Institute for Research and Innovation in Software for High Energy Physics (IRIS-HEP)
COVID Effects Survey

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http://iris-hep.org

Navigating the COVID-era and beyond

I think I was asked to give this talk because we did a survey with the IRIS-HEP project (as well as encouraging PIs to talk to their team members) regarding current problems/issues in the COVID-era as well as a more general question of how all types of research activities can adapt and be effective in an era in which face-to-face meetings and travel are greatly reduced and conferences are being canceled. What are the lessons being learned and new ideas for how to approach this?

Relevant for navigating 2021, but potentially also important for understanding reduced travel (climate change!) and diversity/inclusion.

See also the US HEPAP talk by Meenakshi Narain (Brown) and Mike Hildreth: IMPACT OF COVID-19 ON HEP RESEARCH - Followup Survey

IRIS-HEP COVID Effects Survey

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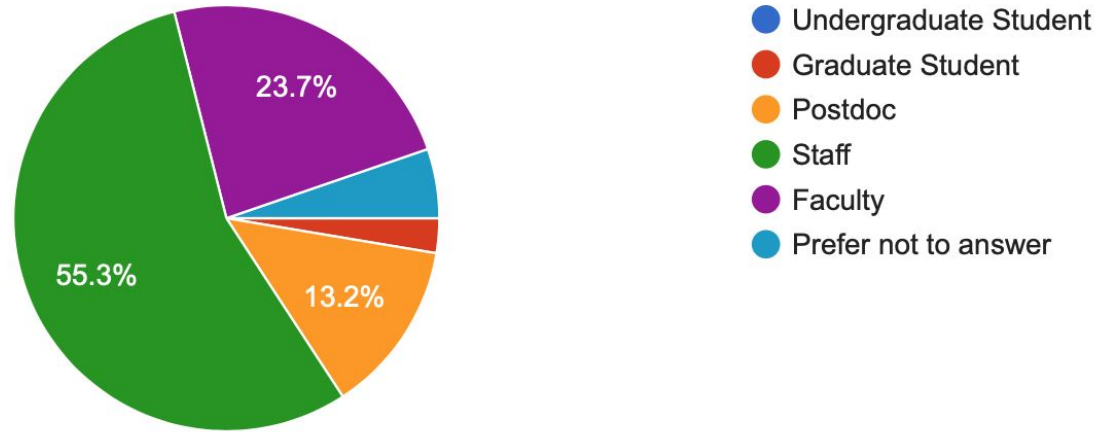Form description

Name (optional)

Short answer text

40 total responses

[Full team is approximately 76 people.]

The survey allowed people to respond anonymously:
24 people responded and provided their name.
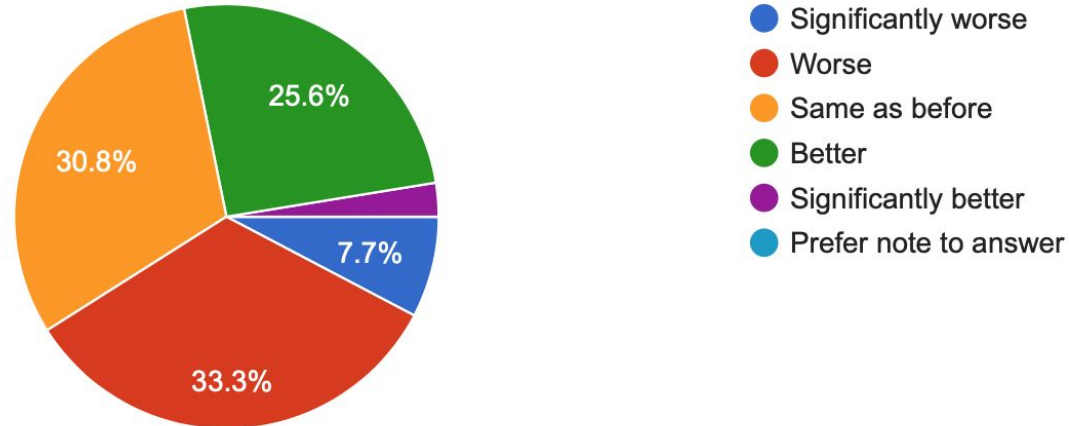
Academic position

