



Fermilab Student and Postdoc Association (FSPA)

Karl Warburton for the FSPA Officers

Users Meeting

12 June 2019

What is FSPA?

Fermilab Student & Postdoc Association

- Form deeper connections between early career researchers
- Share cultural events and activities from various backgrounds
- Provide support to the community of early career researchers at Fermilab
- Act as liaison between students/postdocs and the Fermilab directorate

Who are we ?

- There are 6 FSPA officers, each serving 1 year terms.
- Have a webpage filled with information <https://fspa.fnal.gov>.

FSPA

Current officers

Social Events >

New Perspectives 2018 >

Career Activities

Diversity and Inclusion

Resources

Guide to life

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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:

- **Support the community of students, postdocs, and all other early career researchers at Fermilab by performing endeavors such as**
 - **Providing resources**
 - **Organizing social events and the annual New Perspectives Conference**

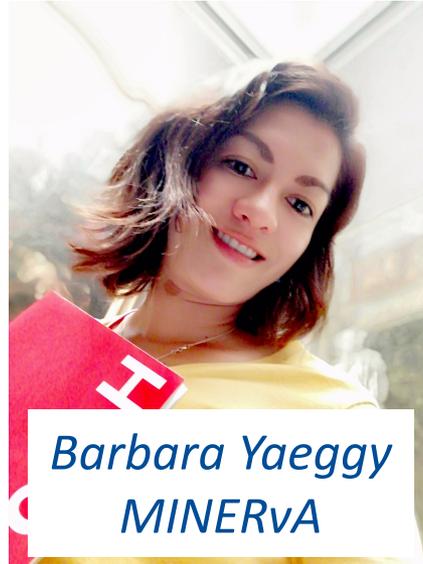


2018-19 FSPA officers: Deepika Jena, Andy Furmanski, Mike Wallbank, Karl Warburton, Jose Palomino Gallo, Barbara Yaeggy

Who are we?



Karl Warburton
DUNE/NOvA



Barbara Yaeggy
MINERvA



Andy Furmanski
MicroBooNE/DUNE



Mike Wallbank
DUNE/NOvA



Jose Gallo
SBND/DUNE



Deepika Jena
MINERvA

Our 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:
- **Support the community of students, postdocs, and all other early career researchers at Fermilab by performing endeavours such as**
 - **Providing resources**
 - **Organizing social events and the annual New Perspectives Conference**
 - **Holding professional development activities**
 - **Organizing Equity, Diversity, and Inclusion related activities**
- **Act as a liaison between students/postdocs and the Fermilab directorate**

Social activities throughout the year

Halloween Party



Holiday Party



More Social activities throughout the year

Chinese New Year *Spring Potluck & Egg Hunt*



What is the monetary value of an elastic band, a boiled egg or a sachet of ketchup?

FSPA knows...



Even More Social activities throughout the year

- Inter-experimental football (soccer) tournament
- Fermilab vs Argonne football (soccer) match
- Fermilab badminton tournament
- Thanksgiving potluck
- Brazilian BBQ



Community development – EDI Seminars

EDI – Equity, Diversity and Inclusion

- Building on the series that we launched last year.
- Working in conjunction with Bryan Ramson and Sandra Charles' office.

EDI Seminar Series 2019 Journeys: Paths to the Academy

presents

Christine Aidala, PhD
Associate Professor of Physics, University of Michigan

Friday, 2/15/19 11:30AM-1PM
One West, Wilson Hall



Abstract: This year's Equity, Diversity, and Inclusion (EDI) seminar series highlights the paths of those who find success despite acute underrepresentation in the academy. This month, Dr. Aidala, award winning associate professor of Physics at the University of Michigan, and featured author in *Blazing the Trail: Essays by Leading Women in Science* will recount her exceptional journey from undergraduate student at Yale, to staff researcher at Brookhaven National Laboratory, and eventual professor at a "Big Ten" University.

Ask Questions! Expect Discussion! Refreshments at 11:30!



EDI Seminar Series 2019 Journeys: Paths to the Academy

presents

Roy Clarke, PhD

Marcellus L. Wiedenbeck Collegiate Professor, University of Michigan

Friday, 3/29/19 11:30AM-1:30PM
One West, Wilson Hall



Abstract: Continuing this year's theme of Journeys: Paths to the Academy, we have invited Dr. Roy Clarke, Marcellus L. Wiedenbeck Collegiate Professor of Physics at the University of Michigan, creator of the Applied Physics program, and recipient of the 2011 Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring. Dr. Clarke will detail his experiences designing a graduate physics program that has a 90% completion rate while still managing to serve 70% more women and 92% more people of color than the national average.

