



Welcome from the Fermilab Users Executive Committee

Ashley Back on behalf of UEC
54th Annual Users (Virtual) Meeting
2nd August 2021

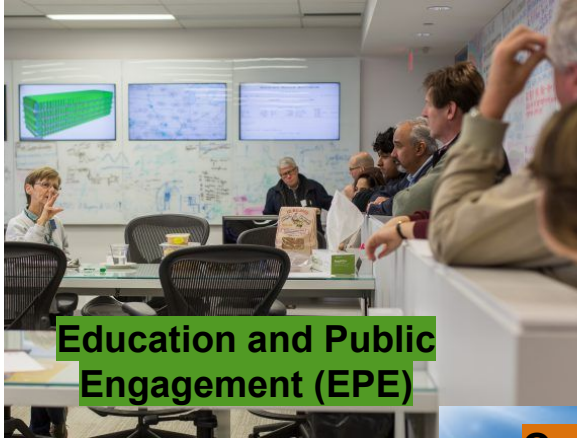
What is Fermilab UEC?

- The Users Executive Committee is elected by and represents Fermilab's user community.
- Its purpose is to provide **a forum for discussion** of scientific and administrative matters relevant to the organization and functions of the Laboratory.
- We act as an advocate for you (Users and the wider Fermilab community).
- Submit feedback at any time through the [UEC feedback form](#)!
- See uec.fnal.gov for more details.



UEC 2020-2021. From top left: Ashley Back, Nadja Strobbe, Alexx Perloff, Aleena Rafique, Yuanyuan Zhang, Ketino Kaadze, Monica Nunes, Reddy Pratap Gandrajula, Sophie Middleton and Jonathan Asaadi, and FSPA officer Anna Hall. Not pictured: Manolis Kargiantoulakis and Isobel Ojalvo

UEC subcommittees



Supports and Fermilab's education and public engagement efforts; including mentoring and other Equity, Diversity, and Inclusion programs.



Organizes annual HEP advocacy efforts to connect with congressional offices.



Oversees the living and work environment for all of Fermilab's Users and responds to feedback submitted to UEC.



Organizes the Annual Users Meeting.

Who are we?



Jonathan Asaadi



Ashley Back
UEC Chair 2020/21



Reddy Pratap Gandrajula
UM Chair, QoL, EPE



Ketino Kaadze
GovRel Chair



Manolis Kargiantoulakis
EPE Chair, UM



Sophie Middleton
UM Deputy



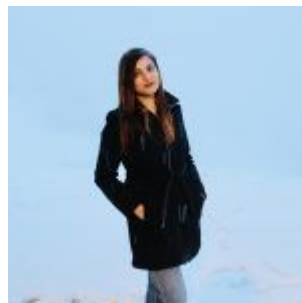
Monica Nunes
UM, EPE



Isobel Ojalvo



Alexx Perloff
EPE Deputy, UM, QoL
Secretary & Webmaster



Aleena Rafique
QoL Deputy



Nadja Strobbe
GovRel Deputy



Yuanyuan Zhang
QoL Chair

UEC Virtual Meet & Greet

- First ever virtual Meet & Greet back in January.
- Attendance was a little lower than normal, but each subcommittee still received some useful feedback.
- The 2020-2022 UEC members were also announced in a [Fermilab News article](#).



Welcome to the UEC Meet and Greet!

You will automatically be entered into the **raffle** if you complete either of the following (before 4:30 pm CST):

- Ask a **question** to (or otherwise interact with) one of our UEC or FSPA members.
- Submit at least one response via any of the four **feedback form** links. The forms can all be submitted anonymously, but if you are comfortable providing your name and email in the form, we will add you to the draw.

UEC and FSPA members will add you to the draw and so the final decision on whether you have met the requirements rests with them. You can see the live **raffle wheel** at any time in the **Raffle breakout room** to make sure you have been entered once.