38 responses

Legend:
- Undergraduate Student
- Graduate Student
- Postdoc
- Staff
- Faculty
- Prefer not to answer

Pie chart values: 23.7%, 55.3%, 13.2%

Rather small response from grad students and postdocs

How would you characterize your work environment since March, 2020 (i.e. since the COVID-19 period began)?

39 responses

- Significantly worse
- Worse
- Same as before
- Better
- Significantly better
- Prefer note to answer

25.6%
30.8%
7.7%
33.3%

If the environment is not the same as before March, 2020, what has changed that impacts you directly? (For better or worse.) Please differentiate between the initial transition this spring and the current (and future) situation as this becomes the "new normal" over the next year or so. It is useful to note both direct work-related changes and impactful aspects of private life (e.g. children at home, etc.).

Long answer text

34 responses

Issues for those living in apartments or spaces not designed for multiple people (including children at home) working and studying 24x7

Reduced face to face meetings led to more productive days, better planning of the day (including lunch)

Many childcare issues

Distractions

Zoom burnout

Lack of separation between work and personal life

More free time due to lack of commute and travel days

Collaboration and generation of new ideas is in particular more difficult (including no whiteboards, ad-hoc hallway chats)

Challenges hiring (person cannot enter country)

Difficult to get the same level of effort and focus from colleagues

Social isolation

Issues with workstation setup (lack of external monitor, desk, etc.)

If you have extra time-consuming activities in your private life due to COVID, how many hours a week does that take? (e.g. caregiving for children or elders)

Long answer text

27 responses

Many quantitative answers: N/A, 20, 3, 10, N/A, 2, -, 0, 4-5, 4-5, 10-15, 7, 8

10-15 (before Sept it felt like 20-30) [School-related?]

Some help with our son when my wife is at appointments, ~2-3 hours once a week.

I don't have any problems, since my parents are far away and I don't have kids.

This is like calculating the volume of a sponge. Childcare is a diffuse fraction of 16 hours a day.

None for myself, but two members of the team have young children - infant and one year old - and the distractions have impacted productivity noticeably.

Over this past year all of us have had the opportunity to experiment with and experience new ways to foster productive communities and to get things done. What are the best practices you have seen?

Long answer text

34 responses

Discord - it was like a cross between Slack and Zoom and just really worked well. A mix of chat & voice, along with some interactivity like polls was more productive than just talking. I also liked the use of web tools during zoom meetings; a polling site in one meeting, and a mind-mapping / diagramming site in another. Having everyone work on something at the same time really helped keep the meeting from becoming easy to "tune out".

rely more on project management tools to organize people's efforts, also in combination with daily 5-people standups (no more than 20 mins)

Regular communication, e.g. Slack

But also: reducing slack at its minimum possible. Basically implementing this https://basecamp.com/guides/group-chat-problems and https://basecamp.com/guides/how-we-communicate. This allows to minimize "zoom fatigue", letting everybody organize their time in their own terms.

"free, agendaless" time (e.g. 1 coffee hour per week) for those that are feeling isolated

make zoom meetings < 1 hour long (ending before the top of the hour) to allow break between, also more focused/concise.

"flex Fridays" where no meetings are scheduled and that day is blocked off for concentrated work

really fascinating that conferences can captivate a _much_ wider audience when presented in virtual format. I think there could be a lot of benefit to holding some of our normal conferences in this format beyond the pandemic.

Recording meetings and conferences. New ideas for networking at conferences with breakout rooms, virtual poster sessions. Increased attendance at conferences once the financial burden of travel and cost are removed. (Also diversity/inclusion.)

