

Masterclasses Video Conference

Practicalities, technical infos, communicating with students

🟡 Manuals:

- [Moderators Manual](#) (THE moderators bible...)
- [Moderators Twiki](#) (Step-by-step information, files, maps and more...)

🟡 Auxiliary material, nice to have (to know):

- [CERN Brochure](#) (FAQ on CERN, LHC etc...)
- [More Brochures](#) (Press Office collection...)

Video Conferences

- Most of the time

→ 2 Video Conferences are held in parallel: **VC1** + **VC2**

- VC1**

→ always in room **33-R-016**

- VC2**

→ 2 different rooms in IT building!

due to unforeseen difficulties
finding a single room for the whole period

→ **31-S-027** on Feb, 15 + 22 and Mar, 14

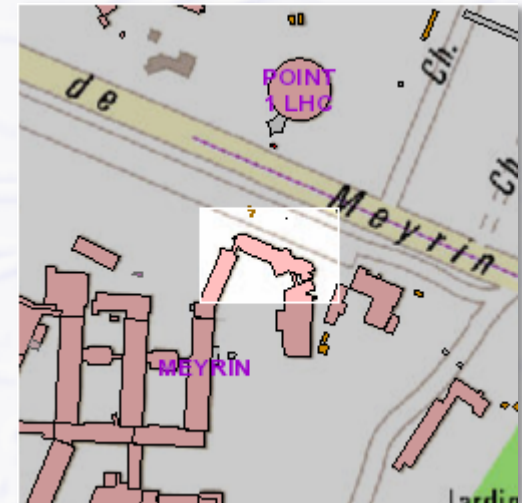
→ **600-R-002** all other days

| | Mon, Feb 15 | Tue, Feb 16 | Wed, Feb 17 | Thu, Feb 18 | Fri, Feb 19 | Sat, Feb 20 |
|-------------|-----------------------------|-------------|---------------|---------------|-------------------|-------------|
| VC 1 | VC 1: ATLAS Z | VC 1: LHCb | VC 1: ATLAS Z | VC 1: ATLAS W | VC 1: ALICE S.P. | |
| moderators | Javier | Suzanne | Michael H. | Christin Gum | N.N. | |
| moderators | Ina | Ana | Arturo | Jelena | N.N. | |
| | Milano | Amsterdam | London QM | Bragança | Trieste | |
| | London | Pavia | Tübingen | Nitra | Cagliari | |
| | Banska Bystrica | | Vila Real | Mainz | Heidelberg | |
| | Pavia | | Kraków | osenza | Lyon | |
| | Barcelona IFAE | | Amsterdam | Erlangen | Thessaloniki | |
| VC 2 | VC 2: CMS | | VC 2: CMS | VC 2: LHCb | VC 2: CMS | |
| moderators | Marco | | David | Suzanne | Marco | |
| moderators | Rebeca | | Marco | Ana | Rosa | |
| | Aachen | | Alexandria | Pisa | Genoa | |
| | Cairo | | Firenze | Paris | Zagreb | |
| | Heidelberg Life Science Lab | | Pavia | Cagliari | Istanbul, Ozyegin | |
| | | | Bologna | Firenze | Split | |
| | | | | Bologna | | |

VC 1 Room

VC1: 33-R-016 (Reception)

