Evaluation

When did/will you complete your PhD?
22 responses

- More than five years ago: 13.6%
- Less than five years ago: 9.1%
- Less than two years ago: 9.1%
- Within a year: 13.6%
- Within two years: 40.9%
- Within three years: 9.1%
- I just started my PhD: 13.6%

What is your research field
22 responses

- Experiment: 13.6%
- Theory: 86.4%

If experiment, which collaboration?
4 responses

ALICE
ESS
PHENIX
Overview

**Overall impressions**

What is your overall evaluation of the School?

- **22 responses**

- **Very negative**
  - 0 (0%)
  - 1 (4.5%)

- **Neutral**
  - 0 (0%)
  - 1 (4.5%)

- **Positive**
  - 10 (45.5%)
  - 11 (50%)

Would you recommend a similar school to a colleague?

- **22 responses**

- **Definitely**
  - 1 (4.5%)
  - 6 (27.3%)

- **Definitely not**
  - 15 (68.2%)

**How did you hear about this school?**

- My supervisor told me to come
- Someone who had been to a previous school
- Someone in my collaboration recommended...
- From an e-mail list
- I saw a poster
- My boss told me to come
- A friend in the sPHENIX collaboration
- MCNet student

**Responses**

- 5 (25%)
- 5 (25%)
- 5 (25%)
- 0 (0%)
- 0 (0%)
- 7 (35%)
- 1 (5%)
- 1 (5%)
- 1 (5%)

**Score distribution**

- Very negative: 0 (0%)
- Neutral: 0 (0%)
- Positive: 10 (45.5%), 11 (50%)

**Recommendation distribution**

- Definitely: 1 (4.5%), 6 (27.3%)
- Definitely not: 15 (68.2%)
Did the school give sufficient technical details for your interest?

![Bar chart showing responses to the question about technical details.
- Never: 0 (0%), 2 (9.1%), 3 (13.6%), 4 (20.9%), 5 (38.1%)
- Always: 0 (0%), 2 (9.1%), 3 (13.6%), 4 (20.9%), 5 (38.1%)]

What do you think about the length of the school?

![Bar chart showing responses to the question about the length of the school.
- Far too short: 0 (0%), 3 (13.6%), 15 (68.2%)
- Way too long: 0 (0%), 3 (13.6%), 1 (4.5%)]

What do you in general think about using Zoom for the event?

![Bar chart showing responses to the question about using Zoom.
- Horrible: 0 (0%), 3 (13.6%), 9 (40.9%)
- Excellent: 0 (0%), 3 (13.6%), 10 (45.5%)]
What do you (in general) think about the lectures and presentations given remotely using only Zoom?

- Horrible: 0 (0%)
- 1 (4.5%)
- 4 (40.9%)
- 12 (54.5%)
- Excellent: 0 (0%)

What do you (in general) think about exercise sessions given remotely over Zoom?

- Horrible: 2 (9.5%)
- 4 (19%)
- 9 (42.9%)
- 6 (28.6%)
- Excellent: 0 (0%)

What do you (in general) think about the lectures professionally filmed from an auditorium (Lundmarksalen)?

- Horrible: 0 (0%)
- 4 (18.2%)
- 9 (42.9%)
- 6 (28.6%)
- Excellent: 0 (0%)

22 responses

21 responses

22 responses
Were the pre-school arrangements and communications satisfactory?

- Very bad: 0 (0%)
- 1 (4.8%)
- 2 (9.1%)
- 3 (14.3%)
- 4 (18.2%)
- 5 (60.6%)

Were the 5 minutes breaks suitable?

- Horrible: 0 (0%)
- 1 (4.8%)
- 2 (9.1%)
- 3 (14.3%)
- 4 (27.3%)
- Excellent: 5 (33.3%)

What were the strong points of the school and what should we emphasize more in future schools?

- Great coverage of a very large field, knowledgeable experts with helpful applications to HEP
- The 5 minute breaks and questions were great, especially given the zoom format. The mixture between hep and industry talks was good. The first exercise session was good
- Tutorials
  - "New" physics applications/motivation of ML
  - Nice mix of research and industry, appreciated the HEP context.
  - No technical difficulties. Mic and Camera quality were very good. Tutorials were especially useful.
  - I enjoyed the provided lectures and exercises. I think the balance was well suited
  - The quality of the talks and the speakers, the breakout rooms to conduct the tutorials, the overall organization
  - The hands on exercises were very good. To list what students will get to try themselves during the exercise sessions could be good to attract more students.
Exercise sessions in breakout rooms worked well. Mix of industry and scientific speakers worked really well, even better with ML than on other schools. The lectures all worked very well. Professionally filmed lectures had a nice atmosphere, somewhat more professional than the from home lectures. But both suitable!