Ask Questions! Expect Discussion!
Snacks and Refreshments at 11:30!
Talk Starts at 12:00!



EDI Seminar Series 2019 Journeys: Paths to the Academy

presents

Jenn M. Jackson, PhD

Assistant Professor, Department of Political Science, Syracuse University

Friday, 6/28/19 11:30AM-1:30PM
One West, Wilson Hall



Abstract: Dr. Jenn M. Jackson is part of a new generation of black scholars primarily concerned with the political expressions and responses to group threat of the marginalized. She has considerable experience with activists in Chicago as well as with those of various intersecting identities. Whereas previous iterations of this year's theme, Journeys: Paths to the Academy, have explored the experiences of those with marginalized identities through first person accounts of STEM academics, this iteration will survey the possible group threats to those who are unable to relinquish their identities upon entrance to the laboratory.

Ask Questions! Expect Discussion!
Snacks and Refreshments at 11:30! Talk Starts at 12:00!



Community development – Career Seminars

From Academia to Industry

Friday, April 26th, 12:30-13:30 Hrs *
Curia II (WH2SW)

Michelle Mathis, PhD
(Fermilab Alumnus)
Research Staff Member
Institute for Defense Analyses



Michele works for the Institute for Defense Analysis (IDA). It is a Federally Funded Research and Development Center (FFRDC). IDA is often referred to as a "think tank" organization. Like Fermilab IDA do a lot of data analysis and produces papers, we don't get to play with laboratory equipment.

Michele plans to highlight skills that particle physicists have that apply to jobs outside of academia and offer some ways to communicate those skills to potential employers.

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*Refreshments & snacks at 12:00 - 12:30 CT
Talk starts at 12:30 - 1:30 pm CT
Discussion: 1:30 - 2pm CT



- Building on the series that was launched last year.
- Career seminars on jobs in both industry and academia.
- Panel discussion on Monday consisted of Fermilab scientists, University professors and people now working in industry.

Community development – New Perspectives

	Strong Lensing Science from Current and Future Astronomical Surveys	Jason POH
10:00	Development of a new imager testing projector using a micromirror array	Brody OLESON
	Machine learning dark matter halo formation	Ms. Luisa LUCIE-SMITH
	Improving the spatial resolution of the ATLAS IBL si...	Spoorthi NAGASAMUDRAM
	Coffee break	
11:00	Plasma processing for LCLS-II 1.3GHz SRF cavities	Bianca GIACCONE
	Simulation of Resonant Extraction at Fermilab's Delivery Ring	
	Design and analysis of a halo-measurement diagnostics	Mr. Christopher MARSHALL
	High Luminosity Spin-Polarized Target for the SpinQuest Experiment	Joshua HOSKINS
12:00	E1039/SpinQuest Polarized Drell-Yan Experiment at Fermilab	Dr. Chun-Min JEN
	Lunch: Careers panel discussion	Ms. Barbara Yaegy, Andrew Furmanski, Andrew Furmans...
13:00	One West, Fermi National Accelerator Laboratory	12:15 - 13:45
	Neutrino Theory in 10 Minutes	Kevin KELLY
14:00	MicroBooNE in 10 Minutes	Ms. Katrina MILLER
	Progress towards the extraction of exclusive $\nu \mu - 40$ Ar cross sec...	Ms. Afroditi PAPAPOULOU
	Towards the measurement of the charged-current electron-neutrino inclu...	Mr. Krishan MISTRY
	Chimera Events in the MicroBooNE Experiment	Polina ABRATENKO
15:00	SBND in 10 minutes	Iker DE ICAZA ASTIZ
	Overview of the Cold Electronics of SBND	Ryan LAZUR
	A Preliminary $\nu_{\mu} \rightarrow \nu_{\tau}$ CC 0π Event Selection in SBND	Rhiannon JONES
	Coffee break: Coffee break	
16:00	One West, Fermi National Accelerator Laboratory	15:45 - 16:15
	Cosmogenic Background Suppression at the SBN Far Det...	Mr. Christopher HILGENBERG
	LArIAT in 10 minutes	Vincent BASQUE
	Elastic neutrino-electron scattering within the effective field theory approach	Oleksandr TOMALAK
17:00	MINERvA in 10 minutes	Ms. Barbara YAEGGY
	ANNIE in 10 minutes: multiplicities, cross sections, and models (oh my!)	Teal PERSHING
	ANNIE: Phase II Detector Design and Construction	Dr. Emrah TIRAS
	SuperCDMS in 10 Minutes	Dr. Anthony VILLANO
18:00	FerMINI: Fermilab Search for Minicharged Particles	Dr. Yu-Dai TSAI

