

# ENERGY AND PHOTON SCIENCES DIRECTORATE NEWSLETTER

OCTOBER 11, 2022

Volume 3, Issue 4

## MEET OUR NEW COLLEAGUES:

Shahbaz Ahmad, CO  
Aswin Kumar Anbalagan, NSLS-II  
Christian Atariguana, NSLS-II  
Cody Carr, Chemistry  
Michael Charumaneeroj, NSLS-II  
Hiren Dave, NSLS-II  
Rupali Deokar, CO  
Marcelo Ferreira, NSLS-II  
John Gordon, CO  
Erwei Huang, CO  
Hyeong Jin Kim, CFN  
Lazar Kish, CMPMSD  
Marton Kalman Lajer, CMPMSD  
Hoon Lim, NSLS-II  
Rajesh Malla, CMPMSD  
Sara Mason, CFN  
George Muniz, NSLS-II  
Tharanga Nanayakkara, CFN  
Kevin Rollet, NSLS-II  
Ryeon Hee Ryeo, CFN  
Venkateswaran Shekar, NSLS-II  
Minghao Song, NSLS-II  
Sha Tan, CO  
Nghia Vo, NSLS-II  
Nan Wang, CO  
Zongheng Wang, CO  
Judith Yang, CFN

## A MESSAGE FROM JIM

Welcome to the last newsletter of calendar year 2022, covering the final quarter of our fiscal year 2022. I would like to start this newsletter by acknowledging those of you in Energy and Photon Sciences (EPS) that have successfully competed for funds this quarter: Amy Marschilok as lead primary investigator (PI) for The Catalytic Promise of Molybdenum Chalcogenides to Enable Aqueous Zinc Sulfur Batteries with Lab team members in the Interdisciplinary Science Department (ISB), the Center for Functional Nanomaterials (CFN), the National Synchrotron Light Source II (NSLS-II), and the Computational Science Initiative (CSI), as well as Stony Brook University (SBU) Institute for Electrochemically Stored Energy; Jingguang Chen as lead PI for a proposal on Nitrides of Earth-abundant Metals as Cost-effective Catalysts with a Lab Chemistry Division (CO) team; Qun Li as lead PI for Transformative Biohybrid Diiron Catalysts for C-H Bond Functionalization with a team including BNL Biology Department, CO CSI, NSLS-II and the Laboratory of BioMolecular Structure (LBMS); and Jim Wishart, leading the Molten Salts in Extreme Environments Energy Frontier Research Center (EFRC), which was successfully re-competed and has four more years in funding. The Stony Brook led EFRC on energy storage, the Center for Mesoscale Transport Properties (molecules to mesoscale), led by Esther Takeuchi was also renewed for four years. This EFRC is strongly integrated with BNL. These successes represent enormous efforts of many people and I want to congratulate the lead PIs and the entire teams that are so essential to the Lab's successes.

I would like to welcome the new Division Chair for Chemistry, John Gordon. John comes to us from Los Alamos National Laboratory, where he was a senior scientist and laboratory fellow. He has been a PI in Basic Energy Science (BES) and Energy Efficiency and Renewable Energy programs, a detailee in the BES program office and a deputy director of the U.S. Department of Energy's Chemical Hydrogen Storage Center of Excellence.

Welcome, also, two new Group Leaders at the CFN. Judith Yang, the new Group Leader for Electron Microscopy, comes to us from University of Pittsburgh Department of Chemical and Petroleum Engineering, where she studies oxidation and catalysis on surfaces and electron microscopy. Sara Mason, the new Group Leader for Theory and Computation, comes from the University of Iowa Department of Chemistry, where she carries out molecular-level studies of interfaces, nanoparticles, and surfaces.

Many of you have been Hiring Managers this year and have received questionnaires about your view of the hiring process. I urge you to fill them out. These are our most effective windows into the quality of our hiring process and your insights and suggestions are very valuable.

A new microscope, part of the Condensed Matter Physics and Materials Science Department, is highlighted this quarter. This is another of the cutting-edge instruments that are so crucial maintaining our leadership in science. I thoroughly enjoy reading these descriptions of our equipment and facilities and your expertise. If you manage an instrument or facility that you wish to see highlighted in our quarterly newsletter, please contact [Diane Cabelli](#) or any member of our [Diversity, Equity, and Inclusion \(DEI\) Council](#).