You can **interact with the UEC members** in the Breakout Rooms and/or through the Feedback Forms. The links for the **Feedback forms** can be found in the chat of each Breakout room or on the right side of the screen.

Visit each subcommittee or chat with colleagues in one of the Breakout Rooms:

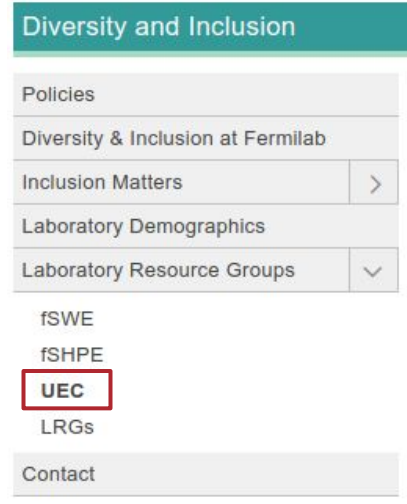
This is an example! There are more room available today!



Highlights from EPE

One of the ongoing goals of our EPE subcommittee is to form a better connection with the Office of Equity, Diversity, and Inclusion (EDI).

- Connected our UEC site and resources alongside the LRG list, to increase awareness of our presence.
- In turn, we hope to leverage the resources we have to further the EDI mission and help LRGs.
- Receive the emails sent to LRGs → can then disseminate within our communities.
- Promote volunteering, mentoring and other opportunities through our new outreach-mentoring@fnal.gov mailing list.



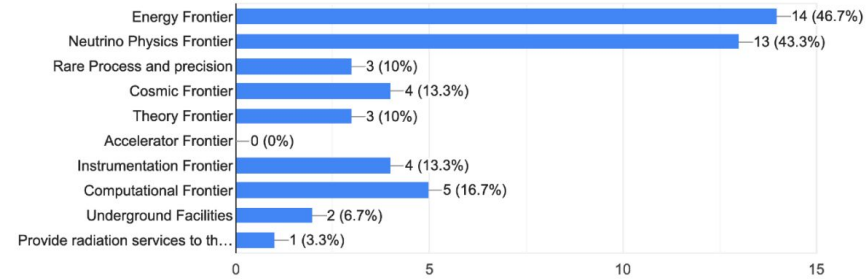
2021 virtual DC “trip”

Like last year we had a virtual “trip”, meeting with congressional offices remotely.

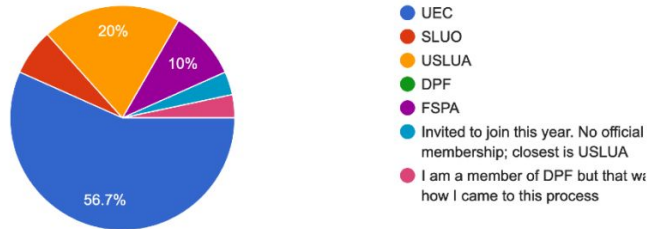
This year's HEP advocacy effort had **over 70 participants**, including delegates from US LUA, SLUO and APS DPF, who organize the effort alongside UEC.



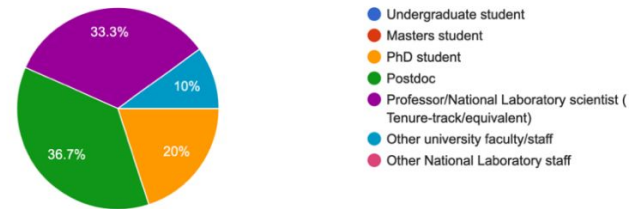
Which research areas are you affiliated with? (Check all that apply; these are borrowed from the Snowmass 2021 categorization)
30 responses



Organization
30 responses



Please select your career level
30 responses



Key statistics for the DC “trip”