Strong points: The quality of the lectures and preparation of the tutorial sessions. To emphasize: I would have enjoyed exercises with data from HEP, most of the exercises involved data that comes from our daily life.

The lecturers were great except the industry talk from Blue Yonder which was not relatable and not much resourceful.

Hands-on tutorials
organisation and variety of the topics
Well organized. Good lecturers and talks.

Were there weak points that we should avoid in the future?
14 responses

Evening lectures by Ben were very interesting, but made the day quite long, with unfilled breaks in between. If possible, a more compact schedule would be nice.

No.

The schedule could have been better tailored, but given the split in timezones for attendees and lecturers, this is understandable. Also, in this case, reducing the number of lectures(keeping the core ones) would have been very helpful.

too dense to digeste the topics, maybe better to spread it over 10 days?

Hard to think of any

I did not really like the long breaks (roughly 2 hours) before bens talks, I understand that this is difficult due to time shifts, but after such a long break, I was lacking motivation to get back.

Sometimes a bit too quick for beginners in Machine Learning

Maybe some of the long days but it was worth it to have such a good lecturer

Would have been nice for some of the tutorials to have been a bit simpler and/or better organized

The question breaks were great but did however mean that I sometimes felt I had no break as I wanted to hear the Q&A but then didn’t have time to relax before the next talk. Thursday’s exercise lacked a bit of direction/written instruction but was otherwise good.

I would like to stretch this school in time (to have more lectures covering the same amount of material)

Shorter days, especially over Zoom 9-19 is really long. Avoid the "here is a finished python notebook, it will give you one number. Have fun with that."-tutorial. Stronger motivation to play around/modify code.

Tuesday and Wednesday finished very late. Made it difficult to focus 100% throughout the school.
What is your opinion on the amount of lectures?

22 responses

Not useful at all

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What is your general impression of the lectures?

22 responses

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<td>4 (8.6%)</td>
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How did you find the historical overview by Carsten Peterson?

21 responses

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<td>4 (8.6%)</td>
<td>1 (4.5%)</td>
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How did you find Mattias Ohlsson's lectures?

- Useless: 0 (0%)
- Too simple: 1 (4.5%)
- Very useful: 17 (77.3%)
- Far too technical: 0 (0%)

How did you find Ben Nachman's lectures on "Machine learning in high energy physics"?

- Useless: 1 (4.5%)
- Far too technical: 0 (0%)
- Very useful: 10 (45.5%)

22 responses
How did you find Niclas Danielsson's lecture on "Machine learning for image analysis"?

21 responses

Too simple: 0 (0%), 1 (4.5%), 6 (27.3%), 12 (54.5%), 3 (13.6%)
Far too technical: 1 (4.5%), 6 (27.3%), 12 (54.5%), 3 (13.6%), 0 (0%)

Useless: 0 (0%), 1 (4.8%), 5 (23.8%), 6 (28.6%), 9 (42.9%)
Very useful: 0 (0%), 6 (28.6%), 9 (42.9%), 3 (13.6%), 0 (0%)

Too simple: 0 (0%), 2 (9.5%), 17 (81%), 2 (9.5%), 0 (0%)
Far too technical: 1 (4.5%), 6 (27.3%), 12 (54.5%), 3 (13.6%), 0 (0%)
How did you find Anja Butter's talk on "How to GAN LHC events?"

- Useless: 0 (0%)
- Too simple: 0 (0%)
- Far too technical: 15 (75%)
- Useless: 0 (0%)
- Too simple: 5 (25%)
- Far too technical: 0 (0%)
- Very useful: 15 (75%)

Questions: 22
Responses: 22

How did you find Stefano Carrazza's lectures on "Accelerating HEP theory with ML models"?

- Useless: 0 (0%)
- Far too technical: 4 (21.1%)
- Very useful: 8 (42.1%)
- Useless: 0 (0%)
- Far too technical: 4 (21.1%)
- Very useful: 7 (36.8%)

Questions: 20
Responses: 19
How did you find Najmeh Abiri's session on "How to implement denoising and variational autoencoders"?

22 responses

Questions

Responses

Too simple

Far too technical

Useless

Very useful

Too simple

Far too technical

19 responses

0 (0%)

1 (5.3%)

3 (15.8%)

9 (47.4%)

6 (31.6%)

1 (5.3%)

3 (15.8%)

14 (73.7%)

0 (0%)

5 (26.3%)

10 (52.6%)

2 (10.5%)

3 (15.8%)

0 (0%)
How did you find Wolfgang Waltenberger's lecture on "Can we "machine-learn" the next standard model"?