As the fiscal year ends, I just want to 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!

*"Sometimes leadership is planting trees under whose shade you'll never sit": Secretary of Energy Jennifer Granholm!*



Jim Misewich

## Mow Shiah Lin Scholarship

The Mow Shiah Lin scholarship is sponsored by the Asian Pacific American Association Employee Resource Group in honor of the career and life of Mow Shiah Lin, a distinguished scientist in Brookhaven's Energy Sciences and Technology Department. In honor of the manner in which he began his career, his research, remarkable achievements, and inventions, this scholarship is granted annually to a student of Asian heritage with a U.S. student visa, matriculating toward a doctorate in environmental and energy technology, biology, or chemistry at an accredited institution of higher education on Long Island, including Brooklyn and Queens.

The 2022 Award Recipients are Wenjie Liao and Daren Wu. Liao, a PhD student in the Department of Chemistry at Stony Brook University, is carrying out research with advisor Ping Liu in the Catalysis Group in CO at the Lab. The research involves "heterogeneous catalysis of carbon dioxide chemical recycling using combined multiple theoretical and data science methods" and Liao's focus is on theoretical studies to aid in understanding atomic-level behavior of catalysts and reaction mechanisms.

Wu is a Ph.D. student in material science and chemical engineering at the Advanced Energy Center at SBU with advisors professors Esther Takeuchi, chair of Brookhaven's Interdisciplinary Science Department, and Amy Marschilok, manager of its Energy Storage and Energy Systems. Wu's research is on rechargeable aqueous Zn/MnO<sub>2</sub> batteries with near-neutral ZnSO<sub>4</sub> electrolyte, which can serve as a promising alternative to commercial Li-ion batteries as a grid-level electrochemical energy storage solution with better safety and much lower cost as well as being environmentally benign and using earth-abundant components.

## From the EPSD DEI Council

We are including the list of EPSD peer counselors and information on anonymous communication from the last newsletter.

The EPSD [Peer Counselors](#) are members of the 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 to only put in your comments and place it in the interoffice mail.

Lab employees are required to have DEI goal(s) on their performance appraisal goal setting document. To help, we have a web page with [suggested goals](#).

## In 2022

This is the fourth and last newsletter of 2022. We began this year with hope for a less tumultuous year than 2021 and this quarter we continue with a return to normal work with teleworking, albeit with fluctuating changes in mask requirements. Another big change is that we only 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.

When we began this year, the DEI Council and Jim asked 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.

## Food Services at the Lab

We 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

[Gender pay gap hits university faculty](#)

[Men outnumber women by more than 2 to 1 in US federal science jobs](#) Disparity contributes to US\$4,300 gender pay gap, says report.

[Hiring and being hired: faculty members share their stories](#) Competition for the best talent is stiff. Here are ways for recruiters and jobseekers to stand out from the crowd.

## Recommended Videos

We highlight the past six months of Science Thursdays and the past six months of Brookhaven Lectures:

[Superconducting Magnets with Piyush Joshi](#)

Piyush Joshi, research engineer at Brookhaven Lab, discusses superconducting magnet fundamentals, uses, and potential career paths for science enthusiasts.

#### [Surface Science with Ashley Head](#)

Ashley Head, staff scientist at the Center for Functional Nanomaterials, discusses how scientists make and study materials structured at nanomaterial sizes and potential career paths for science enthusiasts.

#### [Metals, Life, and a Delicate Dance](#)

528th Brookhaven Lecture: Qun Liu explains work to solve the structures of proteins and optimize plants' production of biofuels. He also highlights research that helped determine how the virus that causes COVID-19 wreaks havoc on human lungs.

#### [Probing New Physics by Precision Measurement of Muon Magnetism](#)

527th Brookhaven Lecture: Vladimir Tishchenko introduces the muon and the muon g-2 experiment at Fermilab, which uses a storage ring from the previous experiment at Brookhaven and then describes Brookhaven's leadership in new measurements and theory as well as the future of muon g-2 studies

#### [Where There's Smoke, There's Fire \(and Climate Change\)](#)

526th Brookhaven Lecture: Arthur Sedlacek gives an overview of climate change. He then focuses on aerosols produced in wildfires, discussing observations and findings from in-field research campaigns, for insights that can improve climate change forecasts.

