



Program Coordination Committee (PCC) Update

Hugh Lippincott
HEPCAT Annual Meeting, LBL, November 2024

From Our Website



Program Coordination Committee (PCC):

Chair: Lauren Tompkins (Stanford)

Duties:

- Organize the monthly topical seminar by coordinating the rotation of the speakers through the topical groups
- With the assistance of the Topical Group Coordinators and host consortium, organize the annual meeting as described below;
- Coordinate HEPCAT-related courses at individual institutions and explore cross- registration.
- maintain a database of HEPCAT grads
- Coordinate quarterly professional development seminars for the fellows
- Organize an annual mentoring workshop for program mentors.

Members: Liang Yang (UCSD), Ben Nachman (LBL), Michael Mulhearn (UCD), HL (UCSB)

Status of Odd Jobs



- Organize the annual meeting
 - Seems to have been taken on by Director...
- Keep a database of HEPCAT grads
 - Max showed this yesterday - Director keeping the spreadsheet

Seminar Series

- Zoom seminar series
 - All recordings posted to website: <https://hepcat.ucsd.edu/courses-seminars/>

| Date | Institution | Speaker | Topic |
|-----------|------------------------|---------------------------|---|
| 2/9/2023 | UCSB | David Caratelli | LAr TPCs for Neutrino Physics |
| 3/2/2023 | Stanford/UMass Amherst | Verena Martinez Outshoorn | Triggering Muons at the LHC and HL-LHC |
| 4/6/2023 | LBNL | Carl Grace | Custom ICs for Physics Research |
| 5/4/2023 | UCI | Aishik Ghosh | ML for detector simulation and detector design |
| 6/1/2023 | UCB | Thibault Laplace | Scintillator physics and applications |
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| 4/3/2024 | UCD | Matthew Citron | Exploring the Dark Sector |
| 4/17/2024 | UCD | Joseph Levine | Searching for dark photons with the Dark E-field Radio Experiment |
| 5/1/2024 | LBL | Carl Grace | Custom Integrated Circuits for Physics Research |
| 5/15/2024 | UCSC | Simone Mazza | LGADs |
| 5/22/2024 | SLAC | Tom Shutt | Noble liquids and VUV light |
| 6/5/2024 | Caltech | Karthik Ramanathan | Quantum sensors |
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Seminar Series



- Target is “applications of instrumentation to physics” to try not to directly overlap with seminars at the summer school
- Website says once a month
 - Five speakers once a month in winter/spring of 2023
 - Five speakers (+1 cancellation) every two weeks in April/May 2024
- Discussion
 - Preferences?
 - Increase participation?
 - Ok to hold only in spring?
 - ~5-6 speakers per year?
 - Jingke suggested this morning to have fellows give seminars

Seminar Series



- Will begin organizing for 2025 soon
 - If asked, please try to give a talk (or volunteer someone)
- In particular looking for talks from
 - TG1 - Radiation Hardness
 - TG4 - Quantum Sensors (Cancelled seminar in 2024, hope to reschedule)
 - Caltech, LLNL/LANL/Sandia, UCR, UCLA

Professional Development Seminar Series



- Website claims once a quarter
 - Not done yet as far as I know
 - Keep? Once a quarter the right cadence?
- Some possible topics that could be given by HEPCAT faculty
 - Giving a good talk
 - Job application material sessions
 - Job application strategy generally
- Connections to industry/non-academia
 - Visiting speakers from various alumni?

Curriculum Development



- Discussion in early 2023, with proposal from Lauren
 - 1-2 unit graduate course - co-taught by instructors at each institution
 - 1x per week for 1.5 hour lecture on instrumentation topic
 - Weekly reading assignment
 - Seminar can replace lecture when appropriate
 - Variant to have pre-recorded lectures as lectures, with class time for discussion, Q&A
- Institutional representatives were assigned to explore the process for getting units at each institution

Some discussion at UC Davis 2023 meeting...

Annual Mentoring Workshop



- Nominally aimed at the mentors (according to the website)
- Do we still want to do this? (Do we have to do this?)

Summer school - an outsider's impression (T. Shutt)

- I was very impressed
 - Combination of the full set of experiments and talks made a strong program. I learned a lot from the talks!
 - Previous HEPCAT students as TAs works well
 - It looked like a lot of work by Mani and others to coordinate this
 - HEPCAT allows this to be sustainable (c.f., Juan Collar's similar past summer school at Chicago).
- I would happily do this again at SLAC, and would encourage LBNL and LLNL to host as well
 - There were obstacles, in particular safety review of the liquid noble experiment. Also, minimizing required training, and use of sources.
 - These are battles that need to be fought at the labs.
 - We did this somewhat “under the radar”, but a more direct approach could be useful.

Summer school - suggestion



- The labs are hands on, but in terms of hardware are mostly turn-key
- It might be good to add some element of construction
 - This partly happened by accident with the liquid noble setup, and was favorably commented on by students
- Could we even add an element of creative construction?
- Can this be done in reasonable time frame?