

15<sup>th</sup> annual Fermilab-CERN

# **Hadron Collider Physics Summer School**

August 10 – 21, 2020, Fermilab



# Welcome!

*Artur Apresyan and Stefan Höche*

*August 10, 2020*

<http://indico.fnal.gov/event/hcps2020>

# Introductions

- Organizers:
  - Artur Apresyan, Stefan Höche
  - Joy Pomillo, Melody Saperston
  
- Local Organizing Committee:
  - Radja Boughezal (Argonne)
  - Ian Low (Northwestern University)
  - David Miller (University of Chicago)
  - Alexander Paramonov (Argonne)
  - Zack Sullivan (IIT)
  - Nhan Tran (Fermilab)

# Summer School Experience

- We are fortunate to have a full lineup of world-renowned lecturers.
  - Take advantage!
  - Engage them - ask questions during lectures, in discussion sessions, or over emails!
  - Use “raise hand” feature on Zoom, type questions in Zoom chat, or submit questions for Discussion sessions
- Get to know your peers socially and professionally.
  - You will continue to see these people for decades!
  - You are encouraged to open your Video camera when asking questions
- Despite the virtual format of the school, try to engage with lecturers and your peer students
  - Breakout rooms to hang out during coffee and lunch breaks
  - Utilize the Slack workspace for discussions about lectures and beyond

# Schedule and locations

- Full schedule is here:
  - <https://indico.fnal.gov/event/43762/timetable/#20200810.detailed>
- One-page schedule is here:
  - [https://indico.fnal.gov/event/43762/attachments/132632/163119/HCPSS2020\\_Course\\_Schedule.pdf](https://indico.fnal.gov/event/43762/attachments/132632/163119/HCPSS2020_Course_Schedule.pdf)
- Reading material posted on school's indico, on the left menu
- All lectures will take place in ***the current Zoom room***
- Coffee breaks and discussions will take place in ***separate Zoom rooms***, coordinates were sent in the Welcome email

# Discussion sessions

- We will have discussion sessions at the end of every day.
  - Time for questions, more in-depth discussions, etc.
  - Lecturers will break out into different rooms with smaller groups for discussion, detailed questions, tangential questions, etc.
- Zoom rooms will be announced as the week progresses, and will be posted on the google doc sent in the Welcome email
- Submit questions up to an hour before the discussion session
  - We prefer if you include your name with the question on google doc, but you can also leave it anonymous if you prefer
- ***Today's rooms:***
  - Peter Skands – *QCD theory* : Zoom Room #1
  - Heather Logan – *Higgs + EW theory* : Zoom Room #2
  - Kyle Cranmer – *Statistics* : Zoom Room # 3
  - Frank Hartmann – *Silicon trackers* : Zoom Room #4

# Special lectures

- ***Special Wine and Cheese*** for HCPSS2020
  - Fri Aug 14: Michelangelo Mangano (CERN) on the future of collider physics
- ***Neutrino theory and experiment***
  - Fri Aug 21: Ryan Patterson (Caltech) on current status and prospects
- ***Quantum science:***
  - Fri Aug 21: Maria Spiropulu (Caltech) on the status and promising directions

# Coffee and Lunch breaks

- There are breaks after each lecture
  - 30-minute coffee breaks
  - 1 hour 20 minutes lunch breaks
- You can utilize this time to get to know each other in any of the breakout Zoom rooms (#1 through #4)
  - Introduce yourselves to each other, go around the table, describe your interests and questions, be creative!

# Social events

- Unfortunately, due to COVID-19, the social aspect of this session of HCPSS school is limited
  - Please be active in discussion sessions, during classes and coffee/breakout sessions
- We will have a "social event/panel discussion" to discuss your questions and concerns
  - Submit your questions and topics to discuss using google doc
- Panel members:
  - Joe Lykken, FNAL
  - Joel Butler, FNAL
  - Sarah Eno, UMD
  - Marjorie Shapiro, UC Berkeley



# Free time

- We have a very intense program, and some breaks throughout the schedule:
  - Friday, Aug 14: free afternoon (14:00-16:00), followed by the *Wine & Cheese* seminar by M. Mangano at 16:00
  - Saturday, Aug 15: free day

- We hope you have a fun and productive time here at Fermilab!