

# ***Masterclasses Video Conference***

Practicalities, technical info, communicating with students

Ina Carli

(original slides from Michael Hauschild)

## **📖 Manuals (the MUST HAVE):**

- ➔ **Moderators manual** (THE moderators bible...)
- ➔ **ModeratorsTwiki**(Step-by-step information, files, maps and more...)

## **📖 Auxiliary material, not mandatory but nice to have (to know):**

- ➔ **CERN Brochure** (FAQ on CERN, LHC etc...)
- ➔ **More Brochures** (Press Office collection...)
- ➔ **CERN guides pages**, e.g. **Accumulated random facts**

# Video Conferences

## Most of the time

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

## VC1

→ Mondays in room 4/3-004

→ Other days in room 42/R-403

## VC2

→ always in room 600/R-001

	Mon, Feb 19	Tue, Feb 20	Wed, Feb 21	Thu, Feb 22	Fri, Feb 23	Sat, Feb 24
topic	VC 1: ATLAS Z	VC 1: ATLAS W	VC 1: ATLAS Z	VC 1: ALICE S.P.	VC 1: ATLAS Z	VC 1: ATLAS Z
	Rome Sapienza 🇮🇹	Erlangen 🇩🇪	London QMUL 🇬🇧	Puebla 🇲🇽	Innsbruck 🇦🇹	São Tomé e P. 🇵🇹
	Marseille 🇫🇷	Colmar IPHC 🇫🇷	Bologna 🇮🇹	Cagliari 🇮🇹	Colmar IPHC 🇫🇷	Lisbon IST 🇵🇹
	Pisa 🇮🇹	Hamburg DESY 🇩🇪	Vila Real 🇵🇹		Prešov 🇸🇰	Lodz 🇵🇱
	Wuppertal 🇩🇪	Bonn 🇩🇪	Athens NTU 🇬🇷		Braga 🇵🇹	
	London QMUL 🇬🇧		Trenčín 🇸🇰			
topic	VC 2: CMS	VC 2: CMS	VC 2: ALICE S.P.	VC 2: CMS	VC 2: LHCB	
	Florence 🇮🇹	Tbilisi GTU 🇦🇷	Cagliari 🇮🇹	Virovitica 🇭🇷	Modena 🇮🇹	
	Istanbul, Ozyegin 🇹🇷	Trieste 🇮🇹	Marseille 🇫🇷	Florence 🇮🇹	Marseille 🇫🇷	
	Split 🇭🇷	Zagreb 🇭🇷		Osijek 🇭🇷	Cagliari 🇮🇹	
	Tehran 🇮🇷	Pavia 🇮🇹		Debrecen 🇭🇺	Bologna 🇮🇹	
	Qatar 🇶🇦	Pozega 🇭🇷		Bragança 🇵🇹	Pisa 🇮🇹	