Over this past year all of us have had the opportunity to experiment with and experience new ways to foster productive communities and to get things done. What are the best practices you have seen?

Long answer text

34 responses

Acknowledge that the earth is round when scheduling - purely watching a meeting on a recording does not replace attending it. However a recording followed by live Q/A more or less does.

Informal (as opposed to periodic) virtual meetings 1 to 1 or with few people to address a particular issue, similarly having breakout rooms in the virtual conferences.

zoom meeting times to check in with students both in group meetings and one-on-one

Recorded and broadcasted virtual seminars like Physics-Meets-ML are great. I love being able to watch these out of normal working hours, rather than having to stop working during my peak brain-power times.

virtual events include people that wouldn't have been able to attend face-to-face events, which may result in new ideas and contacts. (On the other hand, lack of social events such as conference dinners makes it more difficult to establish contacts and actually spread ideas.)

Embrace better collaborative tools such as shared whiteboards and break out rooms, also tools like https://gather.town/

Slido is the best new technology I've seen, related to making online conferences (> 20 people) more productive. It came up to solve the problem of collecting questions during a talk—which is particularly tricky in an online conference—but I think it can also improve in-person conferences (if everyone has a phone or laptop).

events that combine asynchronous content and synchronous interaction. Content is created and distributed prior to meeting and viewed at attendees' leisure. The event is where the discussion of the content occurs. (i.e. liked "flipped classrooms")

Social coffee hours

What can we do to adapt this coming year to keep the IRIS-HEP project moving forward and adapt to the new nature of how we work? Please feel free to include how the work-from-home aspects now interact with private life.

Long answer text

26 responses

One no-Zoom "quiet" day per month

Empathy for others (especially supervisors)

Too many meetings dominated by "chiefs", more opportunities for meaningful interactions among those doing development

[Plus some number of comments reflecting the fact that as a distributed organization we were already reasonably organized in many (but not all) ways for the new work mode.]

Meetings should produce something which persists after the meeting, e.g. a diagram, a live set of notes. This keeps people involved and engaged and is a product that can be used later.

Smaller, more targeted meetings.

Training: opportunity to produce static materials, including nice video recordings

Spread events over more days, less time per day, or longer breaks if many hours per day

More scheduled time for collaborative work, e.g. hackathons or sprints, instead of "meetings" or presentations (e.g. also coordinated availability in Slack)

Turn on video during Zoom meetings → engagement

Where do we go from here?

Two levels on which to respond to these things:

- As individual PIs/supervisors or via institutional (university, lab) policies
  a. Adapting expectations to individuals, work/life balance questions, future work-from-home possibilities, continued support for those in challenging situations.
  b. How do we mix those for whom this experience has been better with those for which it was worse?
- As large collaborations and organizations: the experiments, WLCG, conference organizers, IRIS-HEP, OSG, ….
  a. Mostly boils down to how we organize to communicate
  b. Are we just going to revert to the old ways in 2022? Or has this driven some innovation that we want maintain? If so, how do we mix the two?

