

FSPA

Fermilab Student &
Postdoc Association

FSPA Report & Updates

[Mike Wallbank](#), for the Fermilab Student & Postdoc Association Officers
53rd Annual Fermilab Users' Meeting
8/13/2020

- **F**orm deeper connections between early career researchers.
- **S**hare cultural events and activities from various backgrounds.
- **P**rovide support to the community of early career researchers at Fermilab.
- **A**ct as liaison between students and postdocs and the Fermilab directorate.

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- fspa.fnal.gov

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FSPA

Who are we?

The Fermilab Student & Postdoc Association (FSPA) represents the community of early career researchers at Fermilab, including all students, postdocs, summer students, and interns.

What do we do?

We organize events throughout the year, including the New Perspectives conference and annual Fermilab vs. Argonne Soccer Match, and cosponsor many smaller social events designed to engage the community of students, postdocs, and other early career researchers local to Fermilab. FSPA also acts as custodian of long-lived documents, such as the Fermilab Guide to Life, and provides resources via the FSPA webpages.

And, we're a great resource that's available to you if you've got any questions or problems while you're at Fermilab. **If you have any questions for the officers feel free to send an email to fspa_officers@fnal.gov.**

Be sure to subscribe to our mailing list, fnalgrad@fnal.gov, by following [this link](#). Also, like us on [Facebook](#), to keep up to date on all of the goings on this year!

The FSPA mission

Each year, a core group of democratically elected officers oversees the utilization of funds allocated to FSPA by the Fermi Research Alliance (FRA), via the Fermilab Directorate, towards the accomplishment of two key aspects of the FSPA mission:



2019-20 FSPA officers. Left to right: Maria Martinez-Casales, Richie Diurba, Abhliash Dombara Yallappa, Luke Pickering, Mike Wallbank, Samantha Sword-Fehlberg.

FSPA Officers

- **FSPA** is led by 6 officers democratically elected by the student and postdoc community each September.
 - 5 new officers join one remaining member to provide continuity.
- L-R: María Martínez-Casales (S), Richie Diurba (S), Abhilash Yallappa Dombara (S), Luke Pickering (P), Mike Wallbank (P), Samantha Sword-Fehlberg (S).

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Fermilab Student & Postdoc Association



Our Mission

- **Support the community of students, postdocs and other early-career researchers at Fermilab by providing a variety of professional and social resources and events, including:**
 - Organizing the New Perspectives conference, a unique meeting for early-career researchers;
 - Promoting a sense of community within our members through regular social events;
 - Holding regular professional development activities, such as career workshops;
 - Engage in and encourage conversation in important Equity, Diversity & Inclusion and social issues.
- **Act as a liaison between the early-career research community and the Fermilab directorate.**
- The FSPA Officers oversee the utilization of funds allocated to FSPA by the Fermi Research Alliance (FRA), via the Fermilab Directorate, to support this mission.

Social Activities

Halloween
11/1/2019



Lunar New Year Photos!



Lunar New Year
1/24/2020

(before social distancing!)

Social Activities

*Not possible this year 😞

- **Holiday Party**
- **Thanksgiving Pot-Luck** (in association with Global Services)
- ***Spring Pot-Luck** (in association with Global Services)
- ***Badminton Tournament** (in association with Badminton Group/Wellness Office)
- ***Soccer Tournaments**
- ***Brazilian BBQ**
- ***Annual FNAL/ANL Soccer Match** (in association with Soccer Group)



Community Development

- Continued our Diversity, Equity & Inclusion and Careers events after a successful couple of years of programming.
- Work in close collaboration with Fermilab's Diversity & Inclusion Office.

Physics and Disability: Supporting the Variety of Peoples' Needs, Abilities, and Interests
Presented by Jackie Chini and Erin Scanlon
University of Central Florida

Inclusion Matters:
Unpacking Bias. Building Inclusion.

All people inherently vary in terms of their needs, abilities, and interests. However, previous research indicated that physicists receive little training about supporting people with disabilities, physics curricular materials are not designed to support students with disabilities, and STEM professionals hold more negative views about people with disabilities than their peers in other academic disciplines. In this talk, we will discuss ableism in the academy and STEM community, theories of disability, disability in physics, and mechanisms, tools, and considerations to plan for variation in peoples' needs, abilities, and interests.