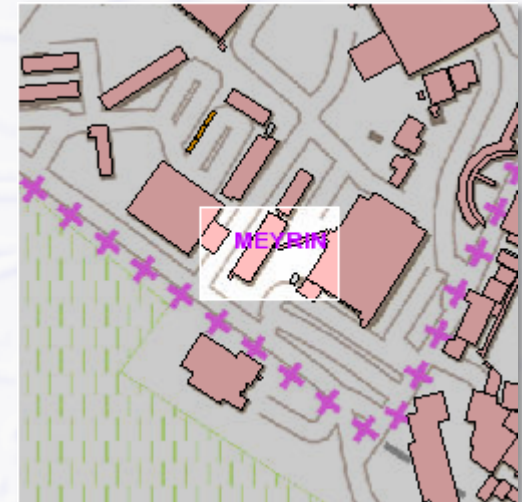
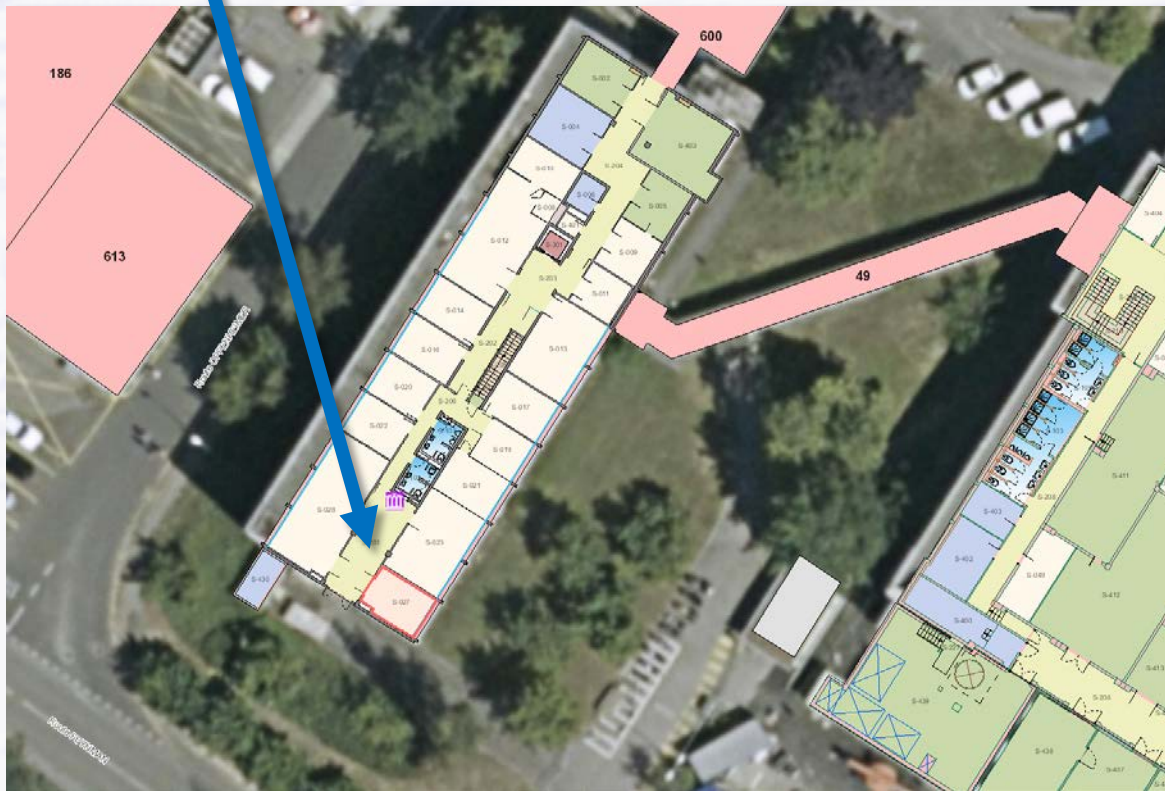
- key is stored in an envelope marked “**MASTERCLASSES**” in the mailbox in front of Maureens’ office (33-R-030), opposite of 33-R-016. It has to be returned there!



VC 2, Room 1

VC2, Room 1: 31-S-027

- ➔ cellar of IT building
- ➔ electronic lock
- ➔ on Feb, 15, 22 and Mar, 14



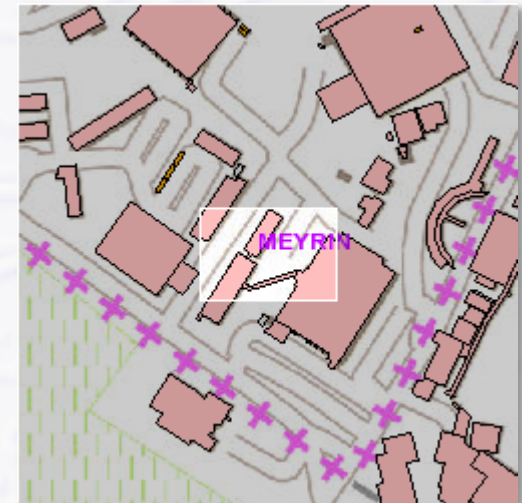
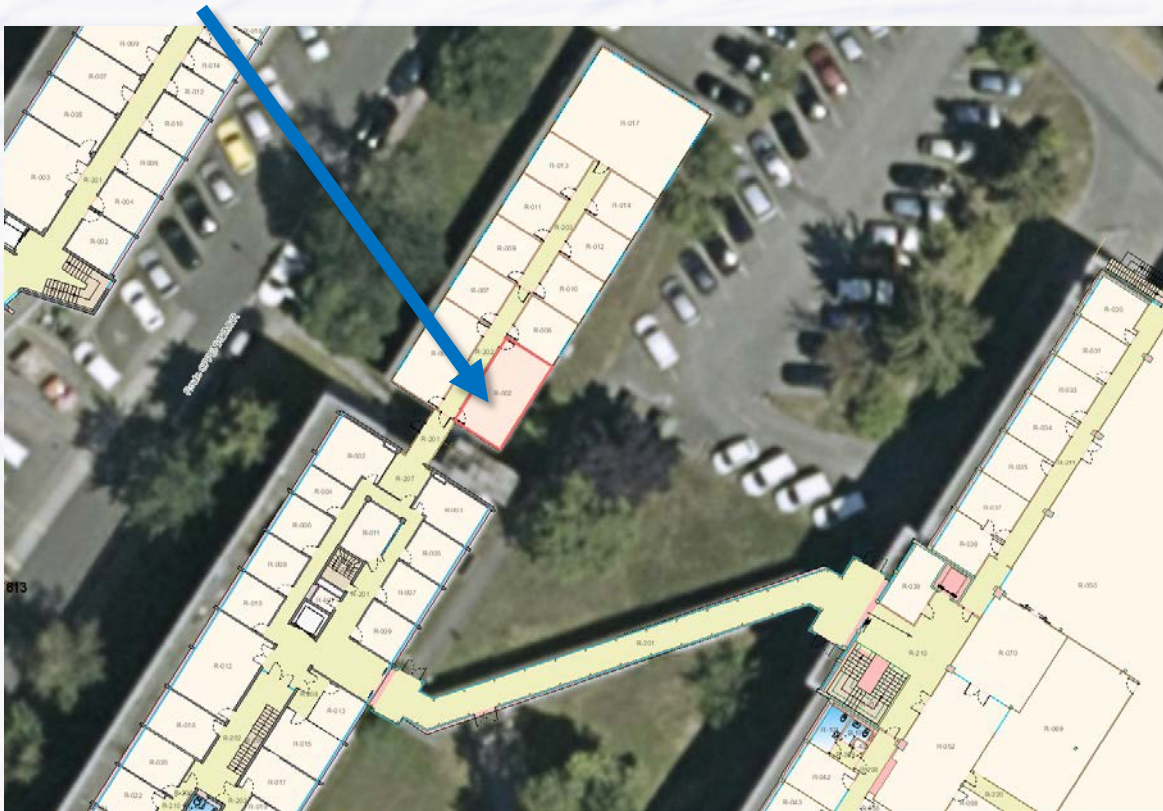
VC 2, Room 2