We have been hoping to organize a dedicated workshop on this topic since about 6 months, we will likely try to make this finally happen sometime in the next month or so.
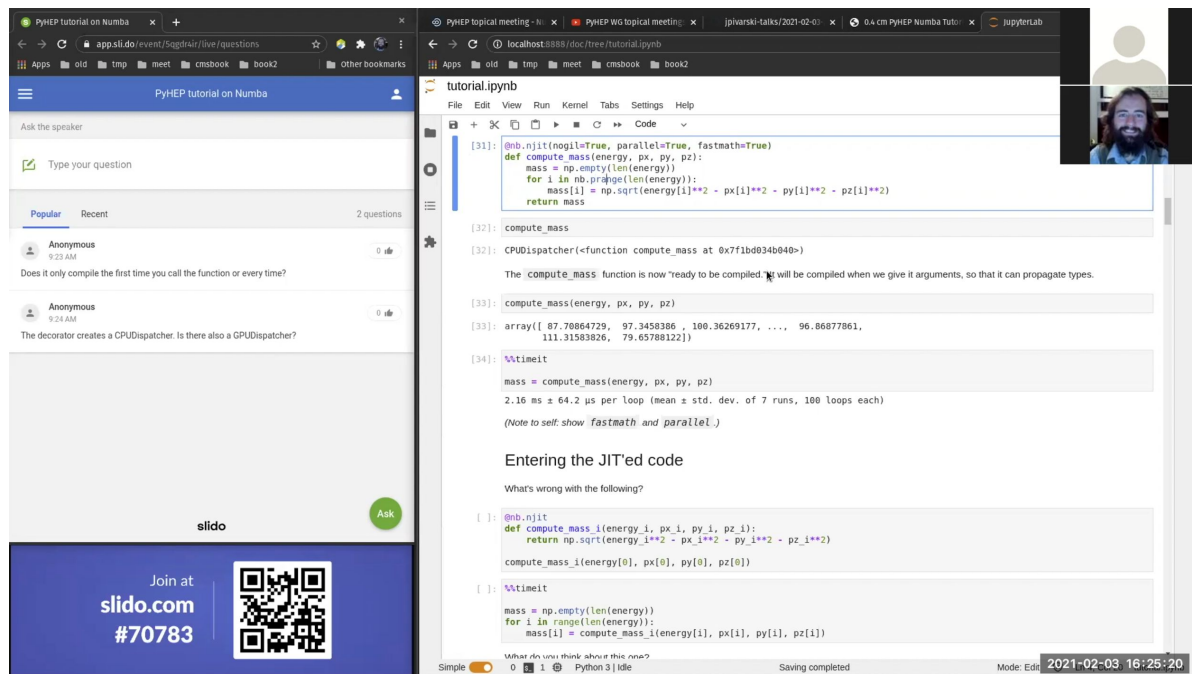
Lots of innovation going on (a few examples)

[Connecting the Dots](#) → recorded talks and dedicated discussion sections

Neutrinos 2020 → [virtual reality poster sessions](#)

Many new tools,
jupyter notebooks,
online whiteboards,
google docs, etc.

HSF PyHEP WG
example:

PyHEP Workshop Series

PyHEP is a series of workshops started in 2018 to discuss and promote the usage of Python in the HEP community at large. It has been supported by DIANA/HEP, and now IRIS-HEP, in collaboration with HSF.

PyHEP 2020 was originally scheduled for 11-13 July, 2020 in Austin, TX, partially overlapping with the SciPy 2020 conference, also in Austin, TX. COVID-19 interfered, but we will try again in 2021.

This is not just a "programming language" issue, it is a key place where HEP can explore how to interact with, learn from, contribute to, and perhaps lead areas in the larger scientific, data science and ML communities. (Including use of open data, experimentalist - theorist interactions, etc.)

A consistent message from our students and postdocs who transition to industry and other fields is that we teach them great skills, but they are limited initially by only knowing HEP-only tools.

Slide from Feb. 2020, just before lockdowns began.

A growing community: 38 participants at PyHEP 2018, 55 participants at PyHEP 2019, aiming for 80-100 participants at PyHEP 2020

PyHEP Workshop Series and building SciPy Connections

PyHEP workshops started in 2018 to discuss and promote the usage of Python in the HEP community at large.

For PyHEP 2020 we intended to take the next step: co-locate PyHEP with the larger scientific python conference (SciPy) which takes place each year in Austin, TX.

COVID-19 interfered, and we had to go virtual, but we will try again in 2021.

A growing community which reflects where our community wants to go:

- PyHEP 2018 - 38 participants
- PyHEP 2019 - 55 participants
- PyHEP 2020
  - We originally aimed for 80-100 in-person participants.
  - The virtual had typically 200-450 participants each day (1000+ people registered).

Slide from Dec. 2020, about what actually happened.