Jackie Chini (she/her) was recently promoted to Associate Professor in the Physics Department at the University of Central Florida. She earned a bachelor's degree in physics from Drew University and a Ph.D. in physics from Kansas State University. She has been PI on four National Science Foundation awards, including a CAREER award. Her research focuses on how to make the physics community and STEM teaching and learning more inclusive.



Erin Scanlon (she/her) is currently a preeminent postdoctoral scholar in the physics department at the University of Central Florida and will be starting a faculty position at University of Connecticut in the fall. She earned her bachelor's degree in physics from Michigan Tech, her master's degree in physics from Georgia Tech, and her PhD in developmental education with a specialization in mathematics from Texas State. She is currently researching 1) how institutions across the country implement SCALE-UP style teaching in their physics courses and 2) how the STEM community is and can better support people with disabilities.

FSPA June 15th, 12 pm – 1pm CST
Zoom Connection [Here](#)



Crucial Conversations



Mary Beth Stevens

This presentation distills volumes of research into communication strategies that:

- are immediately applicable in personal and professional life,
- focus on creating interpersonal safety for problem-solving conversations,
- and aim to modify the stories we tell about conflict and each other.

 **Monday Aug 3rd**  **12:00 → 13:15 pm Central Time**

 **Zoom**



Mary Beth Stevens has over 25 years' experience in crisis response and conflict resolution, including 19 years as organizational ombuds in a 10,000-person national laboratory.

Her educational background in psychology has been made practical by her work as an ombuds, mediator, critical incident debriefer and facilitator of trauma survivor groups. She regularly provides training on conflict resolution, communications and negotiations skills and is certified by the National Council for Behavioral Health as a Mental Health First Aid instructor.