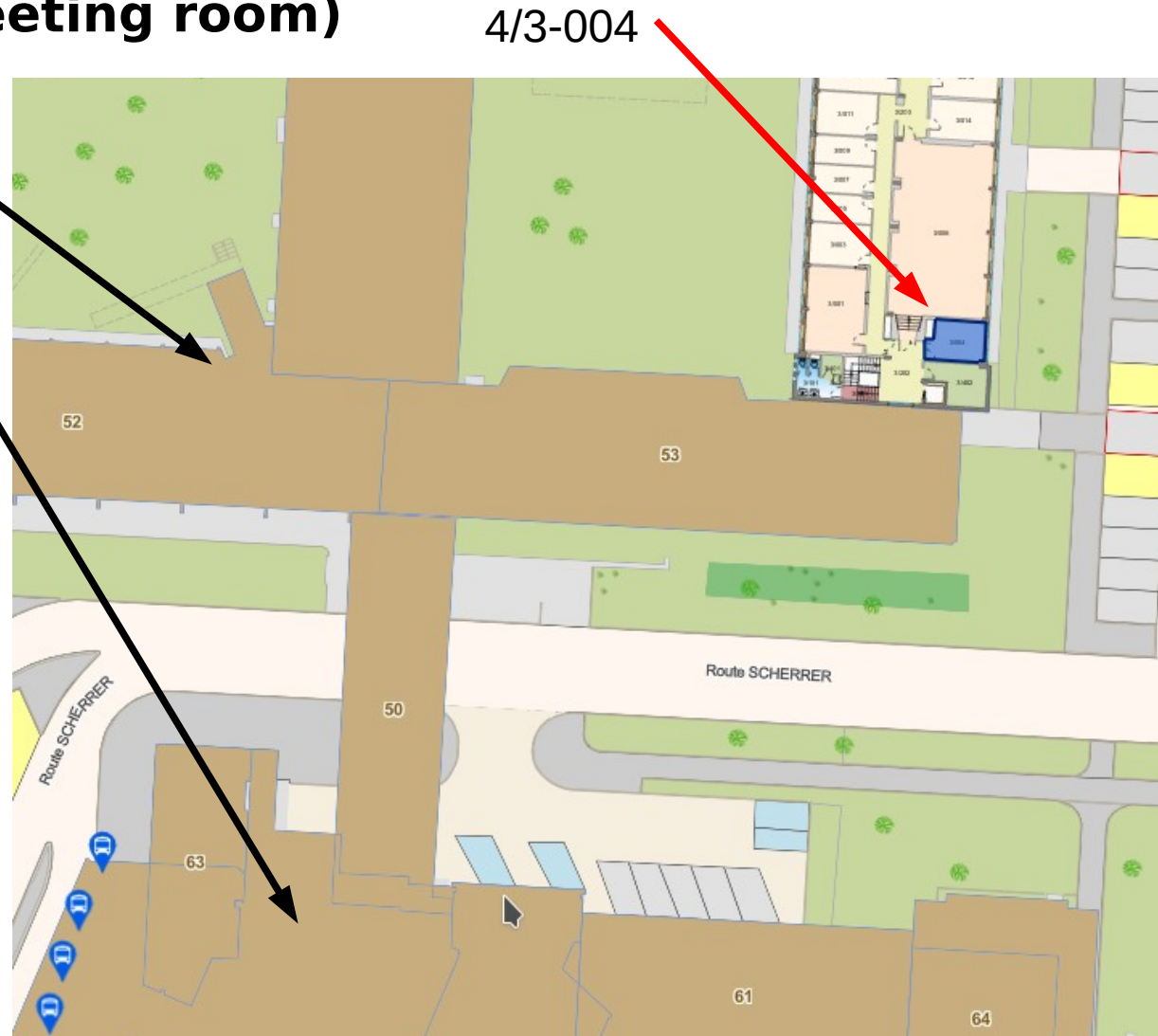


# VC 1 Room - Mondays

## VC1: 4/3-004 (TH discussion room)

- key can be picked up from TH secretariat in 4/2-004 (one floor below the meeting room)

Library  
Main building



# VC 1 Room - other days

## VC1: 42/R-403

- **Electronic lock, validating stations at the side entrances of building 42**

Badge validators (outside)