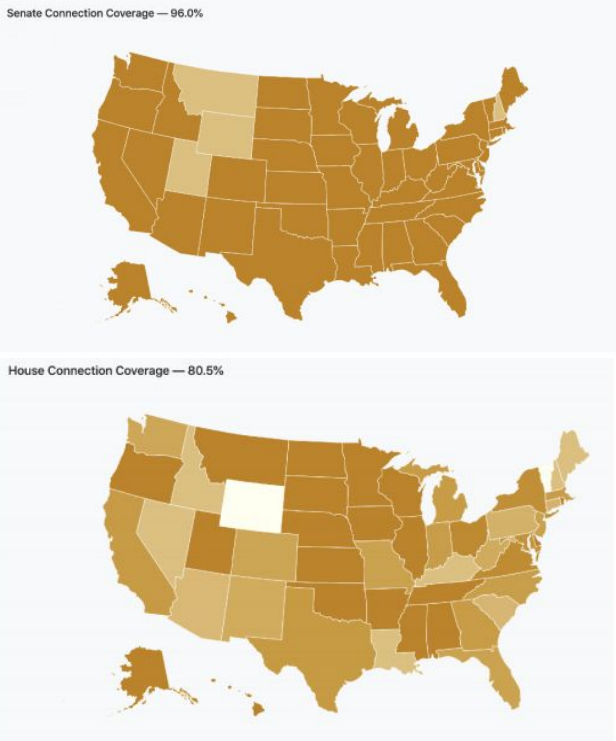
2021 Advocacy effort status:

- Scheduled/met with 298/537 offices (55%). *Met with 56% during 2020 virtual advocacy.*
 - Most meetings were on Zoom this year.
- Packets delivered to 328/537 offices (61%). *Delivered to 65% during 2020 virtual advocacy.*
 - Packets were delivered by email.

On the whole offices seemed responsive and receptive to our message - many meetings lasted 30 minutes or more.



Office coverage from connections.



Our message to Congress

We contact Congress to deliver a **clear and concise message**:

- We represent over 6000 scientists from over 180 institutions across the country working on **exciting science**.
- As a community, we are **well focused** with a **clear plan** outlined in the **P5 report**
- We are succeeding at implementing this plan, making optimal use of the funds given to us, by staying **on time and on budget**.
- The science that we perform **uniquely trains the future innovators of the world**, both in academia and the broader economy.
 - Our science is important to the United States.
 - We drive tomorrow's innovations.



