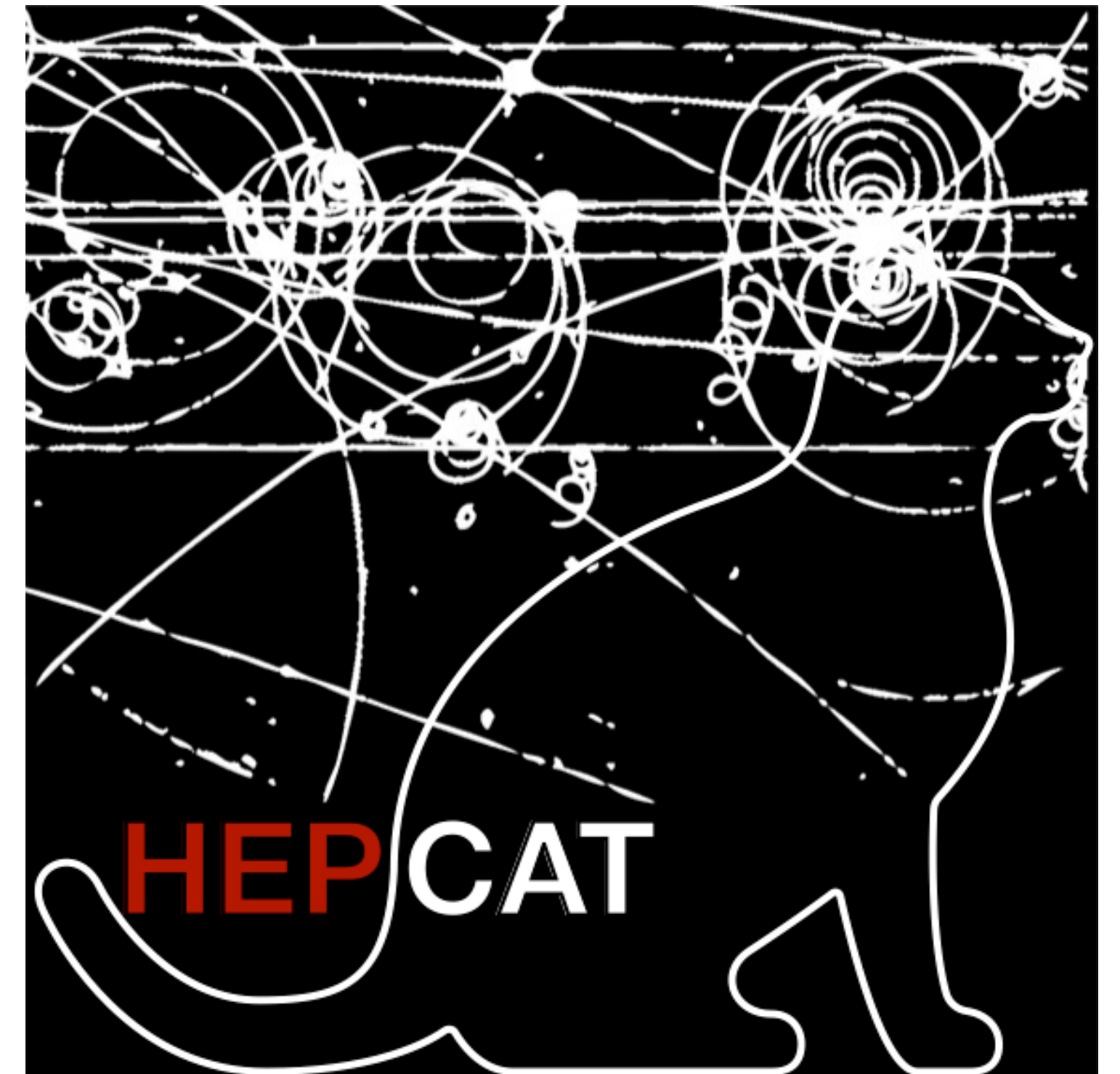


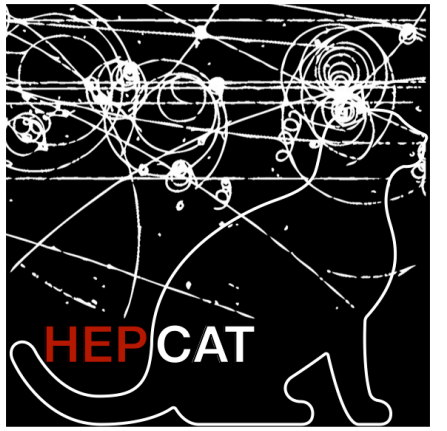
HEPCAT Annual Meeting Director's Report

M. Chertok, UC Davis

11/5/25



Outline



Supplement and plans

Annual meeting Agenda

Comments from External Advisory Board from 2024

July 25 email from Helmut M.