42/R-403

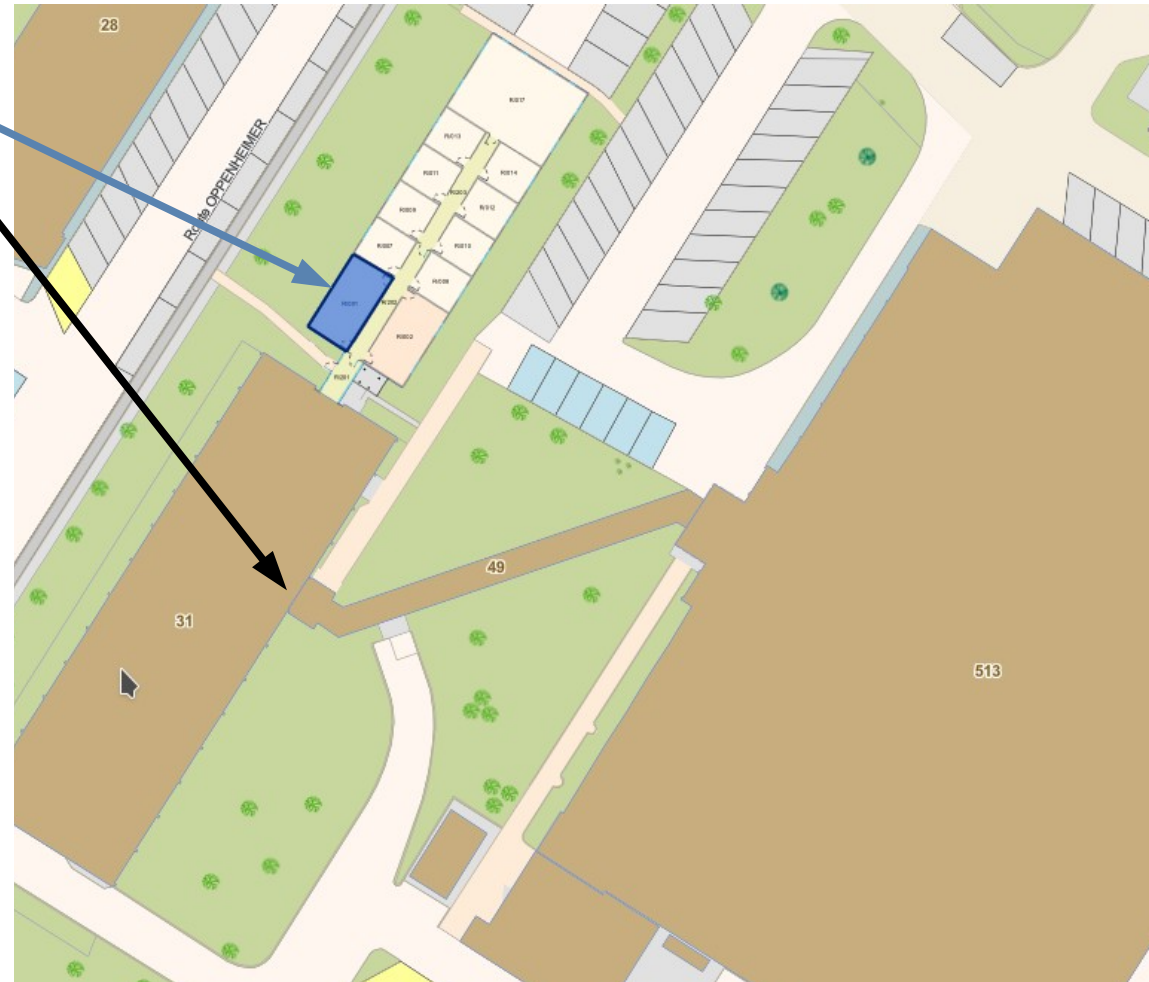


# VC 2 Room

## VC2: 600/R-001

- next to the Computing Centre
- enter building 31 and turn right
- electronic lock

600/R-001  
Badge validator



# Electronic locks

## How to open/close rooms with electronic locks?

- need **CERN access card to open and to close after VC**
- access card needs to be **validated at validation station**, e.g. 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<sup>1</sup>

*Vous pouvez maintenant utiliser votre badge pour ouvrir les serrures électroniques pour lesquelles vous avez reçu une autorisation<sup>1</sup>*

<sup>1</sup> To obtain authorizations, please contact / pour obtenir des autorisations, contacter :  
Locks.Keys@cern.ch or 76658

# Turn on Monitors/Projectors

- Carefully **read the TWiki** and follow the instructions one-by-one (printed manual will be in rooms)
  - Room PC, screens/projector, camera
- **Important: make sure that microphones are on**
  - press button at microphone to switch them on, if needed