VC2, Room 2: 600-R-002

→ annex of IT building

→ electronic lock

- on Feb, 17, 18, 19, 23
- and Mar, 1, 2, 4, 5, 9, 10, 11, 15, 16, 17, 18, 22, 23



Electronic locks

- How to open/close rooms with electronic locks in IT building?
 - need **CERN** access card to open **and to close (do not forget after the VC)**
 - access card needs to be **validated by validation station** in entrance hall of building 31 (left hand side)
 - instruction sheet on top of card reader, also in [EDMS document 1120942](#)
 - validation **valid for 30 days**, can be renewed



electronic lock



validation station

EDMS - 1120942

Electronic Locks Card Validation Station

To use the electronic locks you **MUST** badge on this validation station **every 30 DAYS**.

Pour utiliser les serrures électroniques vous DEVEZ badger sur cette station de validation tous les 30 JOURS

BLUE - read/write - *BLEU* - lecture/écriture

Present your CERN access card in front of the reader, and it will blink blue while reading/writing - Do not remove card - up to 3-5 seconds.

Présentez votre carte CERN devant le lecteur, il clignote bleu pendant la lecture/écriture - ne pas enlever la carte - jusqu'à 3 secondes

RED or GREEN - read/write completed
ROUGE ou VERT - lecture/écriture terminée

You can now use your badge to open the electronic locks for which you have received authorization!

Vous pouvez maintenant utiliser votre badge pour ouvrir les serrures électroniques pour lesquelles vous avez reçu une autorisation!

To obtain authorizations, please contact / pour obtenir des autorisations, contacter :
Locks.Keys@cern.ch or 76658

Turn on Monitors/Projectors

● VC1: 33-R-016 and VC2, Room 1: 31-S-027

→ you have three remote controls

- TANDBERG: Video Conference
- EPSON: projector
- SAMSUNG/PANASONIC: Monitor

→ turn everything on that is not on: TANDBERG + EPSON + ...

- SAMSUNG: Power ON. Press middle circle (with square and arrow) to select PC (if this does not work try SOURCE)
- PANASONIC: Power ON. Press AV (top right)

● VC2, Room 2: 600-R-002

→ Projector: There is a control panel in the table. Click “Display on”

→ Screen: Remote control (Radvision). Click “on”

● Finally: tap keyboard

→ you should see the PC on the screen

Starting the Video Conference

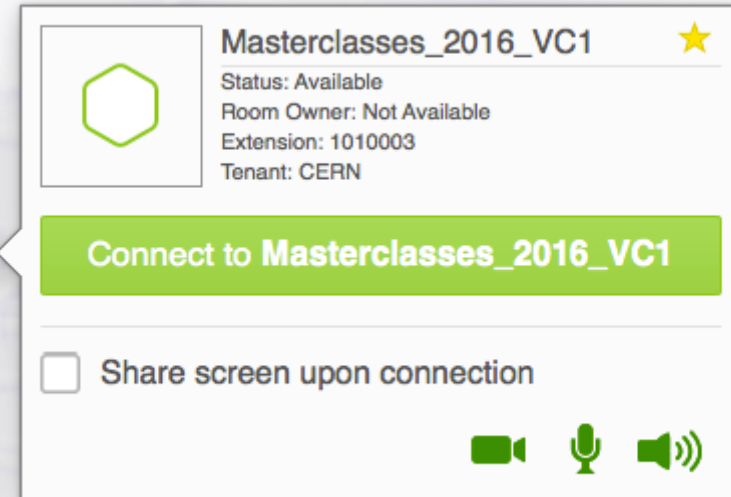
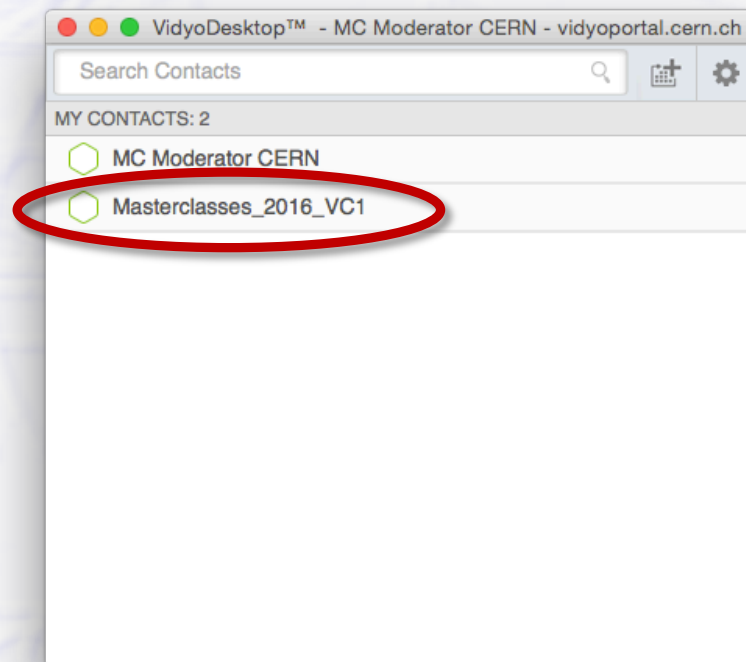
Start Vidyo Desktop