HEPCAT ends in 2026, and No NOFO (for a renewal)

- ▶ ...At the same time, such a late-FY end date offers the possibility of using carry-over funds to coast into FY27 where money could become available again to support the program. To handle the issue of no NOFO in FY26, I could imagine a supplement to support a two-year funded extension of your existing award...

Supplement to continue HEPCAT 2 additional years?

- ▶ Can you tell me whether you could engineer a scenario that would allow you to keep going without disruption, i.e., without ramping down and with recruiting a new two-year cohort in FY26? Most importantly, I suppose, you would have to have (or be able to generate) enough carry-over to coast for three months on a no-cost extension, say until 12/01/2026, and submit during that time a two-year supplemental proposal.

quick budgetary exercise at UCD... followed by this email to HM



We have gone over the budget and suggest the following:

- * 2 more cohorts of 6 fellows each. As a reminder, in HEPCAT so far we have had 2 cohorts of 8 and 2 cohorts of 6 for a total of 28 fellows.
- * We can start cohort 5 (first new cohort) with the carry forward in Fall 2026 and continue it for a total of 24 months
- * Cohort 6 would start in spring 2027 and have a 21 month fellowship, unless a further supplement is possible at the end of the two years.
- * Average 2-year total costs are 130k/fellow, including one combined summer school for both cohorts in 2027
- * Possibilities to reduce costs: reduce number of fellows, although cohorts with fewer than 3 fellows are not tenable. Alternatively, reduce fellowship periods to 1.5 or even 1.0 years.

We can improve the budgeting exercise with additional guidance from you.

HM reply, 8/14

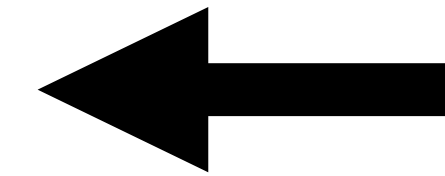


Thank you, Max. My hope would be that I can continue to support cohorts of six for 24 and 20 months, respectively. I won't have any more firm guidance until late in FY26. We should plan for success but be ready to adjust as necessary. I should hope that we can issue a new NOFO well before the two-year supplement ends.



Draft Timeline

2025-11-05 : Annual meeting



You are Here

2026 Winter: call for cohort #5 proposals

2026 Spring : cohort #5 selection

2026 Summer: No summer school this year, cohort #4 last quarter

2026 Summer/Fall : prepare & submit supplement proposal

2026 Fall : cohort #5 starts 24-month fellowship

- using carry forward for first 3 months

2026 Fall : call for cohort #6 proposals

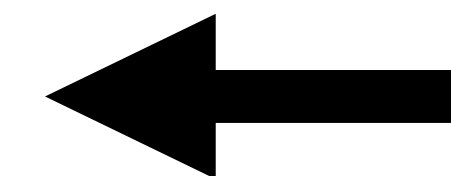
2027 Winter: supplement begins, cohort #6 selection

2027 Spring : cohort #6 starts 21-month fellowship

2027 Summer : Summer school (where?) for cohorts #5 and #6

2028 Summer : cohort #5 last quarter

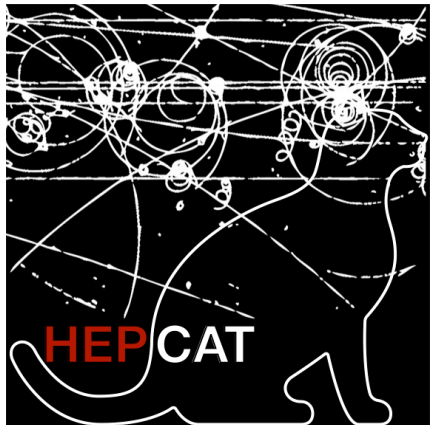
2028 Fall : cohort #6 last quarter



Hope for NOFO

Submit renewal proposal

Annual Meeting Agenda



10:00 → 10:15

Director's Report
Speaker: Maxwell Chertok (UC Davis)

10:15 → 11:15

Cohort 4 talks

Samantha Kelly (UCD)
Speaker: Samantha Kelly (UCD)

Mirella Vassilev (Stanford)
Speaker: Mirella Vassilev (Stanford)

