. It is NOT recommended that you attempt driving through the APL Campus from Sanner Rd as some gates do not provide direct access to APL Drive.
Parking is available to the north-west and south of Lobby 1 (see the event URL above for map). You may park anywhere with a valid space. If you require navigation assistance or otherwise need assistance on the day of the event, please contact the Event Chair, AJ Williams, at 240-302-3140. A full map of the campus can be obtained here: Campus Maps (jhuapl.edu).
Presented by: Photonics Society Chapter of Baltimore Section

Date: September 9, 2024 (Monday)
Topic: Baltimore Section Executive Committee (ExCom) Meeting
Time: 6:30 PM
Place: Virtual
Registration: https://events.vtools.ieee.org/m/391987
Abstract: Monthly meeting of the IEEE Baltimore Section's executive committee.
The meeting is open to all Section members. This meeting will be by videoconference only. The meeting link will be sent to registrants.
Presented by: Baltimore Section

Date: September 10, 2024 (Tuesday)
Topic: Automating Empathy in Human-AI Partnerships: Issues, Ethics and Governance
Time: 1:00 PM
Place: Virtual
Registration: https://events.vtools.ieee.org/m/415613
Abstract: This lecture considers General-Purpose Artificial Intelligence (GPAI) products marketed as 'empathic partners', 'personal AI', 'co-pilots', 'assistants', and related phrasing for 'human-AI partnering'. Open AI, Inflection, Google, Microsoft, and others, all promise empathic capacities. Current and nascent domains of use include work, therapy, education, life coaching, legal problems, fitness, and entertainment. The lecture focuses on the risks and opportunities of empathic human-AI partnering, what new governance (if any) is required, and the role that soft law standards may play in leading in supporting hard law.
To explore empathic human-AI partnering, the lecture will initially provide historical context to these technologies, case examples, and a sense of current governance for technologies used to empathize. With this understanding in place, the lecture will progress to consider need to contrast upstream and downstream understandings of GPAI, complexities of this separation for governance, balancing of short and long-term risks, social and ethical questions unique to empathic human-AI partnering, issues of global cultural variation regarding empathic human-AI partnering, balancing of interests of ethical diversity and unity in creation of soft law and standards, and lessons that can be learned from existing and nascent P7000 standards.
Speaker: Andrew McStay is Professor of Technology & Society at Bangor University, UK. His most recent open access book, Automating Empathy: Decoding Technologies that Gauge Intimate Life, examines social dimensions of technology to infer and interact

with emotions, mental states, and human conditions. Director of The Emotional AI Lab, his current work focuses on addressing use of emulated empathy in general-purpose artificial intelligence systems for human-AI partnerships. An IEEE SSIT member, non-academic work includes standards development work for P7014 and ongoing advising roles for the UK's Information Commissioner's Office, start-ups, and NGOs. He has also appeared and made submissions to the United Nations Office of the High Commissioner on the right to privacy in the digital age, the UK House of Lords AI Inquiry and the UK Department for Culture, Media and Sport.
Presented by: Northern Virginia/Baltimore/Washington Chapter of Society on Social Implications of Technology

---

Date: September 10, 2024 (Tuesday)
Topic: Northern Virginia Section EXCOM September Meeting
Time: 6:00 PM
Place: Arlington County Central Library, 1015 N. Quincy St., Arlington, VA (Quincy Room) and Virtual
Registration: https://events.vtools.ieee.org/m/431865
Abstract: This is the September meeting of the IEEE Northern Virginia Section Executive Committee. Open to all Section members.
Presented by: Northern Virginia Section

Date: September 13, 2024 (Friday)
Topic: 100 Years of STEM Celebration
Time: 8:22 AM
Place: AAAS Building, 1200 New York Avenue, Washington DC, DC (Auditorium)
Registration: https://events.vtools.ieee.org/m/430997
Abstract: 100 Years of STEM Celebration by Institute of Radio Engineers at the Washington Academy of Sciences. Naval Radio Research Laboratory at the Bureau of Standards and the Naval Research Laboratory IRE members started the program in 1924 by starting a radio school named Bellevue Radio School in Anacostia DC. Come participate as we reflect STEM 100 years ago, 50 years ago and currently with an imaginative view of STEM in 2049 with breakout sessions for students in the day long event.
Presented by: Washington Section