→ VC1:

- user: **mcmmod1**
- password: **mod1mc**
- select and connect to **“Masterclasses_2016_VC1“**

→ VC2:

- user: **mcmmod2**
- password: **mod2mc**
- select and connect to **“Masterclasses_2016_VC2“**

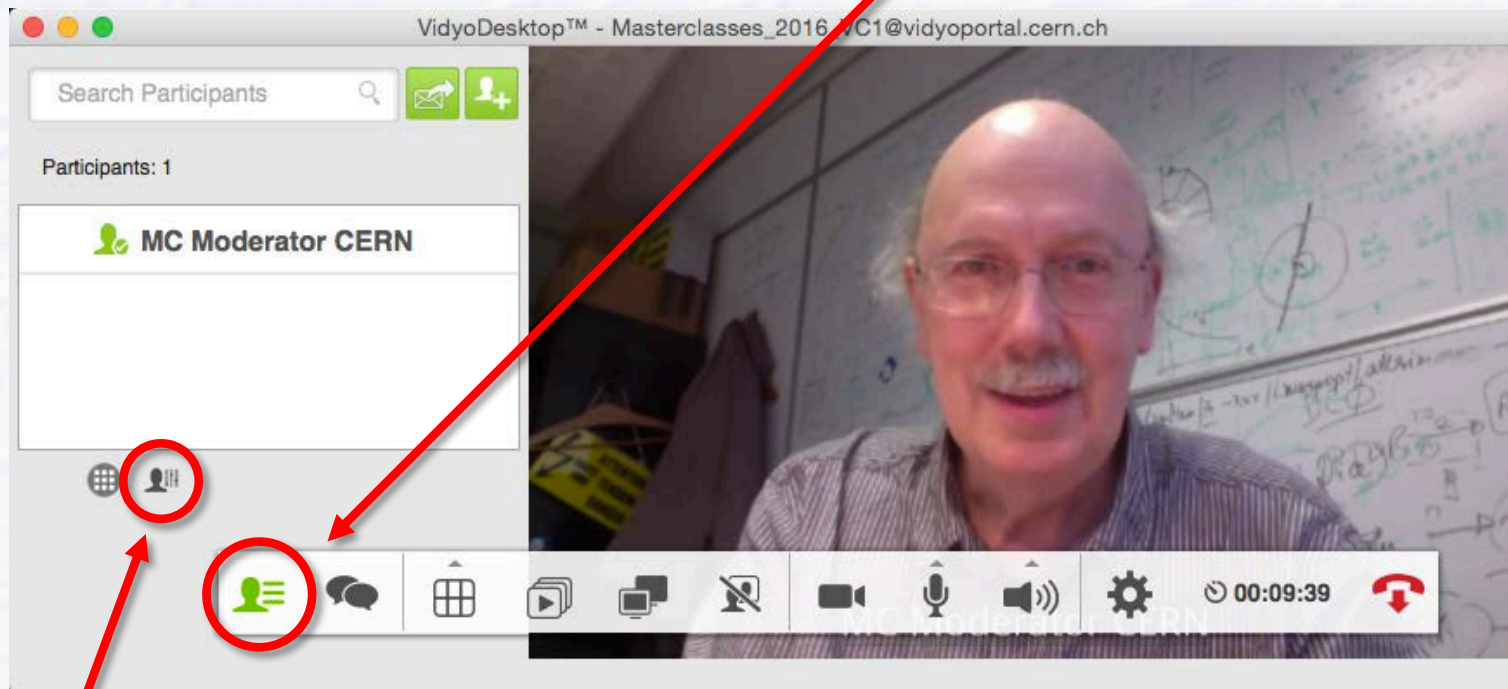


→ new window pops-up

Starting the Video Conference

Join the ROOM (part 1)

- if not yet visible in the window, go to left hand side of the task bar (bottom) and click on the little icon "show participants"