# Starting the Video Conference

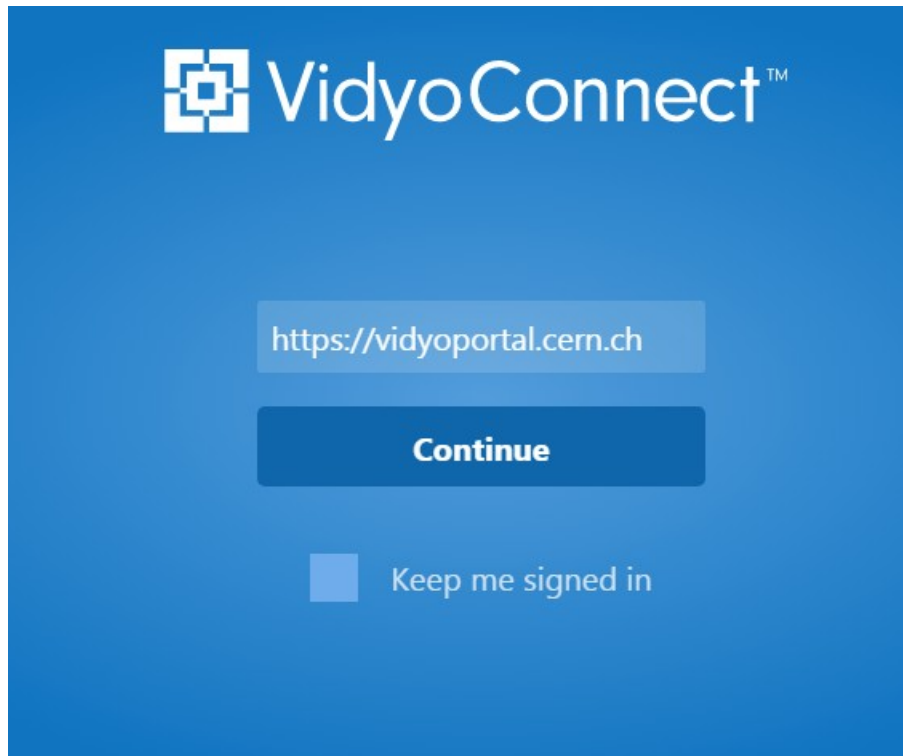
## Start Vidyo Connect

### → VC1:

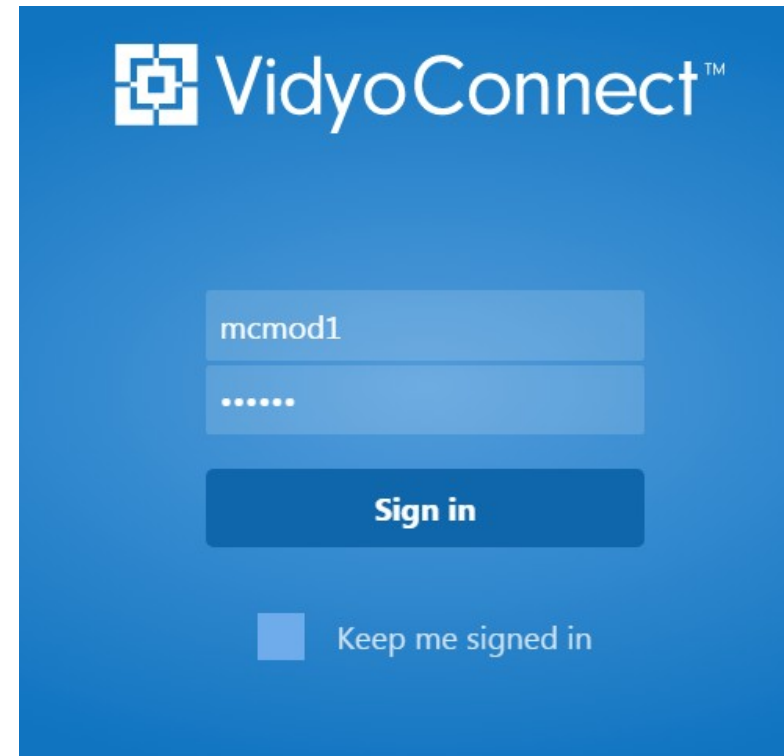
- user: **mcmmod1**
- password: **mod1mc**
- select and connect to
- **“Masterclasses\_2020\_VC1”**

### → VC2:

- user: **mcmmod2**
- password: **mod2mc**
- select and connect to
- **“Masterclasses\_2020\_VC2”**



The screenshot shows the VidyoConnect login interface. At the top left is the VidyoConnect logo. Below it, a text input field contains the URL `https://vidyoportal.cern.ch`. A dark blue button labeled "Continue" is positioned below the URL field. At the bottom, there is a checkbox labeled "Keep me signed in" which is currently unchecked.



The screenshot shows the VidyoConnect login interface. At the top left is the VidyoConnect logo. Below it, a text input field contains the username `mcmmod1`. Below the username field is a password field with masked characters (dots). A dark blue button labeled "Sign in" is positioned below the password field. At the bottom, there is a checkbox labeled "Keep me signed in" which is currently unchecked.