#### [Coherent Electron Cooling for the Electron-Ion Collider](#)

525th Brookhaven Lecture: Gang Wang gives an overview of the Electron-Ion Collider and the science questions it will help address. He will also discuss coherent electron cooling, how it works, and how it is being developed.

### **Events in the past Quarter and Upcoming**

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. We remind you of upcoming events in October through December 2022.

We now want to write about two events that occurred in our facilities, the NSLS-II/CFN Users meeting and the NSLS-II UEC Show.

#### [Celebrating Collaborations and Opportunities at the 2022 NSLS-II & CFN Users' Meeting](#)

Scientists, collaborators, and leaders from Brookhaven Lab and DOE convened virtually to celebrate completing another year of impactful research while overcoming challenges along the way.

[View the program with the appended pdfs](#) for the NSLS-II/CFN Users meeting.

[The NSLS-II UEC Show - Episode 9](#) Hosts Matthew Whitaker and Robert Palomino are joined by Mercy Baez, the NSLS-II & LBMS User Program Coordinator; Dava Keavney, DOE Program Manager, Scientific User Facilities; and John Hill, NSLS-II Director.

### **Hispanic Heritage Month**

National Hispanic Heritage Month bridges the two months and celebrates the contributions Hispanic Americans have made to American society. Each year, Americans observe National Hispanic Heritage Month from September 15 to October 15 by celebrating the histories, culture, and contributions of Americans whose ancestors came from Spain, Mexico, the Caribbean, and Central and South America.

September 15 is significant because it is the anniversary of independence for Latin American countries such as Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua. Mexico and Chile celebrate their independence days on September 16 and 18, respectively. The celebration of Hispanic Heritage month continues on into October. However, many other Latin American countries celebrate their Independence Day at other times. For example, Peru and Argentina celebrate their Independence Days in July.

Hispanic Heritage month closes with:

October 12, 12:45 p.m., Spanish class closing session with a guest speaker.

October 13, Food Crawl in Patchogue. Details to come.

October 14 Movie Night – Coco (rated PG) in Berkner Auditorium. Suggested donation of \$5 but any donation will be accepted. All donations help fund HHG programs such as the high school scholarship awards. All employees and registered relatives are welcome.

### **Other Events this Quarter**

#### **[National Coming Out Day](#)**

October 11, 1988, the first anniversary of the National March on Washington for Lesbian and Gay Rights, marked the first celebration of National Coming Out Day. The goal of NCOD was to “promote positivity and celebration instead of reacting defensively. (The originators) believed that only in the atmosphere of silence and ignorance can a belief like homophobia thrive” During NCOD, the “Wear the Ribbon Campaign” promotes wearing a rainbow ribbon to show allyship with the LGBTQ+ community.

Events associated with NCOD through the [Pride Alliance](#) are to [sign up](#) to hand out ribbons (Rainbow ribbons for the LGBTQ+ community and pink and turquoise ribbon representing the transgender community) to your work groups on October 11 and to participate in the crossword puzzle contest to engage the Lab with some NCOD facts ([download the crossword](#), fill it in, scan or photograph the page, and submit it to [pride@bnl.gov](mailto:pride@bnl.gov)). Completing and submitting the crossword by Friday, October 14, will enter you to win a prize!

We include some articles to read related to NCOD:

#### [Queer Inclusion Equals Better Mathematics](#)

#### [Coming Out](#)

#### [How astrophysics helped me embrace my nonbinary gender identity—in all its complexity](#)

## **Columbus Day/Indigenous People's Day**

The second Monday in October, this year October 10, is recognized as Indigenous People's Day by a 2021 proclamation by the Federal Government, which, at the same time, recognized Columbus Day as a federal holiday along with recognition of the contributions of the Italian community. Many localities and states use this day, the second Monday in October, to recognize different groups and their contributions to their society.