How did you find Michael Green's talk on "Bayesian deep probabilistic differentiable programming: A scientific approach to AI"?
How did you find Malte Tichy's lecture on "Towards the autonomous machine learning fueled supply chain"?
19 responses

How did you find Tilman Plehn's talk on "Outlook on ML in HEP"?
19 responses
Please give us your comments about the lectures:

12 responses

Very nice, in this regard, zoom does not reduce the quality.

Some more ML in Maltes talk would have been nice. Michael's talk was refreshing and nice to listen to. Najmeh's autoencoder tutorial was great, just a clearer instruction what to do or to achieve in the tutorial would be good.

All the lecturers did a great job.

Some felt more like "talks" than pedagogical "lectures". I think it would have been nice to take a more pedagogical approach to some of them, especially the ones from the first day, and introduce pedagogical elements such as clicker questions.

Some of the lectures were far too technical in that they presented results with state-of-the-art uses of ML in physics and seemed more appropriate for a conference than a school as they did not offer any learning aspects.

very good but was difficult to follow in this short amount of time, specially in the afternoon

Super exciting!

Mattias' lectures were brilliant. Well paced, and just the right difficulty. Other lectures though such as Plehn's felt more like an overview than a lecture. Too fast paced and too wide a breadth.

very good but was difficult to follow in this short amount of time, specially in the afternoon

Mostly very good. I got lost on the technical aspects on occasion, particularly in the hep talks.

What are your impressions from the first tutorial session (by Mattias and Najmeh), on setting up the technical environment?

20 responses

Very hard to use

Very easy to use

0 (0%) 1 (5%) 7 (35%) 1 (5%) 11 (55%)
Please give us your comments on the tutorials:

12 responses
The documentation found on Mattias’s notebooks were invaluable. Meant I was able to quickly review what we’d already learnt and so could spend more time on actually answering the questions.
Both tutorials were good to have a simple structure to play with.

They are very detailed, I appreciate this so much, as I can learn from the way they code the models. All the notebooks were so clear and have so many instructions. I am very happy with the tutorials.

Wish there had been more tutorials and practical exercises

The tutorials were very good. A combination of Jupyter and small zoom groups made them workable. Though, I suspect this strongly depends on the group of people you are assigned with.

very useful

Did not participate

Very nice, I think learned quite a bit and the breakout rooms worked well.

As a beginner in machine learning I was very confused with the first tutorial. We went through the code quite fast and I needed more time to get accustomed with it. This was fixed in the second tutorial (by

They were mostly good for having a feel for the networks. Some more instruction on the aims of the last tutorial would’ve been appreciated. Not sure if we could’ve done more given the time so quite happy

The documentation found on Mattias’s notebooks were invaluable. Meant I was able to quickly review what we’d already learnt and so could spend more time on actually answering the questions.

Compared to an ordinary in-person event, how were the following aspects affected by this event being online:

To what extent were the lectures affected?

21 responses

Quality suffered severely

As good as normally

What is your impression from the second tutorial (by Niclas) on setting up the technical environment?
To what extent were the tutorials affected?

- **Questions**: 22
- **Responses**
  - 1 (0%)
  - 2 (0%)
  - 3 (40%)
  - 4 (35%)
  - 5 (15%)

To what extent were the social aspects of the event affected?

- **21 responses**
  - 1 (0%)
  - 2 (9.5%)
  - 3 (38.1%)
  - 4 (47.6%)
  - 5 (0%)

Other comments and feedback:

Very happy with the week!

Good overview of ML, also critical (where is the limit, what can we do, how it this useful), not only five days on importing tensorflow (good!) In person, a bit longer (multi-day?) group project could have been fun.
Feedback on last questions in this form: "Quality suffered severely" to "As good as normally" does not cover the full range, some participants might like zoom lectures better than usual ones. I liked the flexibility of joining from where ever I like, and I think the format worked very well. The only major drawback I see is the lack of socialization with lecturers and other participants. The tutorials worked well to have a bit of social feeling in small groups.

Thanks a lot for this amazing school.

Possibly the biggest issue I had with using zoom was to stay focused throughout the week

Thanks for organising the school!

Thank you for a great school. This was awesome!!

I is a great pity, that the social aspect was troubled so severely. This is of corse due to the circumvences and i have not better idea for this. However, the social aspect, i.e. getting to know new people and in particular young physicists with similar interests was lacking.