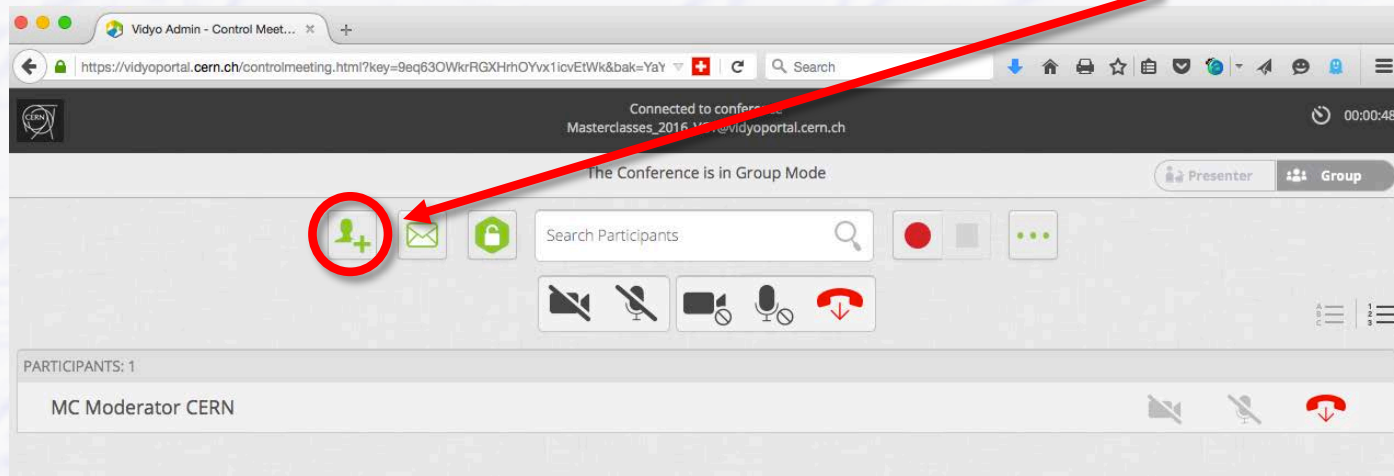


- there are two little buttons at the bottom of the participant list, click on the right one "Launch Control Meeting Panel", this will open a new (browser) window

Starting the Video Conference

Join the ROOM (part 2)

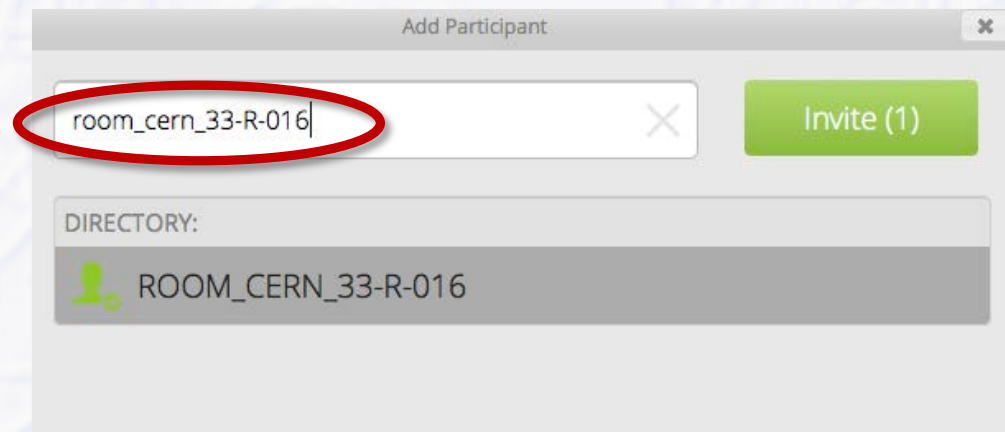
→ in the browser window, click on the left hand icon "add participants"



→ a new box pops-up, depending where you are, type in the box

- "room_cern_33-R-016" or "room_cern_31-S-027" or "room_cern_600-R-002"