	Perturbative QCD in 10 Minutes	Joshua ISAACSON
	Lattice QCD in 10 Minutes	William JAY
	Scintillator Tiles for the High Granularity Calorimeter of the ...	Ramanpreet SINGH
10:00	Layout and performance of GE1/1 chambers for the CMS muon spectrometer upgrade	Mr. Aashaq SHAH
	Reconstructing proton-proton collision positions at the Large Ha...	Andrew WILDRIDGE et al.
	Coffee break: Coffee break	
	One West, Fermi National Accelerator Laboratory	10:30 - 11:00
11:00	Searching for Dark Matter with Semi-Visible Jets at CMS	Colin FALLON
	Search for Supersymmetry at CMS in Events with Large Jet Multiplicity and L...	Christopher MADRID
	Search for dark photons with CMS and fixed-...	Andre STERENBERG FRANKENTHAL
	DUNE in 10 Minutes	Richard DIURBA
12:00	Cold Electronics Readout System for the ProtoDUNE-SP LAr-TPC	Mrs. Maura SPANU
	Michel electron reconstruction in ProtoDUNE	Dr. Aleena RAFIQUE
	Overcoming Neutrino Interaction Mis-modeling with DUNE-PRISM	Dr. Luke PICKERING
	Lunch	
13:00	One West, Fermi National Accelerator Laboratory	12:45 - 14:00
14:00	FSPA report	Dr. Deepika JENA
	UEC report	Dr. Gavin S. DAVIES
	NOvA in 10 minutes	Miranda ELKINS
	NuMI Beam Muon Monitor Simulation for Neutrino Beam Quality Improvement	Yiding YU
15:00	Neutrino Event Classification with Deep Learning in NOvA	Grant NIKSERESHT
	NOvA's far detector predictions and understanding key systematic uncertainties.	Dr. Ashley BACK
	NOvA's approaches on estimation of wrong sign contamination	Mr. abhilash DOMBARA
	Cross section model tuning and multiplicity studies in NOvA	Maria MARTINEZ-CASALES
	The NOvA Test Beam Program	Teresa LACKEY
16:00	Coffee break: Coffee break	
	BSM theory in 10 minutes	Yang GAO
	Muon g-2 in 10 minutes	Jason HEMPSTEAD
17:00	Pileup Systematic Studies in the Fermilab Muon g-2 Experiment	Ms. Meghna BHATTACHARYA
	Mu2e in 10 minutes	Yujing SUN
	Design and status of the Mu2e crystal calorimeter	Dr. Raffaella DONGHIA

- 157 total participants
- 60-70 people attending each session.
- 53 talks by Students and Post Docs.
- 8 sessions of physics.
- 8 senior scientist chairs.
- 1 amazing FSPA led conference

Community development – New Perspectives

	Strong Lensing Science from Current and Future Astronomical Surveys Jason POH
10:00	Development of a new imager testing projector using a micromirror array Brody OLESON
	Machine learning dark matter halo formation Ms. Luisa LUCIE-SMITH
	Improving the spatial resolution of the ATLAS IBL si... Spoorthi NAGASAMUDRAM
	Coffee break
11:00	Plasma processing for LCLS-II 1.3GHz SRF cavities Bianca GIACCARDI
	Simulation of Resonant Extraction at Fermilab Ring Design and analysis of a halo measurement diagnostic High Luminosity at the Spine E10-100 Exp... Lunch Ms. Ba...
12:00	
13:00	One West, Fermi National Accelerator Laboratory Neutrino Time
14:00	MicroBoONE Progress toward... of exclusive v... Towards the me... charged-current... Chimera Events in... Experiment
15:00	SBND in 10 minutes Overview of the Cold... A Preliminary $\nu_{\mu} \rightarrow \nu_{\tau}$ Event Selection in SBND Coffee break: Coffee break One West, Fermi National Accelerator Laboratory Cosmogenic Background Suppression at the SBN Far... LAR-IAT in 10 minutes Elastic neutrino-electron scattering within the effective field theory MINERvA in 10 minutes ANNIE in 10 minutes: multiplicities, sections, and models (oh my!) ANNIE: Phase II Detector Design and Construction SuperCDMS in 10 Minutes
16:00	
17:00	
18:00	FerMINI: Fermilab Search for Minicharged Particles Abstract submission deadline: May 12 Registration deadline: June 3 Information and registration: fspa.fnal.gov/new-perspectives-2019 the Mu2e crystal Dr. Raffaella DONGHIA