## **Veterans Day**

Veterans Day commemorates the end of World War I, which occurred on the 11<sup>th</sup> hour of the 11<sup>th</sup> day of the 11<sup>th</sup> month in 1918. Veterans Day always occurs on November 11, regardless of the day of the week as the actual date is so significant.

World War I officially ended on June 28, 1919. However, the fighting ceased months earlier with an armistice between the Allied Nations and Germany on the "eleventh hour of the eleventh day of the eleventh month" of 1918. For this reason, November 11 was proclaimed as Armistice day by President Wilson in 1919 with the following words: "To us in America, the reflections of Armistice day will be filled with solemn pride in the heroism of those who died in the country's service and with gratitude for the victory, both because of the thing from which it has freed us and because of the opportunity it has given America to show her sympathy with peace and justice in the councils of the nations...."

On June 1, 1954, President Eisenhower changed the name to Veterans Day, to also recognize the end of World War II. Since then, there have been many more conflicts from the Korean war to the Vietnam war, the Persian Gulf war, Iraq (OIF) and Afghanistan (OEF).

This day is a day to honor all veterans from all wars whether it be with a silent nod or a simple thank you. Some service members feel it is their duty, their responsibility, and their job to protect and serve this great nation with no thanks needed. Others may appreciate the formal thank you. Please be mindful of the former as the latter can make some veterans uncomfortable.

This day is for us to honor our veterans for their patriotism, their love of this country and their willingness to serve and sacrifice for the common good. To this, we say thank you.

We have two Lab holidays, Thursday, November 24, and Friday, November 25, to celebrate Thanksgiving, a holiday for all but the turkeys that are sacrificed for our dining pleasure.

Since Christmas is on a Sunday this year, Monday, December 26, is the official Lab observance and is a Laboratory designated holiday.

## **Instrumentation at the Lab**

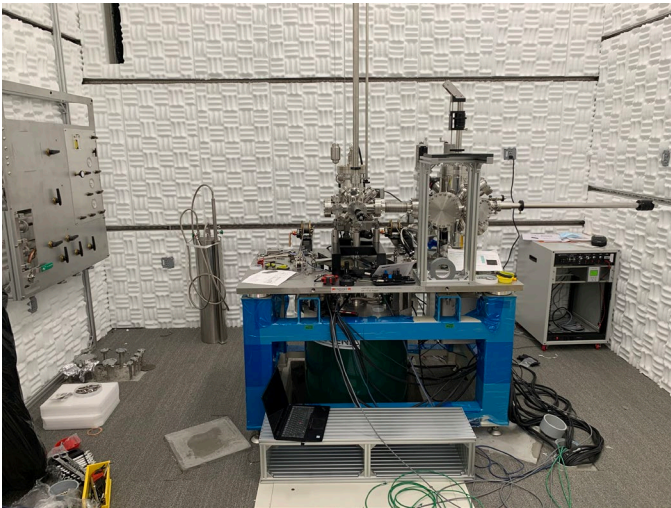
By Kazuhiro Fujita (CMPMSD)

What would you imagine when you hear the word "Microscope?" Many people might imagine a tool that can optically project an image of the object in a magnified fashion, typically taking the form of a monocular device. The spatial resolution of such an optical microscope is limited by the wavelength of the visible light such that the

smallest object one can image would be on the scale of a micrometer ( $\sim 10^{-6}\text{m}$ ). Unlike the 'conventional' microscope, we use a special type of microscope, the Spectroscopic Imaging Scanning Tunneling Microscope (SI-STM) that can resolve structure at the atomic scale ( $\sim 10^{-10}\text{m}$ ). The SI-STM utilizes a probe with an atomically sharp tip that is positioned very close to the surface of the sample that we would like to study but separated by a small thickness of vacuum. When the separation is on the order of a picometer, quantum mechanics allows electrons to tunnel between the tip and sample, and the tunneling is detected as an electrical current. The current is maximized when the wave functions of the tip and sample are spatially aligned. By rastering the probe tip across the sample surface and measuring the current at each position, we obtain a corrugated pattern that corresponds to an image of the atoms at the sample surface. This process is somewhat analogous to a visually impaired person using a fingertip to read Braille. In addition to imaging the surface atomic structure, the SI-STM can also project wavefunctions of the sample by doing spectroscopy – the probe tip is parked at a given location within the tunneling regime, and a voltage applied between the probe tip and sample is varied while the tunneling current is monitored. This provides a measure of the electron density at a given location. Again, by repeating these procedures, we can obtain a map of the electron densities of the sample (local density of states). The SI-STM technique provides the highest spatial resolution among microscope families and has been a very powerful tool to study quantum materials in the field of the condensed matter physics.