Date: September 22, 2024 (Sunday)
Topic: Fall Picnic for the Northern Virginia Section and Washington Section
Time: 10:00 AM
Place: Pavilion, Columbus Club of Arlington, 5115 Little Falls Road, Arlington, VA
Registration: https://events.vtools.ieee.org/m/432239
Abstract: This is the Fall Picnic for the IEEE Northern Virginia Section and the Washington Section.

- If you live 50+ miles from Arlington and want to carpool, email Marty Schulman by September 14.
- This is a catered event, so no need to bring side dishes..

Presented by: Northern Virginia Section and Washington Section

---

Date: September 24, 2024 (Tuesday)
Topic: Signage: Traffic Control Devices
Time: 7:00 PM
Place: Virtual
Registration: https://events.vtools.ieee.org/m/431921
Abstract: Traffic control is an essential part of a safe, efficient transportation system. One of three main traffic control devices is signage. This session will cover the three sign classification types (regulatory, warning and guide), sign shapes and colors, proper placement along the roadway network, and maintenance for visibility. A small fraction of this talk applies to Ohio, but the rest applies nationally. There will be examples of both good and bad signage. Poor signage is confusing to humans and will become hazards for self-driving cars.
Presented by: Baltimore Section

Date: October 3, 2024 (Thursday)
Topic: Thomas Edison's Plan to Illuminate America in the Late Nineteenth Century
Speaker: Dr Mary Ann Hellrigel
Time: 6:00 PM
Place: Oakton Library, 10304 Lynnhaven Pl, Oakton, VA (Meeting Room) and **Virtual**
Registration: https://events.vtools.ieee.org/m/432101
Abstract: In October 1880, Thomas A. Edison published "The Success of the Electric Light," in *The North American Review*," to explain that the adoption of his electric light for domestic use has been delayed "due to the enormous mass of details which have to be mastered before the system can go into operation on a large scale, and on a commercial basis as a rival of the existing system of lighting by gas." The "enormous mass of details" would include further research and development to improve the lamp, founding companies to manufacture components, and personally funding and supervising a company to build power plants. This talk will focus on the Thomas A. Edison Central Station Construction Department, a little-known entity founded by Edison himself in May 1883, to construct direct-current electric power stations in towns and cities throughout the United States. It built thirteen central stations in Massachusetts, New York, Ohio, and Pennsylvania before being absorbed by the Edison Company for Isolated Lighting in October 1884, coincidently, around the time IEEE was founded. While Edison stepped away from the day-to-day central station business, he continued research in direct current and later alternating current technology. And by the late 1880s, he found himself dragged into a media war with George Westinghouse in what has become the mythical "battle of the currents." In 1887, Edison opened a new and expanded research laboratory in West Orange, New Jersey and by 1890 his research and business interests moved on to the improved phonograph, the talking doll, motion pictures, ore milling, and other technologies.
Speaker Bio: Since January 2016, Mary Ann Hellrigel, Ph.D. is the Institutional Historian, Archivist as well as the manager of the oral history program at the IEEE History Center. She is the recipient of numerous fellowships and grants, including the 1993 IEEE Life Member History Fellowship. Mary Ann has a bachelor's degree in

history and biology from Rutgers University (1983); a master's degree in public history from the University of California, Santa Barbara (1989); and a Ph.D. in the history of technology and science from Case Western Reserve University. She served as an editor and research faculty the Thomas A. Edison Papers Project at Rutgers University, and for more than 30 years, she taught history; history of technology, engineering, and science; women's history; American Studies; and geography at universities in the USA, including Stevens Institute of Technology; California State University, Chico; New Jersey Institute of Technology; Iowa State University; and The State University of New York, College at Geneseo. Mary Ann has widely published and presented papers on Edison and early electric power and has consulted on related exhibits and documentaries.

Presented by: Northern Virginia Section