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Community Development

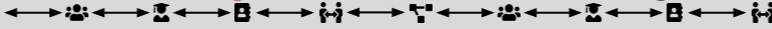
- Focussed a lot on various careers events this year to support our community (and more to come).
- All recordings from the talks are available on our website.

```
=====  
GitHub and Software Best Practices  
=====  
talk_notification: {  
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    "An overview of Github tools and best practices for software development and deployment",  
    "A summary of what interviewers look for when reviewing Github pages"  
  ]  
  
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  presenter: {  
    name: "Marco Mambelli, PhD"  
    job_title: "Application Developer and System Analyst"  
    place_of_work: "@local::FNAL.ScientificComputingDivision"  
    bio: "Marco is the project and technical lead of GlideinWMS, a tool used to provision the computing resources for CMS and most Fermilab experiments. Before that, he worked on the design and development of other distributed software projects at Fermilab and the University of Chicago."  
  }  
}
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Networking in the Social Distancing Era





Patricia Rankin


“Times are uncertain now, but networking will always be useful!”


Discussions on remote networking adaptations:

- 🗋️ How can we replicate the conversations held during coffee breaks or evening meals?
- 🗋️ Might the new versions of how we meet level the playing field?
- 🗋️ Is it more or less difficult to make a connection in a zoom meeting than in person?


 **Friday**
May 8th

 **11:30→1:00 pm**
Central Time

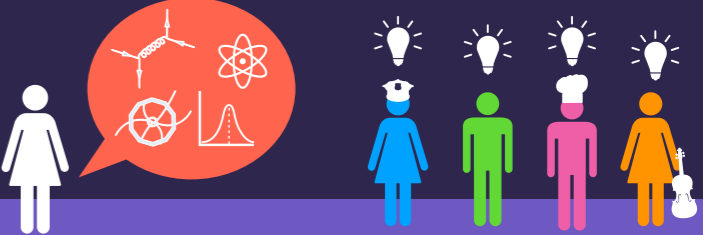
 **Zoom**

 **Patricia Rankin:**
Professor of Physics
University of Colorado


- Program Officer National Science Foundation
- Associate Dean for Natural Sciences CU Boulder
- Associate Vice Chancellor for Research at CU Boulder
- Chaired the APS Committee on the **Status of Women in Physics**
- Co-authored a Review for the Sasakawa Peace Foundation: **Representation of Women in Science and Engineering**



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Communicating Your Science



Nicole Lloyd Ronning
Los Alamos National Laboratory

Learn to communicate science effectively to a wide variety of audiences - from experts in the field to those with little or no background. We'll discuss the importance of great data visualization approaches and key factors to keep in mind when giving a talk, no matter who the audience.

 **May 22nd**
12-1 pm CST

 **Zoom**

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Community Development

- Recently launched 'FSPA For Change' to encourage the community to have conversations about anti-racism and what we, as future leaders of the field, can do to improve representation.
- Held FSPA Action Month, providing daily resources for reflection and encouraged discussion.
 - Aimed to begin conversations within our community and develop self-education and awareness habits.
- Intend to continue the effort to ensure we continue to move forwards.
- See our website and #fspa-for-change on Fermilab Users Slack.

FSPA
for change

New Perspectives

- Unique conference — organized by early-career researchers, for early-career researchers.
 - Two days of talks in a relaxed, friendly environment, with the levels pitched to all attendees.
- NP-July was extremely successful as an online-only iteration this year; thanks to all who made it such a success:
 - 48 speakers, 198 registrants, 139 unique connections.
 - Continued our strong community focus by ensuring we still had time for socializing (but via virtual trivia instead of the traditional BBQ).
- Even more popular in these times of virtual conferences!
 - >90 abstracts for ~44 slots.
 - So, for this year, we have...



| | | |
|-------|--|--------------------------|
| | Welcome | Dr Luke Pickering et al. |
| 09:00 | The CMS muon upgrade in preparation of the HL-LHC | Mr Aashaq Shah |
| | Search for pair production of top squarks decaying to... | Joshua Hillbrand |
| | Search for a Light Pseudoscalar Higgs Boson with Booste... | Grace Haza |
| | Event Generation with GPUs | Joshua Isaacson |
| 10:00 | Benchmarking New Hardware For Machine Learning In... | Stefano Vergani |
| | Monday Morning Break | |
| | The future of DUNE in 10 minutes. | Miquel Nebot Guinot |
| 11:00 | Measuring electron drift-velocity in ProtoDUNE-SP usin... | Mr Ajib Paudel |
| | The future of ANNIE in 10 minutes | Michael Nieslony |
| | First Neutron Capture Results in ANNIE | Dr Leon Pickard |
| | SBND In 10 Minutes | Dominic Barker |
| 12:00 | Solving the Sterile Neutrino Puzzle with ICARUS | Justin Mueller |
| | Monday Midday Break | |
| | | 12:15 - 13:00 |
| 13:00 | The SENSEI Experiment: An Ultrasensitive Search ... | Mr Mariano Cababie |
| | NEXUS@FNAL Status and Plans | Nicholas Mast |
| | Tuning the axion radio with Axion Dark Matter eXp... | Rakshya Khatiwada |
| | The DarkSide-20k Experiment in 10 Minutes | Michael Poehlmann |