A new SI-STM recently arrived in our lab; a customized USM-1300 from the UNISOKU Co., Ltd. What is different from our other SI-STM? The scanning microscope head and sample holder are customized to have multiple independent electrodes such that we could apply a gate and/or source (drain) voltages to an artificial heterostructure, such as twisted bilayer graphene, which can now be made with the CFN's QPress (as discussed in the April newsletter). In this way, we can control the carrier density of the sample by systematically tuning the gate voltage. In addition, the new system is equipped with a He-3 fridge and superconducting magnet, so we can perform SI-STM measurements at 300 milli-Kelvin under the 11 Tesla external magnetic field. These capabilities enable us to study the electronic structure of quantum materials in a controlled manner under extreme conditions that few groups in the world can match.

The new SI-STM system has already been commissioned and our first sample is an Iron-based high temperature superconductor,  $\text{EuRbFe}_4\text{As}_4$ , in which magnetic order and superconductivity coexist. It is an excellent platform to simultaneously test the performance of the machine and explore new physics. In this compound, we have discovered a novel pair-density-wave state, a form of superconductivity in which the Cooper pairs have a finite center-of mass momentum.



**New SI-STM with the He-3 fridge and 11 Tesla superconducting magnet installed in the Ultra-Low Vibration lab in Bldg. 734.**

### From the DeepDive Survey

The results of the DeepDive survey that was carried out in early 2022 are in and various groups at the Lab and CultureIQ have been assessing the data. As a first step, Scott Young of CultureIQ shared results from the DeepDive survey with Brookhaven staff. The DeepDive survey is one of several designed to help improve the employee experience at Brookhaven. Lab Director Doon Gibbs and other leaders joined Young for Q&A with staff after the briefing. Please click on the link to play the video of the [DeepDive Survey Results Briefing](#).

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 pdf of the summary report can be found. Organizational Change Management Specialist Claudine Cangiano has been organizing meetings with groups of employees to facilitate discussions about the content of the DeepDive survey.

A New Working Group, comprised of some members of the previous working group along with new volunteers, has been assembled to review the data and comments received in EPSD from the DeepDive survey. The members of the New Working Group have been provided with the EPSD statistical data as well as the anonymous responses to the direct questions and multi-choice questions. These responses had been pre-screened by the DEI Council under the Peer Counsellor constraints, to remove identifying information and preserve anonymity.

The New Working Group has begun meeting. The Chair is [Cara Laasch](#) and she can be contacted if you have any concerns. We will be providing quarterly updates from the New Working Group here.

### Spotlight Award Winners

We would like to highlight the following EPSD Spotlight winners who received recognition for achievement in the second half of this fiscal year: Fernando Camino (CFN), Chang-Yong Nam (CFN), Dmytro Nykypanchuk (CFN), Yugang Zhang (CFN), Jerzy Sadowski (CFN), Lizette

Chinga (CFN), Kim Kisslinger (CFN), James Buddenhagen (CFN), Eileen Levine (CMPMSD), Arlene Rementer (CMPMSD), David Bock (IS), Sabrina Parrish (IS), Lei Wang (IS), Thomas Butcher (IS), Meng Yue (IS), Shan Yan (IS), Rebecca Trojanowski (IS), Stephen Sauter (NSLS-II), Robert DeMartinis (NSLS-II), Michael Seegitz (NSLS-II), Nathanael Maytan (NSLS-II), April Baum (NSLS-II), John Escallier (NSLS-II), Nancye Wright (NSLS-II), Brian Walsh (NSLS-II), Mercy Baez (NSLS-II), Daniel Migliorino (NSLS-II), Michael Marshall (NSLS-II), Raymond Edwards (NSLS-II), Jerome Malley, Jr. (NSLS-II), John Fabijanac (NSLS-II), Andrew Sauerwald (NSLS-II), Frank Lincoln (NSLS-II), Ryan O'Shea (NSLS-II), Bryan Marino (NSLS-II), James Stolfi (NSLS-II), Marco Musardo (NSLS-II), and Keith McDonald (NSLS-II).