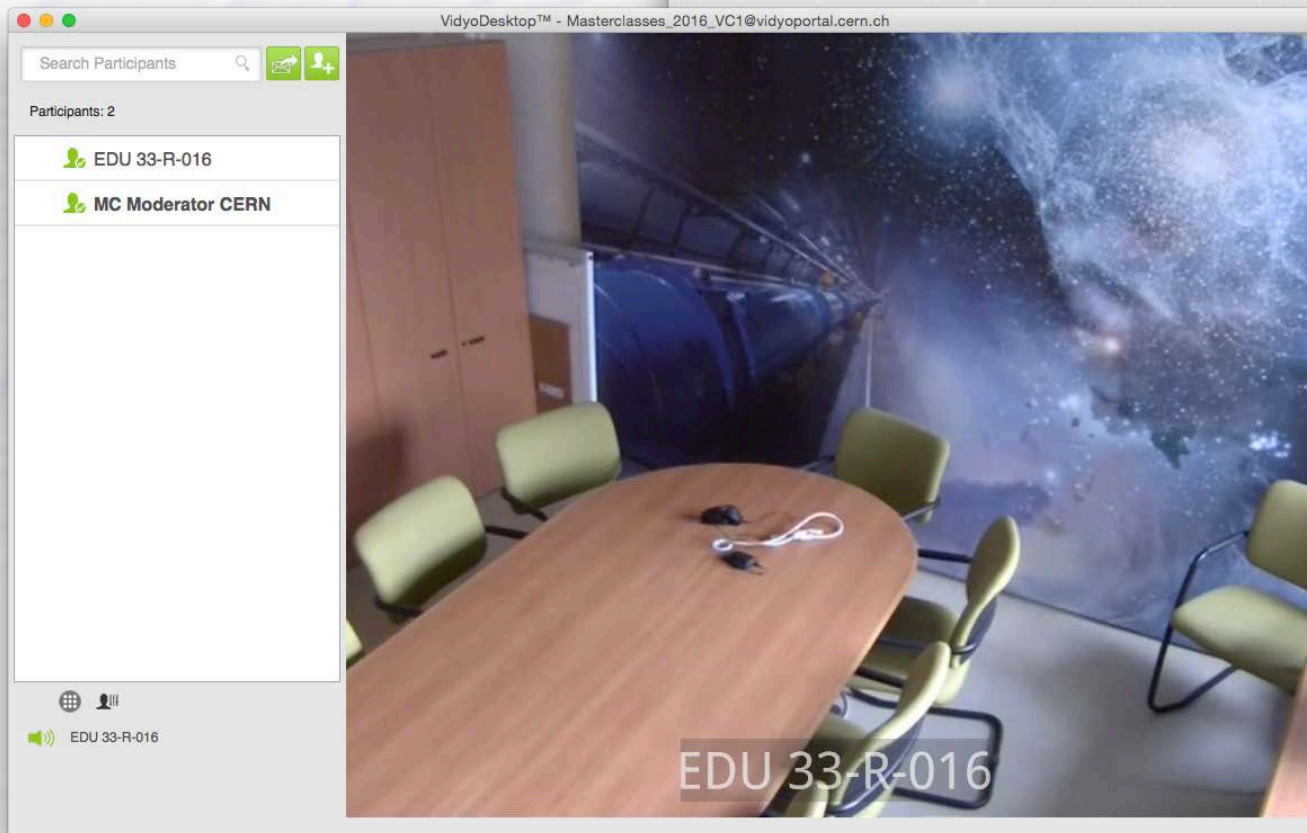
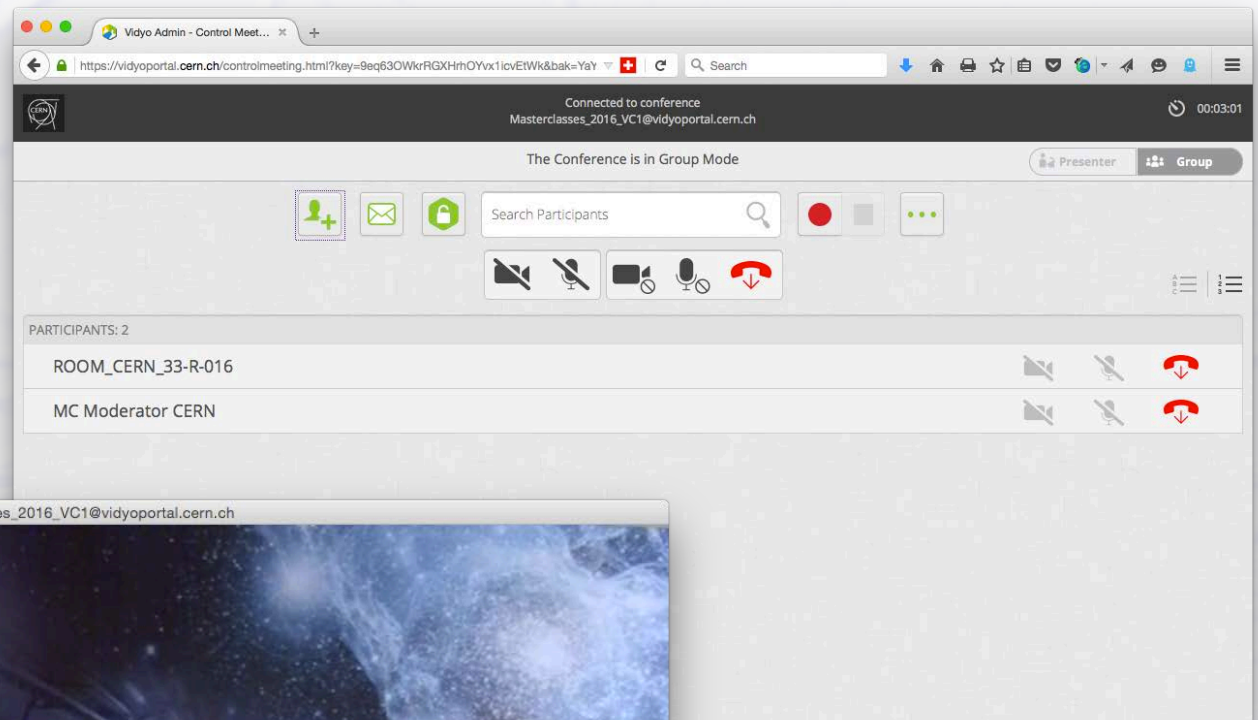
→ + click on "Invite"



Starting the Video Conference

🎯 You're DONE!