| 14:00 | Constraints on Dark Matter Microphysics from Dwarf G... | Ethan Nadler |
| | Monday Afternoon Break 1 | |
| | Why I'm excited about working in Computing Divi... | Marianette Wospakrik |
| 15:00 | OASIS: Optimal Analysis-Specific Importance S... | Prasanth Shyamsundar |
| | Simulating high-energy physics on a quantum computer | Andy C. Y. Li |
| | Quantum simulation of phase transition in the early universe | Yingying Li |
| | Monday Afternoon Break 2 | |
| 16:00 | LArIAT in 12+3 Minutes | Matthew King |
| | MINERvA in 10 minutes! | Gian Caceres Vera |
| | Neutrons in MINERvA's Nuclear Targets | Mr Andrew Olivier |
| 17:00 | GENIE Event Generator Implementation of Total In... | Joshua Barrow et al. |

| | | |
|-------|--|--------------------------------|
| 09:00 | NOVA in 10 minutes | Andrey Sheshukov |
| | NOVA central value tuning and uncertainties for the hN F... | Michael Dolce |
| | Why I'm excited about working on DAMIC-M in 1... | Giorgos Papadopoulos |
| | Direct dark matter detection with SuperCDMS detector... | Matthew Wilson |
| 10:00 | SBC's 10 kg Argon Bubble Chambers for Dark M... | Matthew Bressler et al. |
| | Nuclear Structure Physics in Coherent Elastic Neutr... | Dr Vishvas Pandey |
| | Tuesday Morning Break | |
| 11:00 | Neutrino quantum decoherence at current an... | Christoph Andreas Ternes |
| | The future of the Fermilab Accelerator Divi... | Don Athula Wickremasinghe |
| | Magnetized Electron Beams | Aaron Fetterman |
| | IntelliQuench: real-time prediction of magnet quenches in s... | Duc Hoang |
| 12:00 | Neutrino Flux Analysis and Monitoring for Power Im... | Nilay Bostan et al. |
| | Tuesday Midday Break | |
| | | 12:15 - 13:00 |
| 13:00 | Status of the Mu2e crystal calorimeter | Daniele Paesani |
| | Universality in RMC for Mu2e | Ryan Plestid |
| | Past, Present, and Future of Muon g-2 | Joshua Labounty |
| | Why I am excited to work on SpinQuest in 10 minutes | Noah Wuerfel |
| 14:00 | Probing dark sectors with the SpinQuest e... | Cristina Ana Mantilla Suarez |
| | Tuesday Afternoon Break 1 | |
| | LSST in 10 minutes | Francisco javier Sanchez Iopez |
| 15:00 | Identifying High-Redshift Galaxy Mergers with Domain ... | Sydney Jenkins |
| | Searching for Ultra-Faint Milky Way Satellites with the D... | William Cerny |
| | Exploring the Cosmos from the Bottom of the Earth | Sasha Rahlin |
| | Tuesday Afternoon Break 2 | |
| 16:00 | Five Years of MicroBooNE and Beyond in Ten Minutes | Lauren Yates |
| | MicroBooNE's Search for a Photon-Like Low Energy... | Kathryn Sutton |
| | Toward a differential measurement of the electron neutrino... | Katrina Miller |
| 17:00 | First Measurement of Differential Charged Cu... | Ms Afroditi Papadopolou |
| | Closing remarks | Maria Martinez-Casales |

New Perspectives 2.0!

- Tagline suggestions welcome!
 - ‘: Even Newer Perspectives’
 - ‘: The Return of the Perspective’
- We are very excited to be able to hold a *second* New Perspectives this year thanks to the amazing demand and the excitement from the community.
- Please register and attend!
 - Aug 24-25, 2020
 - <https://indico.fnal.gov/event/44451/>
 - Agenda is officially released on Indico today!
- 31 talks confirmed; room for a couple more if anyone is interested (get in touch!).



New Perspectives 2019
(when we could be together!)

FSPA Community Liaison

- Collaborate with the Users Executive Committee as representatives of the early-career community.
 - Attend UEC meetings and report on activities.
 - Participate in UEC subcommittees.
 - Co-host events and assist in organizing Users' Meeting.



2019-2020 Users Executive Committee

HEP Advocating

- The FSPA community is a large part of the annual HEP Advocacy DC Trip.
 - 44 out of the 67 attendees this year were students or postdocs.
- Meet with Congresspeople and their staff to thank them for supporting our work, share our excitement and enthusiasm for HEP and tell them all the great progress we've made.
 - All meetings were via phone this year, but it was an extremely successful 'trip'!
- FSPA is also ready to support early-career researchers during the ongoing Snowmass process.



2019's 'FSPA'

Get Involved!

- **Subscribe** to our mailing list: fnalgrad@fnal.gov
- **Contact** the officers: fspa_officers@fnal.gov
- **Visit** our website: fspa.fnal.gov
- **Like** us on Facebook: facebook.com/FermilabFSPA
- **Attend** our community Town Hall in September (details to come)
- **Reach out** with any suggestions, feedback and ideas for other ways we can help
- **Run in the election** to become an FSPA Officer and have the privilege of serving your community!
 - Elections will be held in September, so please begin to consider who to nominate to this important position, or nominate yourself!

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Get Involved!

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- **Could this be you?!**
- We need enthusiastic members to carry forward the FSPA mission as Fermilab's Student & Postdocs continue to take a leading role in Defining the Decade!