Havyn Ancelin (UCLA)
Speaker: Havyn Ancelin (UCLA)

Alyssa Johnson (UCSD)
Speaker: Alyssa Johnson (UCSD)

Aras Repond (UCR)
Speaker: Aras Repond (UCR)

Ryan Milton (UCR)
Speaker: Ryan Milton (UCR)

11:15 → 12:15

Discussions with External Advisory Board
First 30 minutes: discussions with Fellows
Second 30 minutes: discussions with Faculty/Lab scientists

12:15 → 13:15

Lunch

13:15 → 14:25

Cohort 3 talks

Alexander Antonakis (UCSB)
Speaker: Alexander Antonakis (University of California, Santa Barbara)

Rory Vincent O'Dwyer (Stanford)
Speaker: Rory O'Dwyer (Stanford)

Alec Peck (UCR)
Speaker: Alec Peck (University of California, Riverside)

Brandon Sandoval (CalTech)
Speaker: Brandon Sandoval (Caltech)

14:25 → 14:45

Alumnus Talk
Ryan Gibbons

14:25

Ryan Gibbons (UCB)
Xenon TPC R&D
Speaker: Ryan Gibbons (UC Berkeley)

14:45 → 15:45

Committee Reports

Summer School
Speaker: Eric Prebys (UCD Physics)

Executive Committee
Speaker: Prof. Andrew Lankford (UCI)

Program Coordination
Speaker: Hugh Lippincott (UCSB)

Assessment
Speaker: Carl Grace (Lawrence Berkeley National Laboratory)

Topical Area Coordination
Speaker: Prof. John Conway (UC Davis)

Please stay connected for discussions with Advisory Board

Planning for the next two years



All: start considering new potential fellows

Topical group contacts should start preparing for proposal review

- Call for proposals ~ Jan. 15, deadline Mar. 15 (?)
- TGs meet early Spring quarter to make decisions (?)



New faculty at HEPCAT institutions should send a letter of interest and request to join. Current HEPCAT faculty: help initiate this

- ~ <1 page; briefly describe research and overlap with HEPCAT goals
- Provide example fellow project, possible lab involvement
- Agree to participate beyond potential fellow mentoring
 - E.g., give a seminar, help with the summer school

Summer school planning for 2027

Plan for NOFO in 2027/2028 and be ready to submit renewal proposal

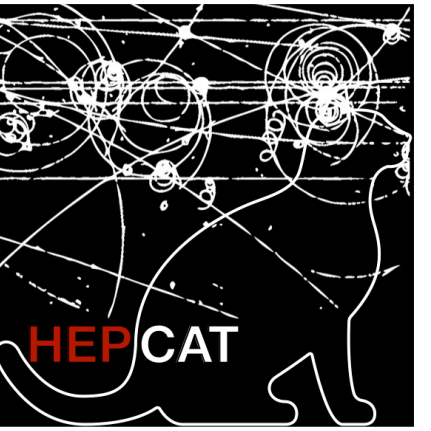
External Advisory Board comments, Fall 2024



Womersley and White attended Annual Meeting. Selected excerpts:

- ▶ an equitable distribution of fellows across the participating institutions has been achieved.
- ▶ dealt with budgetary issues (student strikes, new contracts)
- ▶ HEPCAT has not achieved as much as had been hoped in terms of developing curriculum materials beyond the laboratory modules
- ▶ encourage HEPCAT leadership to think about whether these groups should be consolidated or re-oriented to sharpen the offering in the follow-on proposal.
- ▶ greatly appreciated short presentations from the fellows.
- ▶ Spoke with and received feedback from fellows (Seminar scheduling, summer school, etc.)
- ▶ In developing the renewal, we encourage innovation, to come up with some new ideas and show that they have learned lessons from the current phase; consider expanding the ask (\$); seek firm commitments from consortium
- ▶ Remain focused on CA, but make materials available to other similar initiatives to expand reach
- ▶ Look forward to further work with team to prepare next phase

Backup



Other items



All cohort # 3 and 4 reports available on website:

- <https://hepcat.ucsd.edu/graduate-fellows/>

Committee Membership



Exec. Committee:

- ▶ Andrew Lankford (UCI, Chair), Michalis Bachtis (UCLA), Barry Barish (UCR), Erik Brubaker (SNL), Steven Dazeley (LLNL), Bethany Goldblum (UCB), Sowjanya Gollapinni (LANL), Kent Irwin (Stanford), Hugh Lippincott (UCSB), Aaron Manalaysay (LBNL), Harvey B. Newman (Caltech), Kaixuan Ni (UCSD), Jason Nielsen (UCSC), Tom Shutt (SLAC), Maxwell Chertok (UCD, ex-officio), John Conway (UCD, ex-officio, TACC), Carl Grace (LBNL, ex-officio, DAC), Lauren Tompkins (Stanford, ex-officio, Program Coordination Committee), Mani Tripathi (UCD, ex-officio)