# Starting the Video Conference

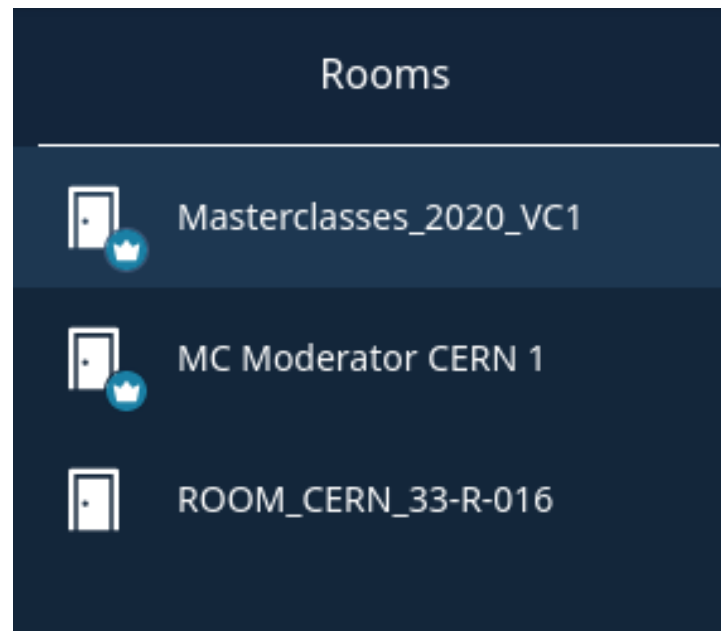
## Start Vidyo Connect

### → VC1:

- user: **mcmmod1**
- password: **mod1mc**
- select and connect to
- **“Masterclasses\_2020\_VC1”**

### → VC2:

- user: **mcmmod2**
- password: **mod2mc**
- select and connect to
- **“Masterclasses\_2020\_VC2”**



# Starting the Video Conference

## 🎯 Connect to the ROOM (part 1)

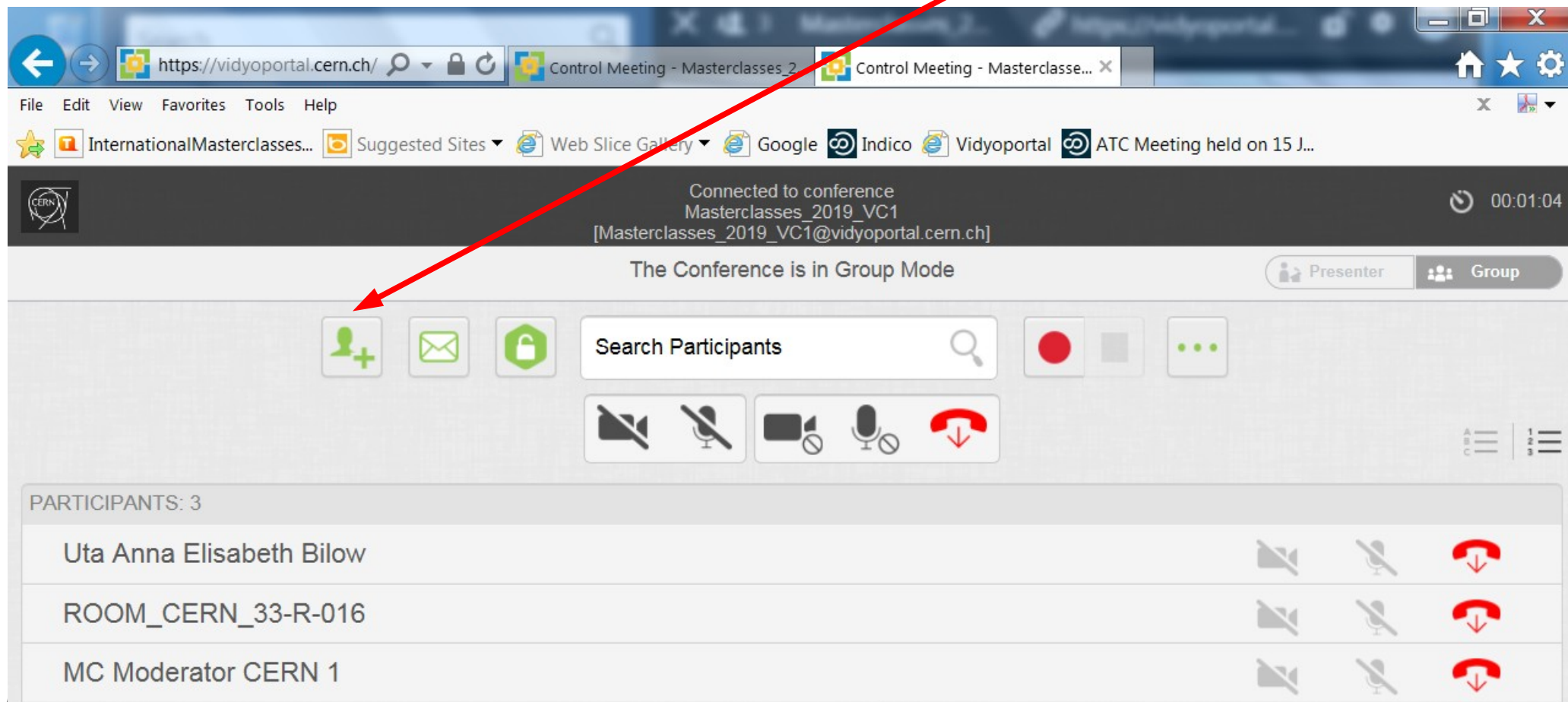
- ➡ if not yet visible in the window, go to bottom left hand side of the task bar and click on "**Moderate call**"

