

# ENERGY AND PHOTON SCIENCES DIRECTORATE NEWSLETTER

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Volume 4, Issue 1

## MEET OUR NEW COLLEAGUES:

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## A MESSAGE FROM JIM

Welcome to the first newsletter of calendar year 2023. As we start a new year, many of us make resolutions or pledges of different behaviors that reflect our hopes for the next year. In this light, I would like to talk about my hopes for the Energy and Photon Sciences Directorate (EPSD) in this coming year and some hopes for myself. This year, let's continue to make EPSD a respectful partner to all who come to give us their best efforts. I hope that EPSD provides an environment where all can thrive professionally and grow our careers. I hope that the EPSD provides a culture where our positive behaviors are rewarded such that it becomes easy to be our best selves. I hope the EPSD provides the kind of support such that we leave here each day and go to our families and friends energized and positive.

On a personal level, I hope that I can meet the responsibilities of my position with courteous behavior. I hope that I do my best in helping transform the amazing ideas around me into successful programs that can take part in solving some of our country's challenges. I hope that my personal behavior will model the respectful workplace we have every right to expect. I hope that my belief that everyone at the Lab plays an essential role in our success is apparent by my behavior.

At the beginning of this year, the instrumentation column will be showing some remote access programs (examples of "far out"-reach) developed to allow students in non-local institutions and in other countries to be exposed to our instrumentation. Growing the next generation of scientists is of paramount importance, and science is truly an international endeavor. The remote sessions we showcase this quarter come from the Center for Functional Nanomaterials (CFN). We will showcase analogous programs from the National Synchrotron Light Source II (NSLS-II) next quarter.

The first quarter of the calendar year brings us Martin Luther King Day, Black History month, International Woman's Day, and Woman's History month. The Lab's African American Advancement Group (AAAG) employee resource group (ERG) and Brookhaven Women in Science (BWIS) will have a wealth of programming in this quarter including the annual reading of Dr. King's "I Have a Dream" speech. There will be extensive programming in February and March so watch the Lab calendar for these events. Additionally, BWIS is sponsoring a lecture by Ed Sierra from the Quality Management Office. Those who attended his talk on Marie Curie know a treat is in store when he talks on "Lise Meitner: A Physics Love Story" on Thursday, Jan. 19.

In closing, I again acknowledge my respect for all of you. These have been very difficult years with Covid and the challenges of working remotely while making sure science flourishes. We all owe a debt to our essential workers who, through it all, kept the Lab running. Thank you!

*"Sciences provide an understanding of a universal experience. Arts are a universal understanding of a personal experience. The arts and sciences are avatars of human creativity"*

*—Mae Jemison, First African American Woman astronaut in space*



*Jim Misewich*

## From the EPSD DEI Council

The EPSD [Peer Counselors](#) are members of the Diversity, Equity, and Inclusion (DEI) Council and welcome conversations about any workplace concerns with EPSD employees and guests. Be assured that confidentiality is an utmost priority within the constraints of Lab policy. Our current EPSD roster of Peer Counsellors is:

Christine Ali (Ext. 3197, [cali@bnl.gov](mailto:cali@bnl.gov)),  
Diane Cabelli (Ext. 4361, [cabelli@bnl.gov](mailto:cabelli@bnl.gov)),  
Fernando Camino (Ext. 7606, [fcamino@bnl.gov](mailto:fcamino@bnl.gov)),  
Michael Cowell (Ext. 7076, [cowell@bnl.gov](mailto:cowell@bnl.gov)),  
Kenneth Evans-Lutterodt (Ext. 2095, [kenne@bnl.gov](mailto:kenne@bnl.gov)),  
Betsy Hanson (Ext. 7804, [mhanson@bnl.gov](mailto:mhanson@bnl.gov)),  
Vivian Stojanoff (Ext. 8375, [stojanof@bnl.gov](mailto:stojanof@bnl.gov)),  
John Tranquada (Ext. 7547, [jtran@bnl.gov](mailto:jtran@bnl.gov)), and  
Grace Webster (Ext. 3227, [gwebster@bnl.gov](mailto:gwebster@bnl.gov)).

We welcome emails or phone calls to either discuss issues or to arrange for times for private conversations.

On the EPSD DEI website we have a process to receive [anonymous messages](#) to the DEI Council and Associate Laboratory Director. In addition, there are green envelopes in many mail rooms that can be used to mail anonymous comments and/or suggestions to the Council. The envelopes are pre-addressed; you need only put in your comments and place in the interoffice mail.