Our materials

The Ask

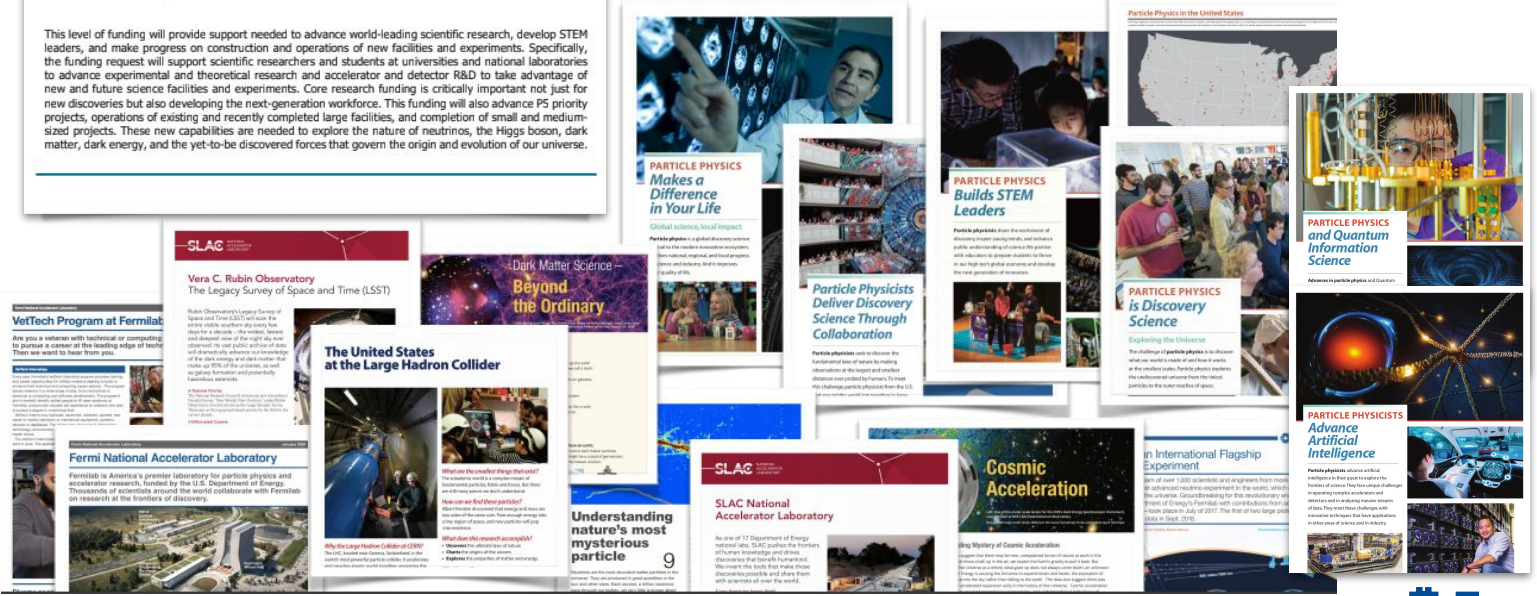


The U.S. particle physics community asks for your support in advancing P5 priorities by passing FY 2022 appropriations that include:

- At least \$1180M for High Energy Physics within the Department of Energy's Office of Science including at least \$320M for core research
- At least \$10B for the National Science Foundation

This level of funding will provide support needed to advance world-leading scientific research, develop STEM leaders, and make progress on construction and operations of new facilities and experiments. Specifically, the funding request will support scientific researchers and students at universities and national laboratories to advance experimental and theoretical research and accelerator and detector R&D to take advantage of new and future science facilities and experiments. Core research funding is critically important not just for new discoveries but also developing the next-generation workforce. This funding will also advance P5 priority projects, operations of existing and recently completed large facilities, and completion of small and medium-sized projects. These new capabilities are needed to explore the nature of neutrinos, the Higgs boson, dark matter, dark energy, and the yet-to-be discovered forces that govern the origin and evolution of our universe.

Michael Cooke (DOE) coordinated a group of community stakeholders to develop materials for public engagement: hosted at usparticlephysics.org.



New materials: Quantum Information Science

Particle Physics and QIS are tightly connected:

Physicists bring ideas, technologies, expertise to construct sophisticated, large-scale instruments. QIS offers solutions to our fundamental problems (interactions of quarks, birth & death of BH, etc).

Particle Physicists have constructed world's largest superconducting systems or developed superconducting quantum sensors to search for DM. Superconducting cavities maintained qubits for world-record times (secs.)

QIS Research centers already benefit from expertise and workforce in our field!

PARTICLE PHYSICS and Quantum Information Science

Advances in particle physics and Quantum Information Science (QIS) are tightly connected. The launch of the National Quantum Initiative signals the importance of QIS to the nation's cybersecurity and economic competitiveness. Particle physicists bring to this effort specific technologies, new ideas and the ability to construct sophisticated, large-scale instruments. QIS, in return, offers solutions to fundamental problems in our science, from the interactions of quarks to the birth and death of black holes.

The Promise of QIS

A quantum bit (qubit) extends the simple computer 1 or 0 using the relations of quantum coherence found in atomic physics. These relations allow qubits to carry more information and to process information more powerfully. However, qubits are fragile and short-lived.

By its nature, particle physics deals with quantum coherence at the particle level. We **develop and improve tools** to detect single electrons and photons.

In 2020, we and our partners achieved the **high-fidelity teleportation** of light-particle qubits over a distance of 27 miles using sensors originally developed for cosmological observations.

Particle physicists and collaborators from other fields are **introducing unique approaches** inspired by particle physics applications to help advance QIS.

