

Fermi Summer School 2019

#fermischool

Schedule for [Week 1](#) and [Week 2](#)

Week 1

	Tues, May 28	Wed, May 29	Thurs, May 30	Fri, May 31	Sat, June 1
8:15	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00	Welcome / Introduction to Gamma-ray Astro - Liz Hays	Intro to Fermi LAT - Regina Caputo	Gamma-ray Binaries - Jamie Holder	GRB-GW Science - Adam	Fermi LAT continued - Regina Caputo
10:00	Intro to the Fermi Mission and Sky - Julie McEnery Observing mode movies	Intro to Fermi GBM - Adam Goldstein	Dark Matter - Regina	AGN - Manel	Astrophysics with Gravitational Waves - Leo Singer
11:00	Break	Break	Break	Break (Photo!)	Break
11:30	Gamma rays from Pulsar Wind Nebula and SNRs - Mattia Di Mauro	Quicklook at the Data - Joe Eggen	Student Talks / 1 Slide Summaries	Student Talks / 1 Slide Summaries	Population Tutorial - Manel BL_Lacs_catalog_sample.ipynb
12:30	Lunch	Lunch	Lunch	Lunch	Lunch
1:30	Tour of Fermi Resources Getting Started with Maximum Likelihood Analysis - Mattia Di Mauro Getting Started with Fermi: Data Extraction Quicklook at the Data Students choose a source for analysis.	Getting started with Likelihood Analysis in LAT - Jeremy Perkins Quiz tool link: kahoot.com	Advanced Likelihood /fermiPy (data.tgz) fermiPy documentation PDG Statistics review pdf (deltaLL values in Table 38.2 on page 29)	Conda Tutorial - Joe Asercion Likelihood Examples /Advanced Topics Student Projects	Advanced Topics: Upper Limits Student Projects
4:45	End of the Day Tagup	End of the Day Tagup	End of the Day Tagup	End of the Day Tagup	End of the Day Tagup
				Crab Feast ~ 7 PM (20\$ to Julie) (tutorial)	

Week 2

	Mon, June 3	Tues, June 4	Wed, June 5	Thurs, June 6	Fri, June 7
8:15	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
9:00	Wide Field TeV Observatories Part I: Air Showers and How to Use Them - Henrike Fleischack	Particle Acceleration - Colby Haggerty	Particle Acceleration - Colby Haggerty	Future Gamma-ray Mission - Judy Racusin	Final Wrap-up! Project Results and Feedback (All)
10:00	IACTs - Manel	Wide Field TeV Observatories Part II: TeV Gamma-ray Astronomy with HAWC - Henrike	TeV Galactic - Henrike	BurstCube - Jacob Smith	Workshop Close Out
11:00	Break	Break	Break	Break	Break
11:30	Student Talks / 1 Slide Summaries	Student Talks / 1 Slide Summaries	Student Talks / 1 Slide Summaries	Neutrino Astrophysics - Erik Blaumann	Workshop Close Out

12:30	Lunch	Lunch	Lunch	Lunch	Lunch
1:30	Extended Source Example Student Projects	Free Afternoon	naima tutorial Advanced Topics: Systematics Student Projects	Neutrino public data - Erik Advanced Topics: Student Projects	
4:45	End of the Day Tagup		End of the Day Tagup	End of the Day Tagup	
	Virden-hosted BBQ on patio at 6:30			Sunset Boat Cruise	

Student Talks and 1 Slide Schedule

Thursday, May 30

- Jordan Eagle - ["Identifying and characterizing Fermi 2FHL extreme Galactic accelerators"](#)
- Greg Foote - ["Following CHIME Fast Radio Bursts with VERITAS"](#)
- Jacqueline Beechert - ["COSI: A Compton Telescope to Probe the 'MeV' Gap"](#)

