

## **Session Program**

**26 May 2026 to 31 July 2026**

# **USCMS Undergraduate Summer Internship 2026**

## ***Morning***

WH11NW, Pileup

## Tuesday 26 May

07:30

### Morning: Morning Session

07:45-08:45 **Shuttle/Transport from Aspen East to Fermilab Badging Office**

08:00-09:30 **Badging at Fermilab Badging Office (8:00 AM - 9:30 AM)**

09:30-09:45 **Shuttle from Fermilab Badging Office to Wilson Hall**

09:45-10:05 **Welcome**

**Speakers**

Santanu Banerjee, Sudhir Malik, Tulika Bose

10:05-10:45 **Introductions (Slide Deck) - Interns and Mentors**

10:45-11:45 **One on one students mentor introductions (in person and zoom)**

**Speakers**

Marco Mambelli, Sudhir Malik

12:00

## Wednesday 27 May

09:00

### Morning: Morning Session

**Session** | **Location:** WH11NW, Pileup

09:00–12:00

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

**Speaker**

Iliomar Rodriguez Ramos

12:00

# Thursday 28 May

09:00  
12:00

**Morning: Morning Session**  
**Session** | **Location:** WH11NW, Pileup

09:00–11:25

**Git I - In this lesson we use Git from the Unix Shell**  
  
**Speaker**  
Sneha Vireshwar Dixit

11:25–11:55

**Visit to ROC (Remote Operation Center)**

## Friday 29 May

09:00

12:00

### Morning: Morning Session

**Session** | **Location:** WH11NW, Pileup

09:00–12:00

### Introduction to Python

#### Speakers

Mateo Lisondo, Namratha Urs

# Monday 1 June

09:00  
12:00

**Morning: Morning**  
**Session** | **Location:** WH11NW, Pileup

09:00–12:00

**PyROOT and RDataFrame**  
**Speaker**  
Anagha Aravind

## Tuesday 2 June

09:00

12:00

### Morning

**Session** | **Location:** WH11NW, Pileup

09:00–12:00

### Python for HEP

#### Speaker

Richa Sharma

## Wednesday 3 June

09:00

12:00

### Morning

**Session** | **Location:** WH11NW, Pileup

09:00–12:00 **Containers and Apptainer**

**Speaker**

Marco Mambelli

## Thursday 4 June

09:00

### Morning

**Session** | **Location:** WH11NW, Pileup**09:00–10:45** **Machine Learning Exercises****Speaker**

Arghya Chattopadhyay

**10:45–11:00** **Transition from Pileup to IARC (Quantum Garage)****11:00–12:00****Tour of IARC (Quantum Garage 20 min ) and ICB (HL-LHC Magnet facility 30 min)**

12:00

## Friday 5 June

09:00

### Morning

**Session** | **Location:** WH11NW, Pileup

12:00

09:00–12:00

### Coding Dojo

#### Speakers

Anagha Aravind, Arghya Chattopadhyay, Marco Mambelli, Mateo Lisondo di Tada, Namratha Urs, Richa Sharma, Roy Cruz Candelaria, Sneha Vireshwar Dixit

## Thursday 30 July

09:30

### **Morning: Interns' Final Presentations (20 min talk + 10 min Q&A) - Reviewers : TBD**

**Session** | **Location:** WH11NW, Pileup

09:30-10:00

**Alexandra MacMullin - Search for Dark Showers From Higgs Boson Decays Through the Photon Portal**

10:00-10:30

**Andrews Agyemang-Duah - Search for Long-Lived Particles with Muon Detector Shower Signature in the CMS Run-3 data**

10:30-11:00

**Emerson Kimrey - Pixel-Strip Module Testing and Performance Analysis for the CMS Outer Tracker Phase-2 Upgrade**

11:00-11:30

**Jean Luc Bazimya - Assembly and Testing of Scintillator Tile Modules for the CMS High-Granularity Calorimeter Upgrade**

11:30-12:00

**Gideon Appiah - Improving Observability of GlideinWMS Factory Operations through Prometheus Instrumentation**

12:00

## Friday 31 July

09:30

### Morning: Interns Final Presentations (20 min talk + 10 min Q&A) - Reviewers: TBD

Session | Location: WH11NW, Pileup

09:30-10:00

**Daniel Meshramkar - Search for New Physics via EFT in collisions containing a top quark and a boosted Z or Higgs boson**

10:00-10:30

**Francis Adom - Di-Higgs to 4b background modelling as a case for ML benchmarking with CMS open data**

10:30-11:00

**Annella Bellot - Tau-Jet Matching and Tag-and-Probe Tau Tagging Efficiencies for  $HH \rightarrow b\bar{b}\tau^+\tau^-$  Searches Using Run 3 CMS Scouting Data**

11:00-11:30

**Qianyue Chen - Search for  $HH \rightarrow b\bar{b}\tau^+\tau^-$  Using Run 3 Scouting Data - Analyze b-tagging and tau-tagging Performance with Unified Particle Transformer**

11:30-12:00

**Sabin Baral - Wafer-Level Quality Control and Automating Workflow CMS Phase 2 Tracker Upgrade for the HL-LHC**

12:00