Figure 1: The fundamental domain of information for a quantum computer.

Figure 2: High-fidelity quantum teleportation in a quantum network.

Figure 3: Fiber optic cables connect off-the-shelf devices and state-of-the-art quantum devices.

The quantum sensor will rely on the ideas of quantum mechanics to control and extract information.

Connections with EDI and Snowmass

Equity, diversity, and inclusion are very important values for our community. Some offices could have views that strongly conflict with the views of our trip participants could feel, such that they feel uncomfortable meeting those offices.

All participants should be able to participate in the trip in a safe and dignified manner, so we ensured everyone was aware they could refuse or accept a meeting without judgment by other trip attendees. And that, the acceptance (refusal) of a meeting would not be taken as a tacit agreement (disagreement) with the ideology or behavior of a given congressional office.

These meetings are also opportunities to share the importance of these within values in our community. We were able to include some **statements of our values** in the material and hope to include more next year.

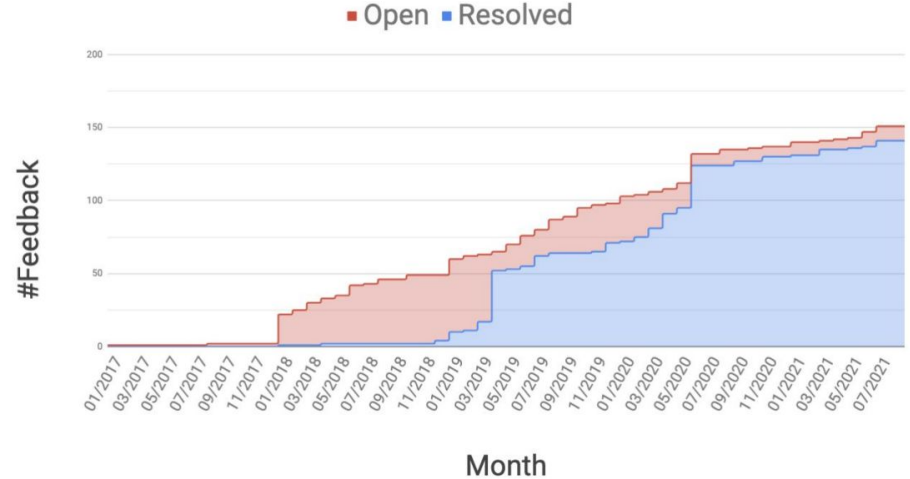
We have also been working closely with CEF06 - Public Policy & Government Engagement on how what we have learnt can improve future advocacy.

Highlights from QoL

The QoL Subcommittee continues to work diligently resolving feedback items submitted by the community.

- A lot of recent feedback has been focused on lab re-opening plans, badging and rent increases in the village.
- Our “Spotlight on the Community” panel (on Thursday), hosted by the QoL subcommittee, will touch on lab re-opening and badging.
- There will be a Village Town Hall Meeting to answer question on rental rate increases on Wednesday, August 11th at Noon.
 - Please submit questions by end of business Monday, August 9th by using this [google form](#).

UEC Feedback



Summary of feedback submitted via uec-feedback@fnal.gov or through the [Feedback Form](#). The blue cumulative histogram shows feedback entries resolved by the QoL team.

How to join UEC?

- UEC members serve a two-year term with six new members starting in Sept/Oct each year.
- We will be sending out a call for nominations by the end of this week.
- You need to collect 10 digital signatures and return your nomination form to usersoffice@fnal.gov.
- Once we have closed the nomination period, the election will be open for at least two weeks.