Lab employees are required to have DEI goal(s) on their performance appraisal goal setting document. To help, the Lab DEI pages include a [guidance document](#) with suggestion for goals that meet the requirement of personal, group and organizational impact. In addition, we have a web page with [suggested goals](#).

## In 2023

This is the first newsletter of 2023. We began this year with hope for a less tumultuous year than 2022, and this quarter we continue with a return to normal work with teleworking and currently have a mask requirement. We track Covid cases if you have been on site within the 10 days previous to your diagnosis or have had close contact with another employee in the 48 hours prior to symptom onset or your positive test. Tracking is through notifying the Occupational Medicine Clinic (OMC) at Ext. 3670. There is a weekly notification of cases and status that is distributed by Jim Misewich and chairs/directors. Please pay attention to the home page and your emails for notification of changing conditions.

The DEI Council and Jim are asking if you would let us know where your priorities lie for the DEI Council programs and whether you have suggestions going forward. You can email Jim or any member of the council directly or you can put it in the [anonymous messages](#) suggestion box found on the [DEI web page](#). We are interested both in programs we can pilot (e.g., DEI performance goals, welcoming letters) and programs where we can provide support (e.g., International Woman's Day Program). Of particular interest are programs that take advantage of the electronic tools that we have used since the start of the pandemic. We have all learned valuable new skills and challenged our creativity; taking advantage of these lessons may be the

good that comes out of a very difficult, often heartbreaking, time. Remember that all ideas are worth considering. The DEI Council will respond to these ideas, either directly if you choose to send email or on the "Ask Jim" page for anonymous communications.

## Services at the Lab

The Lab announced the planned reopening of the on-site childcare center at the beginning of April. This is discussed in the video of the [All Hands meeting](#). It was one of the most echoed comments of the CultureIQ survey of 1999. Kudos to the team that heard and acted to make this happen. Please listen to the video above for details.

We still have food trucks coming on site each weekday. You can find the schedule and menus—including online pre-ordering when available—on the [Guest Services Division website](#), [Food Services](#). The website also lists places that will deliver food and groceries to the Lab site.

## Recommended Articles and Videos

News items you may have missed:

[Naming of New Cryo-Electron Microscopes Honors New York Landmarks: The instruments' names celebrate diversity and inclusion while also serving as a nod to the LBMS' primary capital funding source, NY state](#)

The microscopes are Empire (after the Empire State Building), Powell (after Representative Adam Clayton Powell, Jr.), and Stonewall (after the Stonewall uprising) See the article for further discussion of the historical import.

[Lab Designates Gender Neutral Bathrooms Across Site](#)

The new signage will display "Restroom" in text and braille with an image of a toilet to indicate a gender-neutral or all-usage bathroom. Please see the article for details.

[Brookhaven Veterans Association Donation Supports Honor Flight: Honor Flight Long Island arranges free trips for veterans to visit war memorials and recognize service](#)

This article highlights the program and shows Jane Koropsak, a BVA member and longtime Brookhaven Lab staffer currently working part-time for the Stakeholder Relations Office, accompanied Korean War veteran John Foster as a guardian during an honor flight on Sept. 23.

[ERG Spotlight: Sandra Moran and Jose Rodriguez of the Hispanic Heritage Group: Jose Rodriguez, a Chemist, and Sandra Moran, a Human Resources coordinator, are highlighted here.](#)

Read of their work at the Lab and see a photo of the raising of the flag for Hispanic Heritage month here.

[Brookhaven Lab Named a Top Employer by STEM Workforce Diversity](#)

The Lab was named among the top 20 government employers by STEM Workforce Diversity magazine.

[All-Hands: Updates on Leadership, DEI, the Employee Experience, More](#)

Lab leaders provided updates on searches for a new director and other leaders; diversity, equity, and inclusion; Employee Experience actions; plans for an on-site

childcare center; the recent career fair held on site; and the Inflation Reduction Act and how it benefits the Lab. This is followed by a question-and-answer session.

## Recommended non-Lab articles

[‘Beyond anything I could have imagined’: graduate students speak out about racism](#)

Bias and discrimination are rife in master’s and Ph.D. programmes worldwide, a *Nature* survey finds.

[How science can do better for neurodivergent people](#)

Researchers share their experiences and suggest changes to the structure of science.

[Speaking out against racism is risky, but fear will no longer keep me silent](#)

A scientist’s statement from the AAAS journal *Science*.