▶ Program coordination:

- ▶ Hugh Lippincott (chair)

▶ Assessment:

- ▶ Carl Grace (chair), Carosi, Whiteson, Spiropulu, Monzani, Pantic, Schumm

▶ Topical Areas:

- ▶ John Conway (chair), Jingke Xu, Ren-yuan Zhu, Kent Irwin, Bethany Goldblum, Jason Nielsen, Javier Duarte, Anyes Taffard

Topical Groups



N/A
TG3
TG2
TG5
TG4
TG7
TG8
TG1
TG6

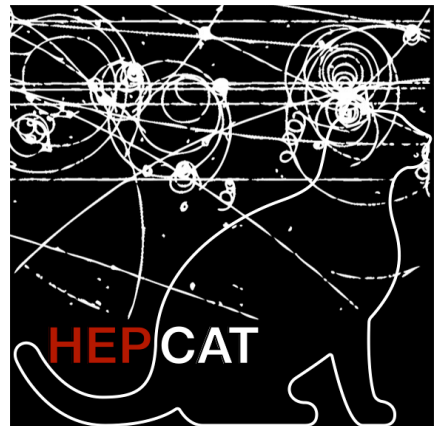
Topical Group	Lead	University Participants	Lab Participants
Fast Timing	Bachtis	Prebys(UCD), Schumm(UCSC), Spiropulu, Newman(Caltech), Ong, Bachtis(UCLA).	Grace (LBNL), Brubaker, Sweany (SNL), Smedley (LANL), Su, Schwartzman(SLAC)
UV and VUV Photo sensors	Zhu	Hitlin, Zhu(Caltech), Tripathi, Pantic(UCD), Ong(UCLA), Ni, Yang(UCSD).	Xu (LLNL), Manalaysay (LBNL)
Noble Liquid Detectors	Lesko (chair)	Lippincott (UCSB), NI, Yang(UCSD), Pantic, Tripathi(UCD), Lesko(UCB)	Xu (LLNL), Manalaysay (LBNL), Akerib, Shutt, Tanaka(SLAC), Gallapinni (LANL)
Optical Scintillators/Crystals	Goldblum	Svoboda, Tripathi(UCD), Lesko, Goldblum(UCB), Zhu, Newman(Caltech), Ochoa-Ricoux (UCI), Nelson (UCSB)	Dazeley, Bowden (LLNL), Orebi Gann, (LBNL), Marleau, Sweany (SNL)
Quantum Devices	Tyson	Irwin(Stanford), Golwala, Spiropulu (Caltech), Tyson(UCD), Arnold(UCSD), Barish(UCR)	Carosi (LLNL)
Detector R&D focused AI/ML	Duarte	Whiteson, Bian(UCI), Erbacher(UCD), Spiropulu, Newman(Caltech), Duarte(UCSD)	Nachman (LBNL), Monzani, Kagan, Schwartzman (SLAC)
Programmable Electronics/Trigger/DAQ	Taffard	Mulhearn, Erbacher, Tripathi(UCD), Duarte(UCSD), Tompkins(Stanford), Spiropulu, Newman(Caltech), Taffard, Lankford(UCI), Bachtis (UCLA)	Grace (LBNL), Su, Bartoldus, Kagan, Kenny, Herbst(SLAC)
Radiation Hardness Studies	Conway	Prebys, Conway, Chertok, Erbacher(UCD), Nielsen(UCSC), Newman, Zhu(Caltech)	Wesley Frye(McClellan nuclear reactor, UCD)
Si Detectors	Nielsen	Ritz(UCSC), Tyson, Chertok, Tripathi(UCD), Nielsen (UCSC).	Brubaker, Sweany (SNL), Su, Nelson, Vernieri, Kagan, Kenney

#fellows

Topical Group	#
1: Rad Hard	1
2: Noble Liq	7
3: Photosensors	2
4: Q Devices	5
5: Scintillators	4
6: Si Detectors	2
7: AI/ML	2
8: Electronics	5
TOTAL	28

*For discussion/future:
consider cross cutting themes such as
rad hard; AI/ML
Detector Systems?
Calorimetry?*