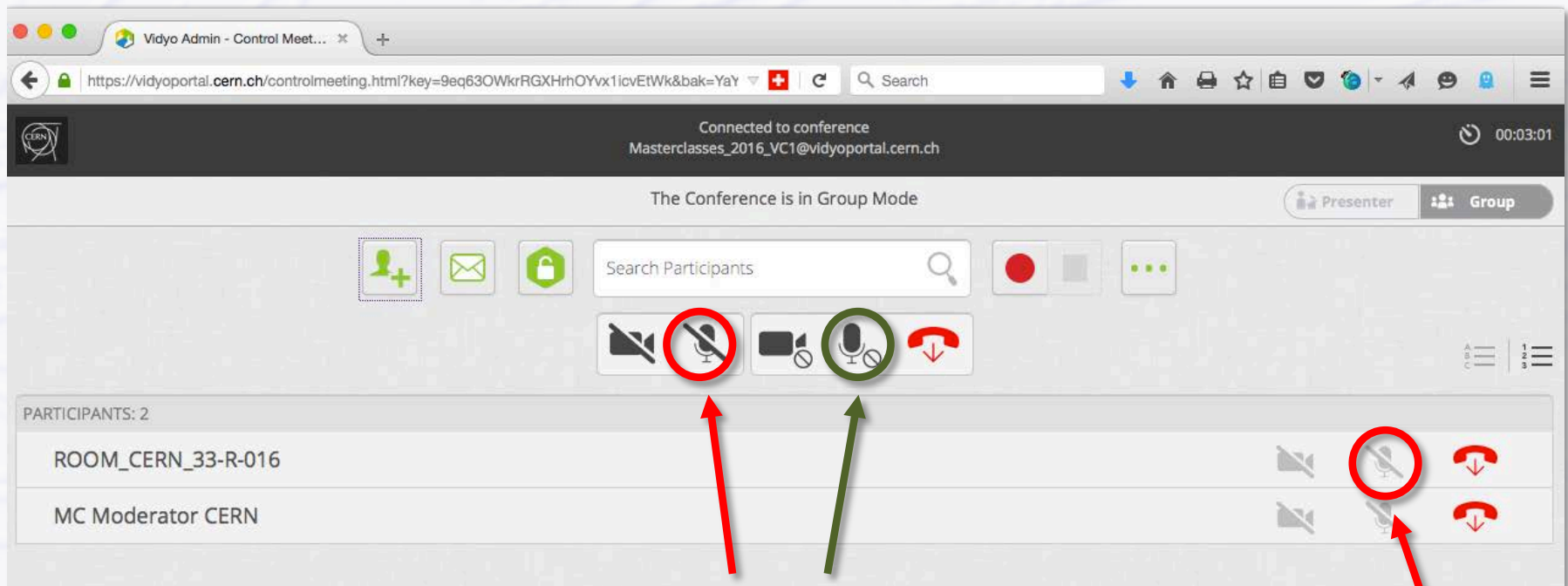
➡ screens should look like these...



Moderating the Video Conference

- As a moderator, you are not a simple Vidyo user, but there are more nice technicalities you can use

- full info on this page: <http://information-technology.web.cern.ch/services/fe/howto/managers-moderate-vidyo-meeting>



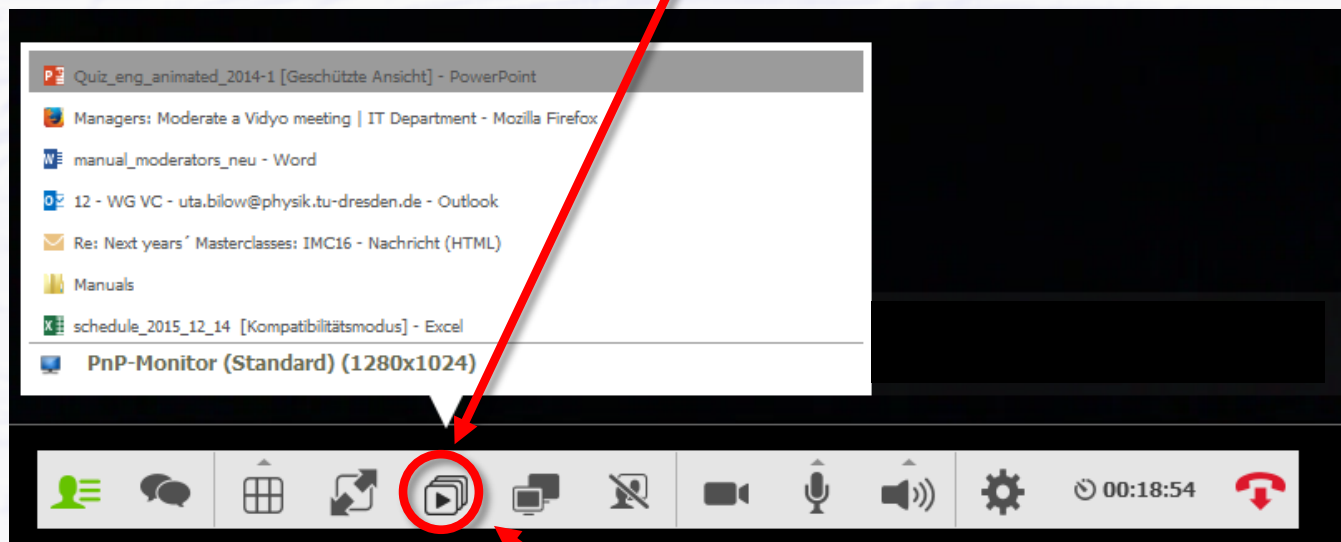
mute ALL participant's microphones **without/with** allowing participants to re-enable

mute participant's microphone **without** allowing participant to re-enable

Desktop Sharing

● Application windows, e.g. maps, browser etc.