## Events in the Past Quarter

We review events that occurred in the past quarter with posted videos to give you a chance to see what you may have missed attending at the time.

Some of you may remember the [massacre](#) of the fourteen women attending the Ecole Polytechnique in Montreal that occurred on December 6, 1989. The massacre was carried out by an antifeminist who entered a classroom, separated the men from women and opened fire on the women while yelling “I hate feminists.” The Parliament of Canada declared Dec. 6 to be a National Day of Remembrance and Action on Violence Against Women in 1991. History contains so many atrocities; however, we remember this in our newsletter because these were women in STEM engaged in acquiring technical degrees. They were targeted and murdered while in training to be part of the STEM workforce.

## Upcoming Events this Quarter

### Martin Luther King, Jr. Day

Monday, Jan. 16, is Martin Luther King, Jr. Day. It is celebrated on the third Monday of January and is celebrated as a Federal, State, and Lab holiday. Dr. King’s actual birthday was Jan. 15, 1929, making this year the 94<sup>th</sup> anniversary of his birth. For a number of years, the AAAG has sponsored a reading of the “I Have A Dream” speech that Dr. King gave at the March on Washington for Jobs and Freedom on Aug. 28, 1963. We urge you to watch for the announcement of the reading on Feb. 15 this year. There is a video of the [reading at BNL from 2021](#) and you will recognize your colleagues here.

### Lunar New Year

The Lunar New Year is celebrated on Sunday, Jan. 22, this year. This is a holiday celebrated by over 1.5 billion people including the many Asian communities such as China, Korea, Vietnam, Indonesia, and Thailand. The date of the Lunar New Year is assigned by a lunisolar calendar and is on a new moon.

### Black History Month

Black History Month begins Wednesday, Feb. 1, and ends Wednesday March 1. It has been celebrated for 46 years. Frederick Douglass celebrated Feb. 14 as his birthday although it was not recorded as he was born into slavery. President Abraham Lincoln’s birthday was Feb. 12. It is these two great Americans’ association with the abolition

of slavery that led to February as Black History month. President Gerald Ford recognized Black History Month in 1976 and every president thereafter recognized February as Black History month.

In 2016 Barak Obama, the nation’s first African American president, said: “As we mark the 40th year of National African American History Month, let us reflect on the sacrifices and contributions made by generations of African Americans, and let us resolve to continue our march toward a day when every person knows the unalienable rights to life, liberty, and the pursuit of happiness.” There will be events and information sponsored by the AAAG and the Lab.

### Women’s History Month

Women’s History Month starts on Wednesday, March 1, and ends on Friday March 31. It was first celebrated in 1987. Every year, BWIS partners with other institutions to host symposia and other events. Please watch for notices of these events in early March as well as other events throughout March.

### International Woman’s Day

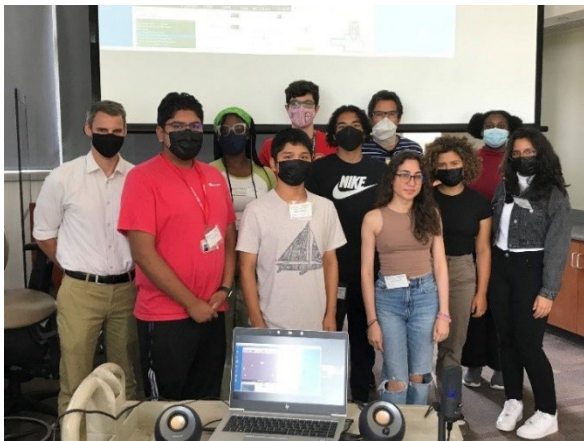
International Woman’s Day is celebrated on March 8, which is a Wednesday in 2023. International Woman’s Day dates back to the early 1900s but was primarily associated with the socialist movement in this country. In 1985, the United Nations began celebrating it and in 1987, there was an official proclamation from the UN. This has been a way to recognize women throughout the world for their contributions and for the lack of equity that is widely experienced. The focus here is women in STEM and events being held on March 8.

