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All announcements for publication in a particular month's bulletin are due to the Editor by the 20th of the previous month. The accuracy of the published material is not guaranteed. If there is any error, please bring it to the Editor's attention. The Section's web site, [webinabox Pittsburgh](http://webinabox.pittsburgh.org), has recent issues of the bulletin and lots of other useful information.

• *Chair's Corner*

Welcome to the November Edition of the Pittsburgh Bulletin.

With the end of the year quickly approaching, November is usually reserved for reflection and giving thanks for the things we have. With that, I want to talk about how thankful I am for each of the chairs of the different societies and chapters we have in Pittsburgh and how thankful I am that I decided to volunteer after college with our section.

Firstly, Pittsburgh IEEE would be nothing without the volunteers that we have. Every event, whether it be technical or social, is put on by our volunteers. There is an old saying of what you put in you get out. That also applies to our success as a group. Our volunteers put lots of time and effort into every event and that effort shows in the quality and quantity of our programming throughout the year. For example, we have fantastic speakers and tours year after year that keep bringing people together. I want to thank everyone deeply for taking time out of their personal lives to contribute to IEEE. It makes us all better together.

I would like to also briefly talk about how I am thankful that I became active as an IEEE member. As with many young professionals, once I got out of college, I became inactive. The first few years are hard, trying to balance fun and responsibility. COVID didn't make it easy, either. But I went to the History Dinner the section puts on in 2021 just out of curiosity and I came to know all of the wonderful people in our section. If it wasn't that brief curiosity, I wouldn't have made friends and professional connections that are actively helping in my career. IEEE is my professional home, which is always open to others. If you are just curious, come to one of our events. The virtual ones are great to start just to see what we do. IEEE Pittsburgh wants to be your professional home, so just make the jump and see for yourself.

Jenna Price

2024 Pittsburgh Chair

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- **Lab Tour: CMU Materials Characterization Facility**

Date: Monday, November 4, 2024
Time: 6:00-7:30pm
Place: CMU Materials Characterization Facility (Roberts Engineering Hall 1st Floor) - See Map
Organizer: Nanotechnology Council
RSVP: **Required** by November 2, 2024 via <https://events.vtools.ieee.org/m/434162>

Abstract: The Materials Characterization Facility is a world-class, multi-user facility located at Carnegie Mellon University. The MCF provides capabilities for structural and chemical characterization of materials including electron microscopy, scanning probe microscopy, and x-ray diffraction.

The tour will include a walkthrough of the facility with the highly qualified technical staff members, demonstration of capabilities, and more. Light dinner will be provided.

Agenda:

6:00 PM Light Dinner

6:30 PM Tour

- **NASA's approach to Software Assurance and Software Safety**

Speaker: Tim Crumbley
Date: Monday, November 11, 2024
Time: 4:00 PM – 5:00 PM (EST)
Place: WVU building AER room 135 and Zoom: <https://wvu.zoom.us/j/9188836315>
Contact: skhushalanisolanki@mail.wvu.edu

Abstract: This talk, led by Mr. Tim Crumbley, explores the critical role of Software Assurance in ensuring that software is free from vulnerabilities—both intentional and accidental—throughout its lifecycle. Aimed at professionals and students in software engineering, particularly within the aerospace sector, the presentation will highlight NASA's comprehensive approach to software assurance and safety. Attendees will gain insights into NASA's definitions, activities, and requirements for implementing systematic software assurance, safety protocols, and Independent Verification and Validation (IV&V) for software created or maintained by NASA. The NASA Software Assurance and Software Safety Standard serves as a foundation for consistently executing these activities throughout the software lifecycle. The discussion will cover key steps and practices used by NASA to perform software assurance, identify safety-critical software applications, applicable safety-critical software requirements, common software defects, and areas within the software engineering lifecycle that require greater focus. Participants will also have the opportunity to engage in discussions on the practical applications of these concepts in the space industry, including potential career paths in this vital field.

Biography: Mr. Tim Crumbley serves as the Software Assurance (SA) technical fellow and works with center organizations to establish the agency-level SA procedures, policies, training, and requirements for NASA. The main objective of SA is to ensure that the processes, procedures, and products used to produce and sustain the software conform to all requirements and standards specified to govern those processes, procedures, and products. Mr. Crumbley has over 37 years of experience working in the NASA software engineering community. His responsibilities have included establishing and maintaining NASA software engineering and management policies and requirements, teaching NASA software engineering classes, and providing guidance to effectively meet the scientific and technical objectives of software products developed under NASA funding. Mr. Crumbley served as the deputy technical fellow for software engineering, the program executive for software engineering, the chair of the NASA Software Working Group, the chair of NASA Software and Systems Capability Leadership Teams, the NASA member of the Capability Maturity Model Integration Client Advisory Board, and the NASA member of the Institute of Electrical and Electronics Engineers USA Technical Advisory Group for ISO/IECJTC1 Steering Committee 7. Before supporting Headquarters, Crumbley served Marshall Space Flight Center in numerous capacities, including division chief for the Marshall Avionics Systems Division, division chief for the Marshall Data Systems and Software Division, and as the agency's software engineering Technical Authority. Mr. Crumbley has managed numerous government-led, software-developed projects and participated in contractor-produced, mission-critical, real-time embedded software development projects. He is from Huntsville, Alabama, and received both his bachelor's degree in chemical engineering and master's degree in computer science from the University of Alabama.