Friday, May 31

- Alberto Rosales - ["Modeling high energy emissions from blazars"](#)
- Ruo Yu Shang - ["A background method for extended source analyses in gamma-ray astronomy"](#)
- Alyson Joens - ["BurstCube: a Cubesat for Gravitational Wave Counterparts"](#)
- Ramiro Torres - ["Study of Supernova at Very High Energy with HAWC"](#)

Monday, June 3

- Max Harvey - ["Hunting for Low Redshift Radio Galaxies with Fermi"](#)
- Lentè Dreyer - ["Monte Carlo Simulations of Compton Polarization of Astrophysical Sources"](#)
- Alessandra Berretta - ["Study of the pgwave2D Fermi tool parameters for the Gravitational Wave follow-up with Fermi-LAT data"](#)
- Jamie Davies - ["Axion-like particles in Jets"](#)

Tuesday, June 4

- Samayra Straal - ["Probing high energy physics with Pulsar Wind Nebulae"](#)
- Kaori Nakashima - ["Gamma-ray background modeling for IACTs"](#)
- Lea Heckmann - ["Unravelling the complex behaviour of our closest very-high-energy gamma rays with multi-instrument data"](#)
- Vasundhara Shaw - ["Cosmic-ray transport and signatures in their local environment"](#)

Wednesday, June 5

- Edison Murairi - ["The Cosmic Ray Acceleration of Supernova Remnant Kes 17"](#)
- Nagisa Hiroshima - ["Modeling evolution of dark matter substructure and annihilation boost"](#)
- Isabella Brewer - ["BurstCube"](#)
- Rachel Dunwoody - ["EIRSAT-1"](#)

Supporting Material

Interesting repositories for Fermi analysis

- <https://github.com/fermi-lat/FermiBottle/wiki> - a fully-functional, self-contained analysis environment used in the Summer School
- <https://github.com/FermiSummerSchool/fermi-summer-school> - repository for iPython notebooks used during the Summer School
- <https://github.com/fermiPy/> and documentation at <http://fermipy.readthedocs.io/en/latest/>
- <https://github.com/rsnemmen> - includes some Jupyter notebooks on statistics and LAT analysis
- <https://github.com/gammapy> - gammapy repository
- http://gammalib.sourceforge.net/admin/release_history/index.html - gammaLib repository

The Astrophysics source code library <http://ascl.net/> - free online registry for source codes of interest to astronomers and astrophysicists

Stay up-to-date with the gamma-ray sky

- <https://fermi.gsfc.nasa.gov/ssc/data/access/> - Catalogs and lightcurve products in addition to links to data archives
- [Public List of LAT-Detected Gamma-Ray Pulsars](#) - Updated list of confirmed gamma-ray pulsars. Timing models can be found at the FSSC data access website (previous link)

- <https://fermi.gsfc.nasa.gov/ssc/library/pubs/> - Find Fermi publications
- <https://www-glast.stanford.edu/cgi-bin/pubpub> - Fermi-LAT publications page
- https://www-glast.stanford.edu/cgi-bin/pub_rapid - List of rapid communications from the LAT team
- <https://heasarc.gsfc.nasa.gov/W3Browse/fermi/fermigbrst.html> - Table of Fermi GBM gamma-ray bursts
- https://gcn.gsfc.nasa.gov/fermi_grbs.html - Fermi Gamma-ray Coordinates Network (GCN) notices

Things to Do in Lewes:

Take the ferry to Cape May <https://www.cmlf.com/>

Hire kayaks <https://www.questkayak.com/> (Don't forget sun screen!)

If the weather's good, go to the beach! Lewes Beach is fine, or there's a beach on the oceanside in Cape Henlopen State Park. (Don't forget sun screen!)

Visit Prime Hook National Wildlife Refuge: https://www.fws.gov/refuge/prime_hook/ (Don't forget bug repellent)

Visit the Zwaanendael Museum: https://history.delaware.gov/museums/zm/zm_main.shtml

Visit the US Lightship Overfalls (located just off of Pilottown Rd): <http://www.overfalls.org/>

Lewes-Rehoboth Bike Path