The screenshot displays a video conference interface. The top bar shows a search field, a window title 'Masterclasses\_2020\_VC1', and a URL 'https://vidyoportal.cern.ch/join/Wnq3V6cnnO'. The left sidebar contains navigation options: Meetings, People, Rooms, Dial out, and Call. The main area shows the conference title 'Masterclasses\_2020\_VC1' and a list of participants, including 'MC Moderator CERN 1'. The bottom toolbar features buttons for 'Start recording', 'Send invitation', and 'Moderate call'. A red arrow points to the 'Moderate call' button. The main content area displays the message: 'You're the only person in the call. As others join the call, you'll see them here.'

# Starting the Video Conference

## 📌 Connect to the ROOM (part 2)

- ➡ in the browser window, click on the left hand icon "**Add participant**"
- ➡ type "**ROOM\_CERN\_42-R-403**", "**ROOM\_CERN\_4-3-004**" or "**ROOM\_CERN\_600-R-001**"
- ➡ click on "**Invite**"



The screenshot shows a web browser window with the URL <https://vidyoportal.cern.ch/>. The browser's address bar and tabs are visible. The main content area displays a video conference interface. At the top, it shows the CERN logo and the text "Connected to conference Masterclasses\_2019\_VC1 [Masterclasses\_2019\_VC1@vidyoportal.cern.ch]". Below this, it indicates "The Conference is in Group Mode" and shows "Presenter" and "Group" buttons. The interface includes a search bar for participants, a "Search Participants" button, and a "Search" icon. There are also icons for video, audio, and chat. At the bottom, a list of participants is shown:

PARTICIPANTS: 3			
Uta Anna Elisabeth Bilow			
ROOM_CERN_33-R-016			
MC Moderator CERN 1			

# Video Conference Ready



# Moderating the Video Conference

## As a moderator, you can mute participants

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

The screenshot shows a web browser window with the URL <https://vidyoportal.cern.ch/>. The browser tabs are "Control Meeting - Masterclasses\_2..." and "Control Meeting - Masterclasse...". The browser address bar shows the URL. The browser menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The browser toolbar includes "InternationalMasterclasses...", "Suggested Sites", "Web Slice Gallery", "Google", "Indico", "Vidyportal", and "ATC Meeting held on 15 J...". The Vidyportal interface shows a CERN logo, "Connected to conference Masterclasses\_2019\_VC1 [Masterclasses\_2019\_VC1@vidyoportal.cern.ch]", and a timer "00:01:04". The conference is in "Group Mode". The interface includes a "Search Participants" search bar, a "Presenter" button, and a "Group" button. The participant list shows "PARTICIPANTS: 3" with two entries: "Uta Anna Elisabeth Bilow" and "ROOM\_CERN\_33-R-016". Each entry has a video camera icon, a microphone icon, and a red phone icon. A red arrow points to the microphone icon for "Uta Anna Elisabeth Bilow", and a green arrow points to the microphone icon for "ROOM\_CERN\_33-R-016".