## Instrumentation at the Lab

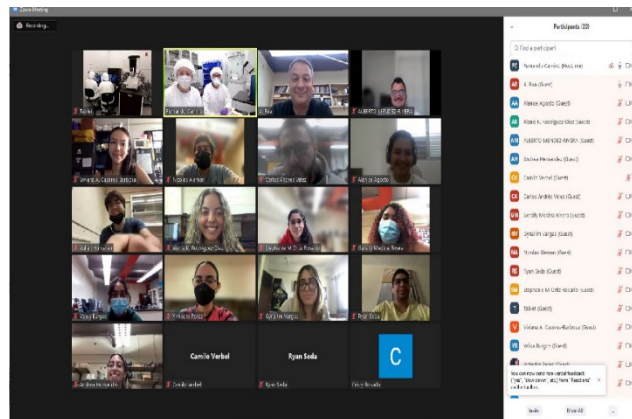
### Remote operation of instruments for education/ outreach purposes

During the pandemic, the CFN focused on finding innovative ways to keep serving its users. Among these efforts was to offer users remote access to operate some of CFN’s instrumentation. In the Electron Microscopy group, we implemented remote access to five electron microscopes. One of them, the FEI Talos 200x was used by Prof. Dalice Piñero from the University of Puerto Rico at Rio Piedras to carry out research [on nanowire-based gas sensors with potential for environmental studies](#).

Besides its proven utility for research, remote capabilities offer a unique opportunity for outreach and educational projects. With Aleida Perez from the Office of Educational Programs (OEP), we are encouraging local high school teachers to submit user proposals that make use of remote capabilities to “virtually” bring their classrooms inside CFN labs. In June, OEP, CFN, and the NSLS-II organized a workshop with local teachers for this purpose leading to the submission of a CFN user proposal for Cycle 1, 2023. Aleida’s passion and experience working with educators was crucial to achieve this goal. In July, the CFN hosted a group of high school kids from Freeport High School accompanied by teachers Brian Snyder and Vincent Pereira. The students participated in a live scanning electron microscope (SEM) imaging session in which they were able to measure the size of nanoparticles synthesized during their summer research.



Summer research students in Mr. Brian Snyder's class from the Freeport High School at the CFN



Participants of the first Fall remote session between Professor Rua's classroom in Mayagüez and CFN's SEM/FIB lab

Showing college students from minority serving institutions how to operate sophisticated instrumentation has long been a dream (Fernando) and thanks to Prof. Armando Rua from University of Puerto Rico at Mayagüez we realized this in spring semester, 2022. We implemented two remote sessions with Professor Rua's classroom where we showed students the capabilities of the dual SEM/focused ion beam (FIB) system using as a sample a  $V_4O_7$  thin film grown in Prof. Rua's lab. These films have resistive switching characteristics which are relevant for neuromorphic computing. Students could observe the morphology of the film's surface and measure its thickness using the SEM/FIB's cross-sectional processing and imaging capability. The sessions were well attended with about 25 enthusiastic students. This fall semester, when we repeated the program, we had the lovely surprise of having more than 50% female students in Professor Rua's class! We invited CFN's Priscilla Antunez to show the students her work at the CFN, talk about her successful trajectory through science, and give the students her advice regarding navigating life through science. In the Zoom screenshot you see some of the young participants in the first of the two fall sessions where we showed students' SEM/FIB's circuit-editing capabilities using a device fabricated by CFN user Manuel Lozano-Arroyo, a master student in Professor Rua's group (watch "[remote hands-on 1](#)" and "[remote hands-on 2](#)"). The success we have had so far with these remote outreach events would not be possible without the help from CFN's user office and GUV center personnel. They are the ones who make possible that students and teachers unfamiliar with national lab regulations can complete the necessary requirements to participate in these events. We are lucky at Brookhaven Lab to work with such dedicated administrative staff.

We hope to continue applying CFN's remote capabilities in research and in educational projects. A wish from one of us is to reach out far, really far, to students in rural schools in the Peruvian Andes. Our CFN director told us that our yearly professional goals shouldn't be easy, so this could well be one of our goals. Let's hope it can be accomplished.

### From the DeepDive Survey

The results of the DeepDive Survey can still be viewed on the [DeepDiveSurvey Website](#). You can also revisit the all-hands briefing from Brookhaven Lab Director Doon Gibbs and other Lab leaders joined by Scott Young of CultureIQ by re-watching the [DeepDive Survey Results Briefing Video](#). Unfortunately, there was not time to answer all of the questions during the meeting but a [website](#) has been established where links to the briefing, answers to additional questions, an overview of the survey, and a summary report can be found.

The DeepDive survey is one of several methods designed to help improve the employee experience at Brookhaven. For this reason, we continue to use the results and comments of the survey in our improvement efforts across the Lab. Organizational Change Management Specialist [Claudine Cangiano](#) has been organizing meetings with groups of employees to facilitate discussions about the content of the DeepDive survey. She also met with the newly formed EPSD Working Group.