	Perturbative QCD in 10 Minutes Joshua L...
	Lattice QCD in 10 Minutes
10:00	Scintillator Tiles for the High Calorimeter of the... Layout and p... for the...



participants
le
ch
students
ysics.
Amazing FSPA led
conference

Community development – New Perspectives



➤ After a day of physics, all those early career scientists are hungry!

➤ Over only 2 hours they ate:

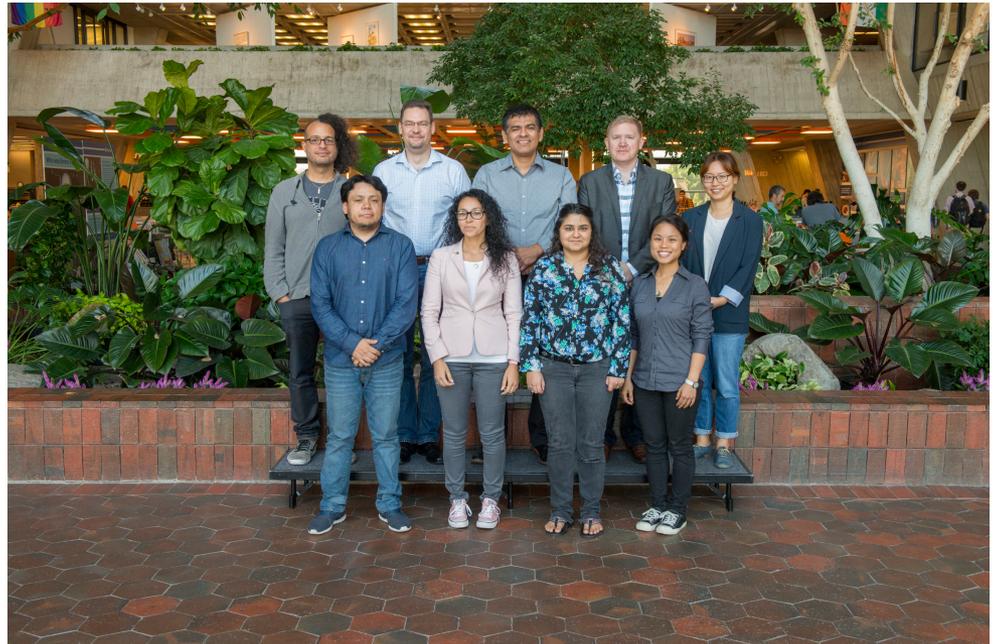
- 180 beef burgers
- 100 veggie burgers
- 60 hotdogs



Directorate Liaison:

Collaborate with Fermilab Users Executive Committee

- Attend and report at the UEC meeting
- Participate in the UEC sub-committees
- Serve on organizing committee for the Users Meeting
- Co-host events



FSPA in the annual UEC DC Trip

- Meet with Congresspeople, Senators and their staff to share our enthusiasm for HEP.
- Many of the attendees are in the FSPA community.
 - 33 out of the 68 attendees were Students or Post Docs.
- Thanks to the excellent effort by all involved, every office was visited for the first time ever on this years trip.



Get involved with FSPA

- We would love to hear from you.
 - FNAL Grad mailing list – fnalgrad@fnal.gov
 - FSPA Officer mailing list – fspa_officers@fnal.gov
 - FSPA website – <https://fspa.fnal.gov>
 - FSPA Facebook – <https://www.facebook.com/FermilabFSPA/>
 - FSPA LinkedIn – <https://www.linkedin.com/groups/13563005>
- If you have any ideas for new activities that we should pursue, want to get more involved, or want to check what activities we have planned, please reach out!
- Elections for the 2019/2020 officer cycle will begin in a few months.