- start sharing: click on “**start sharing**” button
- select and click the correct window to share
 - should see the shared window on your video screen
 - “**start sharing**” button turns **green**



- stop sharing: click on “**start sharing**” button again
- select and click on “**stop sharing**”

Sharing the Quiz!

● This is a bit tricky!

- problem is to share the slide show (full screen mode)
- if you simply choose the ppt from the menu of windows that could be shared, participants cannot see the slide show

● Here is what you have to do

- open the ppt quiz file and **start the slide show** (e.g. press F5)
- **hold "Alt" key, then press "Tab" key** (several times) to switch along the open windows to the Vidyo Desktop without canceling the slide show
- in Vidyo Desktop click the "**start sharing**" button and select the "**Power point slide show**" to share
- during the slide show you cannot see the participants

Basic Communication Issues

There are two moderators running the show

→ both moderators should talk roughly to equal amounts

- e.g. share the quiz: alternately read the questions/answers

→ avoid talking too much to your co-moderator

- a looong dialog between the moderators may disconnect the students
- if you feel you've talked too much, hand over to your co-moderator, e.g. “Katharine, this seems a perfect question to be answered by you...”



Most of the students aren't native English speakers and don't understand and speak English very well

→ speak slowly and clear

→ avoid using complicated and long sentences

→ use simple words (vocabulary of the students might be limited)

→ don't use acronyms, abbreviations, physics slang not common outside of our community, **avoid talking “CERNish”**

Comments on Q&A

- **Most difficult part:**
to encourage the students
asking questions at all

- they are shy, don't want to expose themselves in front of their fellow students
- they don't speak English well, sometimes cannot express what they want to ask, don't know the right words (e.g. in physics questions)



- **For them, we (the moderators) are considered “super-experts”**

- they are even more shy and hesitate to ask “stupid” questions

- **Try to encourage them**

- go through institute by institute and ask if the students have questions
 - if still absolute silence, try and ask them, e.g.:
“was the exercise difficult, what was the largest problem, how is life at CERN” etc.
- sometimes teachers (very rarely) or local physicists are asking the questions on behalf of the students

(Most) Frequently Asked Questions I

(and brief answers)

→ for detailed answers see: [Moderators Manual](#)

● **How many people work at CERN? How many different nationalities?**

- 3000 directly employed by CERN [Fellows, Assoc., Staff], 11000 Users, 100 nationalities

● **How can I come to work at CERN?**

- Internships (2 weeks, school students), Summer Students (2-3 months, university stud.)

● **What's the salary of PhD students / CERN staff etc.?**

- don't give precise answer here, we don't get rich but have fun...

● **What are the costs of the LHC?**

- LHC machine: 5 BCHF (~4.5 B€) + experiments: 1.5 BCHF (~1.35 B€)

● **What's the power consumption of the LHC?**

- CERN total (with pre-accelerators etc.): 180 MW (= 180'000 households in Canton GE)

● **How much Helium is needed to cool the LHC magnets and what's their temperature?**

- 120 tons, 1.9 K = - 271.25 °C (universe: 2.7 K, cosmic microwave background radiation)

(Most) Frequently Asked Questions II

(and brief answers)

- **What's the speed of protons in the LHC? Are they travelling with light speed?**
 - 99.999999% (at 6.5 TeV/beam) = just 3 m/s (10.8 km/h) slower than light speed
- **Where do the protons / lead ions in the LHC originate from?**
 - Protons from an ordinary hydrogen bottle, lead ions from a 500 °C hot oven
- **The Physics Nobel Prize 2013 was given to François Englert and Peter Higgs. What did they do?**
 - Invented concept, how elementary particles can get mass and become heavy: Universal Higgs field slows down particles when they move through, Higgs particle is excitation of field, discovered at CERN in 2012.
- **Why CERN / the LHC experiments didn't get the Nobel Prize?**
 - Physics Nobel Prize can go to a maximum of 3 people for their individual work, no institutions, no representatives of institutions (e.g. DG, Spokespersons). But without the discovery at CERN, the Nobel Prize would have never given to Englert and Higgs.
- **Can the LHC create black holes that destroy the earth?**
 - **NO!** cosmic rays are hitting the earth since >4 B years, energies in collisions are up to 1000x higher than at LHC, earth does still exist...

(Most) Frequently Asked Questions III

(and brief answers)

Why the LHC was stopped for more than 2 years? What was done in that time?

- Stop was needed to make the LHC fit for higher energy [design energy]. Following an accident in 2008 with major damage, not all of the repair work could be done and the energy was only ~half of the design energy.

Is the LHC / are the experiments running right now?

- We are in winter shutdown right now. The LHC + experiments will restart mid-March, first collisions are expected by end of April.

Why do you continue running? Couldn't you stop after the discovery of the Higgs?

- More data are needed to further investigate the properties of the Higgs. The higher energy of the LHC also gives hope to discover even more new particles.

I've heard on some anomaly that was found in the LHC data last year. Was this the discovery of a new particle?

- Both ATLAS and CMS see in the new 2015 data a slight [unexpected] excess at the so-called invariant mass of 2 photons around 750/760 GeV. If true, this could point to a new particle decaying into 2 photons and to a new discovery. However, [global] significances at ATLAS + CMS are 2 and <1.7 sigma only [2 sigma = 1:44 chance of a background fluctuation]. More data are needed.