HEPCAT Fellows

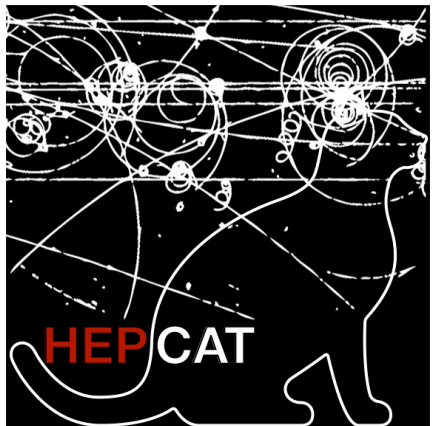


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8: Electronics	5
TOTAL	28

Fellow		Institution	Mentor	TG
First Cohort - Spring 2022 (Alumni)				
Anthony	Aportela	San Diego	Duarte	7
Avila	Gael	UCLA	Bachtis	8
Corbin	Jason	Stanford	Irwin	4
Levine	Joseph	Davis	Tyson	4
Molnar	Adam	Santa Cruz	Schumm	6
Qi	Jianyang	San Diego	Ni, Xu (LLNL)	2
Sebastian	Jacob	Berkeley	Goldblum	5
Smith	Dylan	Irvine	Whiteson	7

Second Cohort - Winter 2023				
Almazan	Earl	Santa Cruz	Nielsen/Hanc	6
Borrel	Leo	Caltech	Hitlin	3
Gleason	Riley	Irvine	Taffard	8
Hood	Noah	San Diego	Yang	2
Kingston	Jimmy	Davis	Tripathi, Xu (L	2
Padilla	Rene	Santa Cruz	Schumm	1
Preins	Sean	Riverside	Arratia	5
Smith	Zoe	Stanford	Vernieri	4

HEPCAT Fellows



Topical Group	#
1: Rad Hard	1
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8: Electronics	5
TOTAL	28

Third Cohort - Fall 2023				
Antonakis	Alex	Santa Barbara	Caratelli	2
Gibbons	Ryan	Berkeley	Manalaysay	2
McGuire	Zach	Berkeley	Goldblum	5
O'Dwyer	Rory	Stanford	Tomkins	8
Peck	Alec	Riverside	Westerdale	2
Sandoval	Brandon	Caltech	Golwala	4

Fourth Cohort - Fall 2024				
Johnson	Alyssa	San Diego	Arnold	4
Vassilev	Mirella	Stanford	Vernieri	8
Kelly	Samantha	Davis	Citron	5
Ancelin	Havyn	UCLA	Bachtis	8
Repond	Aras	Riverside	Westerdale	2
Milton	Ryan	Riverside	Arratia	3

HEPCAT Fellows



Fellows by campus and by TG:

Campus	#
Berkeley	3
Davis	3
Irvine	2
Los Angeles	2
Riverside	4
Santa Barbara	1
Santa Cruz	3
San Diego	4
CalTech	2
Stanford	4
TOTAL	28

Topical Group	#
1: Rad Hard	1
2: Noble Liq	7
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5: Scintillators	4
6: Si Detectors	2
7: AI/ML	2
8: Electronics	5
TOTAL	28

Governance Document highlights:



Appointment and Roles of Director

- Responsible for financial solvency and periodic reports to DOE
- Nominate new Program Coord. Ctte. (PCC) and/or DEI and Assessment Ctte. (DAC) as necessary, to be ratified by EC
- Interact with Ext. Advisory Board (EAB) as needed

Exec. Ctte. (EC)

- Serve as main governing body of HEPCAT
- Duties: Define procedure for selection of fellows; work with Topical Group Coord. Ctte. (TACC) to ensure equitable award of fellowships; select fellows; oversight of director, PCC, DAC; determine location of annual summer school and meeting

Treasurer: originally Chertok

- Oversee distribution of funds, keep records, report to EC

PCC, DAC, Summer school Ctte. (SSC), TACC, EAB

- Roles defined

Propose we examine carefully and propose changes at time of renewal

Mentorship goals, from the proposal



Professional development

- How to give a research talk, how to network, proposal writing, etc.
- Talks at HEPCAT annual meetings provide good experience!

Mentoring program

- Pair fellow with senior member not in same research area

Mentoring workshops

- Annual mentorship workshop, best practices, etc.

Student Outreach

- Encourage fellows give talks at NSBP, SACNAS,...

Roundtable Discussions

- EC led meetings to discuss challenges, successes and failures

These are worthy activities... Still not too late this round to do more?