FERMILAB USERS EXECUTIVE COMMITTEE Nomination Form 2020-2022

The undersigned members of the Fermilab Users Organization nominate

NAME:

SIGNATURE:

EMAIL:

INSTITUTION/PROJECT:

for membership on the Users Executive Committee. The nominee has indicated a willingness to serve as indicated by signature. This form should be received to the Users Office (via email usersoffice@fnal.gov) **no later than 3 pm CT on Friday, September 11, 2020.**

NAME:

SIGNATURE:

1.) _____

2.) _____

3.) _____

54th Annual Users Meeting



54th Fermilab Users (Virtual) Meeting
New Horizons of Our Community
August 2 - 6, 2021

Highlight leading-edge science, celebrate Fermilab's achievements and look to our future as a community

Dynamic keynote address • Exciting talks • Future of HEP by Snowmass panel
Fun virtual poster session • Conversations on equity, diversity and inclusion

ALL community members (including non-Users) are welcome!
Please register as soon as possible at:

<https://indico.fnal.gov/e/UAM2021>

Welcome from the UEC, we hope you enjoy the week!

Extra slides...

Dear colleague letters

- NSF:
 - Senate 41 (FY21 - 40)
 - House 155 (FY21 -177)

The Honorable Marcy Kaptur
Chairwoman
Energy and Water Development
House Appropriations Committee
H-305, U.S. Capitol
Washington, DC 20515

The Honorable Mike Simpson
Ranking Member
Energy and Water Development
House Appropriations Committee
1016 Longworth House Office Building
Washington, DC 20515

United States Senate

WASHINGTON, DC 20510

[[DATE]]

Senator Dianne Feinstein
Chairman
Subcommittee on Energy and Water
Development
Senate Committee on Appropriations
188 Dirksen Senate Office Building
Washington, DC 20510

Senator John Kennedy
Ranking Member

Congress of the United States Washington, DC 20515

April XX, 2021

Dear Chairman Feinstein and Ranking Member Kennedy:

United States Senate

June 16, 2021

The Honorable Jeanne Shaheen
Chair
Subcommittee on Commerce, Justice,
Science, and Related Agencies
U.S. Senate Committee on Appropriations
Washington, D.C. 20510

The Honorable Jerry Moran
Ranking Member
Subcommittee on Commerce, Justice,
Science, and Related Agencies
U.S. Senate Committee on Appropriations
Washington, D.C. 20510

Dear Chair Shaheen and Ranking Member Moran:

We write to respectfully request that the National Science Foundation (NSF) receive an appropriation of at least **\$10.2 billion** in the Fiscal Year (FY) 2022 Commerce, Justice, Science, and Related Agencies Appropriations bill.

The NSF is an independent federal agency created by Congress to promote the progress of science, secure the national defense, and advance the nation's health, prosperity, and welfare. It is also the only federal research agency that supports fundamental research in these important fields – biology, computer science, economics, engineering, educational research, geosciences, mathematics, and social and behavioral sciences. The scientific research and educational programs supported by NSF are integral to the continued success of America's innovation enterprise.

Member Simpson:

In the FY22 Energy and Water Appropriations bill, we write to express our strong support for the Department of Energy (DOE) Office of Science.

The Office of Science has demonstrated tremendous value for the country in helping to lead the Office of Science played a critical role in our nation's response to the COVID-19 pandemic. Interdisciplinary teams from DOE national laboratories, industry, and academia have developed and deployed a variety of antivirals, provide support to Federal, state and local decision-makers, and

The Honorable Robert B. Aderholt
Ranking Member
Subcommittee on Commerce, Justice,
Science, and Related Agencies
1036 Longworth House Office Building
Washington, D.C. 20515

Ranking Member Aderholt:

The NSF receives funding from the National Science Foundation (NSF) receive an appropriation of at least \$10.2 billion in the Fiscal Year (FY) 2022 Commerce, Justice, Science, and Related Agencies Appropriations bill.

The NSF is an independent federal agency created by Congress to promote the progress of science, secure the national defense, and advance the nation's health, prosperity, and welfare. It is also the only federal research agency that supports fundamental research in these important fields – biology, computer science, economics, engineering, educational research, geosciences, mathematics, and social and behavioral sciences. The scientific research and educational programs supported by NSF are integral to the continued success of America's innovation enterprise.