### On the Move in EPSD

We welcome Stefano Giorgio, who joins NSLS-II from the Collider-Accelerator Division (C-AD) and Honghu Zhang, who joins NSLS-II from CFN.

### Best Wishes and Congratulations

Mark Hybertsen (CFN)-retired  
Lorraine Davis (CFN)-retired

### 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:

#### Shahbaz Ahmad, Postdoctoral Research Associate/Fellow

**Supervisor:** Javier Concepcion  
**Email:** [sahmad@bnl.gov](mailto:sahmad@bnl.gov)

**Start Date:** 8/22/2022  
**Aswin Kumar Anbalagan, Postdoctoral Research Associate/Fellow**

**Supervisor:** Andrew Walter  
**Email:** [aanbalaga1@bnl.gov](mailto:aanbalaga1@bnl.gov)  
**Start Date:** 9/12/2022

**Preferred Pronoun:** He/him  
**Interests:** Playing/watching football, hiking, volleyball and listening to music.



#### Christian Atariguana, Engineering

**Supervisor:** Derek Pulis  
**Email:** [catarigua@bnl.gov](mailto:catarigua@bnl.gov)  
**Start Date:** 8/1/2022

**Preferred Pronoun:** He/him  
**Interests:** Playing volleyball, soccer and video games with friends. Traveling with fiancée and spending quality time with family and friends.



#### Cody Carr, Postdoctoral Research Associate/Fellow

**Supervisor:** David Grills  
**Email:** [ccarr@bnl.gov](mailto:ccarr@bnl.gov)  
**Start Date:** 9/6/2022

**Preferred Pronoun:** He/him/his  
**Interests:** Leisure outdoor activities such as hiking and snowboarding.



**Michael Charumaneeroj, Engineering**

Supervisor: Derek Pulis  
Email: [mcharuman1@bnl.gov](mailto:mcharuman1@bnl.gov)  
Start Date: 8/1/2022

**Hiren Dave, Engineering**

Supervisor: Derek Pulis  
Email: [hdave@bnl.gov](mailto:hdave@bnl.gov)  
Start Date: 8/22/2022

**Rupali Deokar, Postdoctoral Research Associate/  
Fellow**

Supervisor: Andrew Cook  
Email: [rdeokar@bnl.gov](mailto:rdeokar@bnl.gov)  
Start Date: 7/18/2022

**Marcelo Ferreira, Scientific Staff**

Supervisor: Rob Todd  
Email: [mjuniferr1@bnl.gov](mailto:mjuniferr1@bnl.gov)  
Start Date: 7/21/2022

**John Gordon, Chair, Chemistry Division**

Supervisor: Alex Harris  
Email: [jgordon1@bnl.gov](mailto:jgordon1@bnl.gov)  
Start Date: 9/12/2022



Preferred Pronoun: He/him  
Interests: Soccer, golf, college football and mentoring.

**Erwei Huang, Postdoctoral Research  
Associate/  
Fellow**

Supervisor: Jingguang Chen  
Email: [ehuang@bnl.gov](mailto:ehuang@bnl.gov)  
Start Date: 9/6/2022



Preferred Pronoun: He/him/his  
Interests: Badminton, hiking and meditation.

**Hyeong Jin Kim, Postdoctoral Research Associate/  
Fellow**

Supervisor: Yugang Zhang  
Email: [hkim3@bnl.gov](mailto:hkim3@bnl.gov)  
Start Date: 7/25/2022

**Lazar Kish, Postdoctoral Research  
Associate/Fellow**

Supervisor: Igor Zaliznyak  
Email: [lkish@bnl.gov](mailto:lkish@bnl.gov)  
Start Date: 9/6/2022



Preferred Pronoun: He/him  
Interests: Outdoor activities (hiking and sports).