- **IEEE Guide for Distribution Grid Resilience metric**

Speaker: Dr. Shikhar Pandey
Date: Monday, November 18th, 2024
Time: 4:00 PM – 5:00 PM (EST)
Place: WVU building AER room 135 and Zoom: <https://wvu.zoom.us/j/9188836315>
Contact: skhushalanisolanki@mail.wvu.edu

Abstract: In the past decade, the global shift towards addressing climate change has highlighted the electric grid as a critical enabler in achieving net-zero emissions. Electrification demands from sectors like transportation and buildings rely heavily on a resilient, reliable grid—especially as extreme weather events, such as wildfires and hurricanes, increasingly challenge its stability. Ensuring continuous power during these events is crucial, both for maintaining infrastructure and minimizing disruption to daily life.

As a result, stakeholders across governments, utilities, and regulatory bodies are focusing more than ever on policies and initiatives to enhance grid resiliency. However, a fundamental question arises: how do we effectively measure grid resiliency? Developing metrics that assess the grid's ability to withstand and recover from extreme weather events is essential to ensure progress.

This talk will introduce a comprehensive resiliency metric framework, designed to evaluate the grid's performance in adverse weather conditions. The metrics fall under two categories: System Performance, which assesses the grid's ability to endure extreme events, and Operational Performance, measuring its recovery capacity. Through this framework, we can better understand, measure, and enhance the resilience of our electric distribution grid.

Biography: Shikhar Pandey holds a bachelor's in electrical engineering from NIT Patna, India, and a master's and Ph.D. in Electrical Engineering from Washington State University Pullman. He is pursuing an MBA from Chicago Booth School of Business in Finance, Strategic Management, and Entrepreneurship. Currently, he serves as Sr. Manager of DER Planning and Engineering at Commonwealth Edison (ComEd). He is the Chair of the IEEE Distribution Resiliency Taskforce, Co-Chair of the IEEE Grid Flexibility Taskforce, and Technology Lead for the IEEE Industry Technical Support Leadership Committee (ITSLC).



- **Heinz History Museum Guided Tour**



Date: Nov. 16, 2024, Saturday
Time: 10:30am - 1:00pm (EST)
Place: Senator John Heinz History Center, 1212 Smallman St, Pittsburgh, 15222
Organizers: Pittsburgh Section Joint Chapter for Signal Processing Society (SPS) and Control Systems Society (CSS); Young Professionals Affinity Group



Additional Information: No Admission Charge; Maximum of 30 persons; Guided tour
RSVP: Register at <https://events.vtools.ieee.org/m/433537>

Summary: Voted the #1 History Museum in America by USA Today, the Senator John Heinz History Center is the largest history museum in Pennsylvania and a Smithsonian Affiliate. Located in Pittsburgh's historic Strip District, the History Center preserves and interprets American history with a Western Pennsylvania connection. Explore six floors of engaging exhibits and iconic artifacts, perfect for visitors of all ages. The History Center is home to the two-floor Western Pennsylvania Sports Museum, which celebrates legendary athletes and unforgettable moments from the City of Champions. Don't miss the museum's new exhibition, A Woman's Place: How Women Shaped Pittsburgh, which shares the inspiring stories of fierce and unflappable women who helped change the world.

Our group will be taking the "History Highlights Tour": A History Highlights tour offers participants a condensed overview of Western Pennsylvania's and Pittsburgh's history as told by artifacts, stories, and prominent personalities represented in the History Center's collection and exhibits. This tour introduces the History Center and touches on Pittsburgh's and Western Pennsylvania's history, its significant events and industries, the waves of immigration that shaped the city, the innovations that originated in the region, along with its cultural highlights and sports legacy. This tour is a great introduction to the "people" museum and offers a broad understanding of the city's and region's history.

<https://www.heinzhistorycenter.org/visit/heinz-history-center/>

- **2024 IEEE Colloquium in Western Pennsylvania**

Dear IEEE members,

We have received proposals for 3 presentations so far. We are extending this offer for presentations of any length of time that we will confirm. Please submit your proposal. Please encourage your colleagues, students and others to make a presentation of an engineering topic. The presentations can be made in-person or virtually.

Original announcement:

We are hosting an IEEE colloquium on December 7, 2024 in the format shown below.

