

Session Program

28 May 2024 to 2 August 2024

**USCMS Undergraduate Summer Internship
2024**

Afternoon

WH11NW, Pileup

Tuesday 28 May

13:00

Afternoon

Session | Location: WH11NW, Pileup

13:00-14:00 **CMS Physics Overview**

Speaker

Tulika Bose

14:00-16:00 **Entering Research**

Speaker

Chris Palmer

16:00-17:00 **CMS Detector - a discovery tool**

Speaker

Steve Nahn

17:00

Wednesday 29 May

13:00

Afternoon: Afternoon Session

Session | Location: WH11NW, Pileup

13:00-14:30

"P5 Report: The future of particle physics" by Tulika Bose (WH1W)- Wilson Hall One West

Speaker

Tulika Bose

Location

WH1W, 1 West

14:30-17:00

The UNIX Shell: A guide through the basics of the file systems and the shell

Speaker

Mitanshu Thakore

Location

WH11NW, Pileup

17:30

Thursday 30 May

13:00

Afternoon: Afternoon Session

Session | Location: WH11NW, Pileup

13:00–14:00

FNAL Summer Lecture - Intro to Accelerators (Jeffrey Eldred) - Room (Curia II)

Location

WH2XW, Curia II

14:00–17:00

Git II - In this lesson we use Git from the Unix Shell

Speaker

Guillermo Antonio Fidalgo Rodriguez

Location

WH11NW, Pileup

17:00

Friday 31 May

13:00

Afternoon: Afternoon Session

Session | Location: WH11NW, Pileup

13:00–14:00 **CMS 101**

Speakers

Guillermo Antonio Fidalgo Rodriguez, Roy Cruz Candelaria, Sudhir Malik, Tetiana Mazurets

14:00–17:00 **Python II: Building Programs with Python**

Speaker

Bruno Moreira Coimbra

17:00

Monday 3 June

13:00

Afternoon

Session | **Location:** WH11NW, Pileup

13:00–16:00 **Python for HEP**

Speaker

Roy Cruz Candelaria

Location

WH11NW, Pileup

16:00–17:30

How to do Particle Physics in a Climate Emergency? (Curia II-WH2SW) - Wilson Hall 2nd floor South West

Speaker

Kenneth Bloom

Location

WH2XW, Curia II, Fermilab WH2XW - Curia II

17:30

Tuesday 4 June

13:00

Afternoon

Session | Location: WH11NW, Pileup

13:00–14:00

FNAL Summer Lecture - Intro to Particle Detectors (Evan Niner) - Room (Curia II)

Location

Fermlab, Curia II

14:00–15:00

Tour of Quantum Garage at Fermilab

Speaker

Tanay Roy

Location

WH11NW, Pileup

15:00–17:15

PyROOT and RDataFrame

Speaker

Xiaohe Shen

Location

WH11NW, Pileup

17:15

Wednesday 5 June

12:55

Afternoon

Session | Location: WH11NW, Pileup

13:00–14:00 **High-energy Collisions through the Ages**

Speaker

Chris Quigg

14:00–17:00 **Machine Learning Exercises**

Speaker

Mitanshu Thakore

17:00

Thursday 6 June

13:00

Afternoon

Session | Location: WH11NW, Pileup

13:00–14:00 **FNAL Summer Lecture - Neutrino Physics (Meghna Bhattacharya)**

Location

Fermilab, Curia II

14:00–16:30 **Containers and Apptainer**

Speaker

Marco Mambelli

Location

WH11NW, Pileup

16:30–17:00 **Particle Physics Career Mentoring**

Speaker

Robert Harris

Location

WH11NW, Pileup

17:00

Friday 7 June

13:00

Afternoon

Session | Location: WH11NW, Pileup

13:00-14:00 **Roc Tour and FNAL officials meeting**

14:00-15:00 **Classes Q&A and Assignments**

15:00-16:00 **CMS computing**

Speaker

Andrew Malone Melo

16:00-17:00 **Coordination with mentors and sendoff**

19:00

Thursday 1 August

13:00

Afternoon: Interns' Final Presentations (20 min talk + 10 min Q&A) - Reviewers : Ali Simsek (Catholic University of America), Sridhara Dasu (University of Wisconsin - Madison), Tova Holmes (University of Tennessee, Knoxville), Chris Neu (University of Virginia)

Session | Location: WH11NW, Pileup

13:00-13:30

Talk 7 - Prospects of Top Quark Entanglement at the High Luminosity Large Hadron Collider (HL-LHC)

Speaker

Isabella Freitas

13:30-14:00

Talk 8 - The 3 Project Problem

Speaker

Noah Omordia

14:00-14:30

Talk 9 - Binary Transparency Toolkit Development

Speaker

Dwight Ross

14:30-15:00

Talk 10 - Testing and Calibration of Inner Tracker Silicon Detector Modules AND Track Clustering via Quantum Annealing

Speaker

Iris Horn

15:00-15:30

Talk 11 - Reweighting NLO Samples with Negative Weights

Speaker

Bhattacharabodin Sonrod

15:30-16:00

Talk 12 - Developing machine learning based taggers for MDS based for future analyses

Speaker

Juan Guadalupe Rosado

16:00

Friday 2 August

13:00

Afternoon: Interns Final Presentations (20 min talk + 10 min Q&A) - Reviewers: Georgios Krintiras (University of Kansas), Daniel Diaz (University of California - San Diego)

Session | Location: WH11NW, Pileup

13:00-13:30

Talk 19 - Measurements of High Energy Higgs Boson Production in the H->bb decay channel

Speaker

Ruvarashe Tapiwa Nyabando

13:30-14:00

Talk 20 - Characterizing AXOL1TL's Trigger Efficiency

Speaker

Ada Carolyn Collins

14:00-14:30

Interns fill 10-week feedback form

14:30