**Marton Kalman Lajer, Postdoctoral Research  
Associate/Fellow**

Supervisor: Robert Konik/Alexei Tselik  
Email: [mlajer@bnl.gov](mailto:mlajer@bnl.gov)  
Start Date: 9/6/2022

**Hojoon Lim, Postdoctoral Research Associate/Fellow**

Supervisor: Ira Waluyo  
Email: [hlim1@bnl.gov](mailto:hlim1@bnl.gov)  
Start Date: 9/1/2022

**Rajesh Malla, Postdoctoral Research Associate/  
Fellow**

Supervisor: Robert Konik  
Email: [rmalla@bnl.gov](mailto:rmalla@bnl.gov)  
Start Date: 8/15/2022

**Sara Mason, Scientific Staff**

Supervisor: Charles Black  
Email: [s.e.mason79@gmail.com](mailto:s.e.mason79@gmail.com)  
Start Date: 9/26/2022



Preferred Pronoun: She/her/hers;  
They/them/theirs

Interests: Biking, hiking, lifting weights at gym, visiting parks, libraries and museums together as a family.

**George Muniz, Technical**

Supervisor: Emil Zitvogel  
Email: [gmuniz@bnl.gov](mailto:gmuniz@bnl.gov)  
Start Date: 7/18/2022

**Tharanga Nanayakkara, Postdoctoral Research  
Associate/Fellow**

Supervisor: Mingzhao Liu  
Email: [tnanayakk@bnl.gov](mailto:tnanayakk@bnl.gov)  
Start Date: 8/29/2022

**Ajith Pattammattel, Scientific Staff**

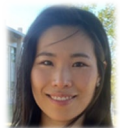
Supervisor: Yong Chu  
Email: [pattammattel@bnl.gov](mailto:pattammattel@bnl.gov)  
Start Date: 8/15/2022

**Kevin Rollett, Postdoctoral Research Associate/  
Fellow**

Supervisor: Martin Fuchs  
Email: [krollett1@bnl.gov](mailto:krollett1@bnl.gov)  
Start Date: 8/29/2022

**Ellie Hee Ryoo, Administrative**

Supervisor: Rachel Lopez  
Email: [ryeo@bnl.gov](mailto:ryeo@bnl.gov)  
Start Date: 8/15/2022  
Preferred Pronoun: She/her/hers



**Venkateswaran Shekar, Information Technology**

Supervisor: Stuart Campbell  
Email: [vshekar1@bnl.gov](mailto:vshekar1@bnl.gov)  
Start Date: 8/1/2022

**Minghao Song, Postdoctoral Research Associate/  
Fellow**

Supervisor: Timur Shaftan  
Email: [msong1@bnl.gov](mailto:msong1@bnl.gov)  
Start Date: 7/5/2022

**Sha Tan, Postdoctoral Research Associate  
Fellow**

Supervisor: Enyuan Hu  
Email: [shatan@bnl.gov](mailto:shatan@bnl.gov)  
Start Date: 9/6/2022  
Preferred Pronoun: She/her  
Interests: Cooking, baking and hiking.

**Nghia Vo, Scientific Staff**

Supervisor: Michael Drakopoulos  
Email: [nvo@bnl.gov](mailto:nvo@bnl.gov)  
Start Date: 7/5/2022



Preferred Pronoun: He/him

Interests: Algorithm development, tomography, X-ray phase contrast imaging, tennis, and fingerstyle guitar.

**Nan Wang, Postdoctoral Research Associate/Fellow**

**Supervisor:** Enyuan Hu

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**Start Date:** 8/15/2022

**Zongheng Wang, Postdoctoral Research Associate/  
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**Start Date:** 9/26/2022

**Preferred Pronoun:** He/his

**Interests:** I like to hit the gym, hike and play sports like volleyball, basketball, badminton and tennis. I'm also interested in learning to play instruments like the piano. Traveling is one of my favorites. I'm looking forward to making new friends here!

**Judith Yang, Scientific Staff**

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**Start Date:** 9/12/2022

**Preferred Pronoun:** She/her/hers



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Michael Cowell, Kenneth Evans-Lutterodt, Betsy Hanson,  
Vivian Stojanoff, John Tranquada, and Grace Webster.



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