

International Masterclasses: Moderators' training

Part 7: Q&A session

Ina Carli (TRIUMF)

ina@cern.ch

February 2022



Start the QA session by saying what will happen next:

- now it's time for students to ask their questions
- they should use the zoom's QA window
- students can upvote questions they like with thumbs up icon
- they can also rise hand in zoom and you unmute them to ask their question aloud (usually this works well with smaller groups)

- open the QA window:
- you can merge QA window with the main window by clicking on ... icon and selecting "Merge to meeting window", same for participant list
- for each question you can select "Answer live", "Type answer" or "Dismiss" to remove question
- after answering live, click on "Done" to move question to Answered
- this helps to keep the QA window tidy and you don't have to search for questions



Open (3) Answered Dismissed

John Peterson 03:14 PM
How do I upgrade my plan?
👍 2 Answer live Type answer

Lisa Robins 03:04 PM
Can I join a Zoom meeting by phone?
👍 Answer live Type answer

Lisa Robins 03:25 PM
What's the difference between meeting and webinar?
👍 Answer live Type answer

- go through questions, read them and answer
- keep the answers short and non-technical
- occasionally check also the chat window
- for repeating Qs, don't ignore them but say that this was already answered
- for ambiguous questions, try to answer at least part of them or ask for clarification
- ideally both moderators answer some questions, according to their background/interests
- for large groups it's easiest if each moderator picks one question, reads and answers it; then they move on to next question
- very technical/specific questions: give some hints/link where to find answer
 - or click on the question and use "Answer by Text"
 - or offer that the student can contact you by e-mail (if you wish)

Typical problems:

- too many questions: tell students to ask their local organizers, offer to stay after 17:00 or to contact you privately (if you wish)
- too few or no questions: ask them what topics they would like to know about e.g. "Are you interested how is life at CERN? Or how to become a physicist?"
 - or one of moderators can send some anonymous questions
 - ask if there are questions from each institute

Few resources for FAQ:

- CERN LHC brochure [link](#)
- CERN guides pages [link](#)
- accumulated random facts from Erik Bracke [link](#)

- How many people work at CERN? What nationalities?
 - about 3000 staff, 13000 users, 100 nationalities, many students
- How can I come to work to CERN?
 - visits, internships, do your thesis with local institute, technical/summer student
- What is the salary at CERN?
 - don't give precise answer, we don't get rich but it's good enough
- What is the cost of LHC?
 - LHC machine about 5 BCHF, experiments 2 BCHF
- What is the power consumption of the LHC?
 - CERN total (when running all acc) about 180 MW = GE canton
- How much helium is in the LHC magnets? - about 120 tons keeping them at 1.9K (cosmic background is at 2.7K)

- Where are protons/ions in LHC from?
 - p from hydrogen bottle at Linac4 source, ions from 500C hot ion oven
- Nobel price 2013 - Peter Higgs, Francois Englert? What is the Higgs boson?
 - a concept to explain how elementary particles get their mass
- Is CERN dangerous? Are the collisions like explosions?
 - No, it's very small amount of energy, all access underground is monitored
- Can the LHC create black holes that destroy earth?
 - No, cosmic rays hitting earth have 1000 higher energies
- What is going on at CERN now?
 - Long shutdown 2 is finishing (consolidation of LHC, detector upgrades), LHC should start again in April
- Why does LHC continue running even after Higgs was discovered?
 - LHC will run at least until 2035 so only few % of expected data is collected (160 out of 3000 $\text{fb}^{-1} = 5.3\%$) Many results need more data and we don't know what new we will find in the data.