All times are in eastern time zone.

8:00 am: Registration & breakfast

9:00 am: 6 presentations 30 minutes each

Noon: lunch

1:00 pm: 6 presentations 30 minutes each

4:00 pm: adjourn

We are looking for 12 speakers who would like to talk about an engineering topic for 30 minutes each.

Interested IEEE members are requested to submit a 150-word *Abstract* of their presentations and a 150-word *Speaker's Biography* in the following format to Dr. James Beck (jebeck@ieee.org) and Dr. Kalyan Sen (senkk@ieee.org) by November 15.

Speaker's Name:

Title:

Organization:

Abstract: (150 words)

Speaker's Biography: (150 words)

You will be notified by November 20 if you are selected to be one of the 12 speakers. Here are the details of this hybrid event.

Place: 4350 Northern Pike, Monroeville, PA 15146; **Hybrid meeting.** Please RSVP and the meeting link will be emailed to you by the day before the meeting.

RSVP: **Required** at <https://events.vtools.ieee.org/m/434998> by December 2, 2024, 5:00 PM Eastern Time. **Please make sure to enter your email address while registering to receive the meeting link.** If you are an IEEE member, please enter your membership number in the RSVP for accurate meeting reporting.

PDH: If you would like to receive PDH, please send an email after the event to Dr. Kalyan Sen at senkk@ieee.org. Please include your IEEE membership number. You will receive a reply which will serve the same purpose as the signed page for in-person meetings. A non-member who would like to receive PDH is required to pay \$10 to "IEEE Pittsburgh Section."

Directions to site: From Pittsburgh take Interstate 376 East (Parkway East). Take Exit 84A to Monroeville. Cross Business Rt 22 at the traffic light and proceed on Rt 48 South (Moss Side Blvd) approx ½ mile (two traffic lights). The 2nd traffic light is at a 4-way intersection with a Marathon station on the right and a Sunoco station on the left. Turn left onto Northern Pike. Proceed approx 0.2 miles and turn right at the 1st traffic light onto Westinghouse Dr. Travel 0.7 miles to the 3 flags where the building's main entrance is located. Parking in the evening will be plentiful. Use the main entrance and check and sign-in with the security guards inside. You will be directed to the proper room for your meeting.

From the PA Turnpike, take Exit 57 (Monroeville). After the toll plaza, get in the left lane to get on Business Rt 22 West. At the first light, turn left onto Rt 48 South (Moss Side Blvd) and follow the above directions.

2024 Calendar – Meetings of IEEE Pittsburgh Section

	Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec
<u>Executive Committee (AdCom)</u>	18 Virtual	15 Virtual	21 Virtual	18 Nextier	16 DLC	20 Pitt	18 Monroeville	15 Mt. Lebanon	19 Pitt	17 WVU	21 PSEC	19 Edgewood CC
<u>Section</u>		15 – Meetings 101; 24 Robot Car		2-3 Science Fair	3 History Dinner	1 Museum Tour	13 Picnic	24 Pirates		1 IEEE-USA		7 Colloquium
<u>Communi- cations</u>			1 Voice	2 – Singing in Sync			19 Math AI*			9– Online; 10–Cell net		
<u>Computer</u>						24-28 AI school		29 data warehouse				
<u>EMBS</u>		5 Data Analyt- ics	25 GPT				8 HERL		5 Alzheimer's*	29 Surgery		
<u>EMCS</u>												
<u>Power Electronics</u>								28 Flow Control				
<u>PES/IAS</u>						11 Recycling	18 Nuclear Tour	28 Flow Control				
<u>Magnetics</u>												
<u>Nanotech- nology</u>											4 Lab Tour	
<u>Robotics</u>					13 Amp'd Robotics			20 Ice cream so- cial		1 IEEE-USA 29-Surgery		
<u>SPS/CSS</u>			1 - Voice 4 Fingerprints	22 Holographic*	6 Next G	12 Congestion				5 Generative AI	16 History Center	
<u>EPS/ED</u>		6 Fiber Attach		2 – Singing in Sync 18 - Glass						10, 24 Silicon Photonics		
<u>Education</u>							11 ECE Curr					
<u>Social Impl Technology</u>							18 Nuclear Tour	22 Cybersecure		10 Coal		
<u>Upper Mon</u>		5 Data Analyt- ics	4 Fingerprints 25 GPT	1 Database Migration						7, 14,17, 21 - Semi- nars	11 NASA 18 Dist. Grid	
<u>Women in Eng'ing</u>										10 Coal		
<u>Young Pros</u>						12 Congestion				5 Gen AI	16 History	
<u>Life Mem- bers</u>						11 Recycling	8 HERL					
<u>PACE</u>								22 Cybersecure				
<u>Student Act</u>												

* This meeting was not published in the Pittsburgh Bulletin