The EPSD Working Group has been meeting every two weeks to update old recommendations, read through all the written comments given by staff members from the EPS directorate during the survey, and crafting new recommendations. These responses had been pre-screened by the DEI Council under the Peer Counsellor constraints to remove identifying information and preserve anonymity.

The Working Group also inquired about the plans for the cafeteria with Facilities and Operations (F&O). During this meeting, the group also mentioned the vending machines in various buildings. F&O is working with the U.S. Department of Energy (DOE) Brookhaven Site Office on finding a new cafeteria vendor and on keeping the vending machines stocked. They asked that the directorate reach out to them should anything be amiss with the vending machines or the Micro-Mart (contact [Ana Popovici](#)). The Chair of the working group is Cara Laasch ([claasch@bnl.gov](mailto:claasch@bnl.gov)) and she can be contacted if you have any concerns. We will be providing quarterly updates from the New Working Group here.

## On the Move in EPSD

We welcome Olekssi Biletskiy who joins NSLS-II from the Collider-Accelerator Department (C-AD).

## Help Welcome our New Colleagues to EPSD

Once again, we are introducing our newly hired colleagues to you. If you find common interests or places where you can assist, please do. Join me in welcoming them to the directorate:

### Abdullah Al-Mahboob, Scientific Staff

Supervisor: Dario Stacchiola

Email: [aalmahboo@bnl.gov](mailto:aalmahboo@bnl.gov)

Start Date: 11/7/2022

### Chiara Cappuccino, Postdoctoral Res Assoc/Fellows

Supervisor: Javier Concepcion

Email: [ccappucci@bnl.gov](mailto:ccappucci@bnl.gov)

Start Date: 10/11/2022

### Samuel Clark, Information Technology

Supervisor: Stuart Myers

Email: [sclark2@bnl.gov](mailto:sclark2@bnl.gov)

Start Date: 12/12/2022

Interests: My hobbies include spending time with my daughter, gardening, video games, and anything to do with space.

### Stephen Galvin, Miscellaneous

Supervisor: Thomas Butcher

Email: [sgalvin@bnl.gov](mailto:sgalvin@bnl.gov)

Start Date: 10/3/2022

### Xi He, Scientific Associate

Supervisor: Ivan Bozovic

Email: [xhe@bnl.gov](mailto:xhe@bnl.gov)

Start Date: 10/17/2022

### Yutao Li, Postdoctoral Res Assoc/Fellows

Supervisor: Abhay Narayan

Email: [yli6@bnl.gov](mailto:yli6@bnl.gov)

Start Date: 11/7/2022

### Steven Ranieri, Technical

Supervisor: Andi Barbour

Email: [sranieri@bnl.gov](mailto:sranieri@bnl.gov)

Start Date: 10/31/2022

Preferred Pronoun: He/him

Interests: In my spare time I like to be outdoors hiking, fishing, or playing some kind of sport usually softball or golf.



### Saheli Sarkar, Postdoctoral Res Assoc/Fellows

Supervisors: Robert Konik/ Alexei Tselik

Email: [ssarkar@bnl.gov](mailto:ssarkar@bnl.gov)

Start Date: 10/3/2022

### Akhil Tayal, Scientific Staff

Supervisor: Eli Stavitski

Email: [atayal1@bnl.gov](mailto:atayal1@bnl.gov)

Start Date: 12/5/2022

Preferred Pronoun: He

Interests: Outside work I like to perform yoga and meditation for the overall development of the body and mind.



### Dominik Werzbicki, Postdoctoral Res Assoc/Fellows

Supervisor: Eli Stavitski

Email: [dwierzbic2@bnl.gov](mailto:dwierzbic2@bnl.gov)

Start Date: 11/28/2022

### Michael Zhanay, Engineering

Supervisor: Jeffrey Keister

Email: [mzhanay@bnl.gov](mailto:mzhanay@bnl.gov)

Start Date: 11/7/2022

### Feiqun Zhu, Postdoctoral Res Assoc/Fellows

Supervisor: Meng Yue

Email: [fzhu@bnl.gov](mailto:fzhu@bnl.gov)

Start Date: 12/19/2022



*Members of the EPSD DEI Council (clockwise from top): Christine Ali, Priscilla Antunez, Diane Cabelli, Fernando Camino, Michael Cowell, Kenneth Evans-Lutterodt, Betsy Hanson, Vivian Stojanoff, John Tranquada, and Grace Webster.*



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