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

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

# Sharing

- Press “present” on the remote control - shares whole screen
- Backup solution: share via Vidyo
- Vidyo click “**Share applications**”, select window/screen to share, click purple icon “**Share**”

The screenshot displays the Vidyo conference interface. On the left is a dark sidebar with navigation options: Meetings (4), People, Rooms, Dial out, and Call. The main area shows the conference details for 'Masterclasses\_2019\_VC1' with two participants: 'E3 EDU 33-R-016' and 'MM MC Moderator CERN 1'. At the bottom of the sidebar are buttons for 'Start recording', 'Send invitation', and 'Moderate call'. The main video area shows a meeting room with two people at a table, with a large screen displaying a space-themed image. The top of the interface shows a search bar, a close button, a participant count of 2, the meeting name 'Masterclasses\_2019...', and the URL 'https://vidyoportal.cern.ch/join/3...'. At the bottom of the video area is a control bar with icons for mute, video off, and a purple 'Share' icon (indicated by a red arrow).

# Sharing quiz via Vidyo

## Quiz is shown in full screen mode

- ➔ open the pptx quiz file and **start the slide show** (e.g. press F5)
- ➔ **hold "Alt" key and press "Tab"** (several times) to switch along the open windows without canceling slide show
- ➔ in VidyoConnect click the **"Share applications"** button, select **"POWERPOINT"** and click **"Share"**
- ➔ **exit with red button**

Which particle is the mediator of the strong force?



1

A. Neutralino

B. Z boson

C. Gluon

D. Quark



# Basic Communication Issues

## There are two moderators running the show

- both moderators should talk ~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 students
  - if you feel you've talked too much, hand over to your co-moderator, e.g. “Kate, this seems a perfect question for you”
- if you are new, it might help to have a coffee with your co-moderator



## Most of the students are not 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”**

## For technical problems, call 77777 and ask for Vidyo support



# ***Basic Communication Issues***

**🎯 Think about messages you want to pass, pick your option:**

**➡ CERN, physics and technology are cool and fun**

**➡ CERN is open and they can come for visit/internship/as students:**

- visits, virtual visits, traveling exhibitions
- BeamLine for Schools2020 - competition for teams, deadline March 31
- High-school Student Internship (5 countries each year)
- PhD students, summer/technical student

**➡ more about CERN: web, Youtube, Instagram/Twitter/Facebook, open data, local research groups**

**➡ we are normal and nice people, not crazy geniuses**

**➡ students do not need to be genius if they work hard**

**➡ people from their country/city take part in the research**

**➡ with STEM education they can easily find a job (IT, engineering)**

# Comments on Q&A

## Most difficult part: to encourage students to ask questions

- they are shy in front of their mates
- they don't speak English well, cannot express what they want to ask
- don't know the right words (e.g. in physics questions)
- for them, the moderators are considered “super-experts”



## Try to encourage them

- go through institute by institute and ask if the students have questions
- if there are still no questions, ask them what they want to know
  - Would you like to know more about us or about CERN? What about life at CERN?
- you can ask them some questions (similar to icebreaker questions)
- sometimes teachers or local physicists ask the questions on behalf of the students (or just translate what students asked in their language)

# **(Most) Frequently Asked Questions I**

→ for detailed answers see Moderators manual

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

- 3000 directly employed by CERN [Fellows, Assoc., Staff], 13000 Users, 100 nationalities

## **How can I come to work at CERN?**

- Visits, internships, BL4S, Summer Students (2-3 months, university stud.), PhD/summer/technica students

## **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**

- **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.**
- **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.**
- **Can the LHC create black holes that destroy the earth?**
  - **NO!** cosmic rays are hitting the earth since >4 B years, with energies up to 1000x > LHC
- **Why is the LHC sometimes stopped few 2 years? What was done in that time?**
  - **To make the LHC fit for higher energy and collision rates and improve the detectors.**

# ***(Most) Frequently Asked Questions III***

- **Is the LHC / are the experiments running right now?**
  - In Long Shutdown 2 right now - will restart in 2021.
- **Why do you continue running? Couldn't you stop after the discovery of the Higgs?**
  - More data needed to further investigate the Higgs properties. Higher LHC energy also gives hope to discover even more new particles.
- **How long the LHC will continue running? Are there any plans after the LHC?**
  - LHC runs until ~2035, only 2% of expected data taken so far [60 fb<sup>-1</sup> out of 3000 fb<sup>-1</sup>]. Studies on CLIC and FCC ongoing, to be reviewed in 2019/20 [European Strategy of Particle Physics] together with results from LHC.
- **I've heard on some anomaly that was found in the LHC data last year. Was this the discovery of a new particle?**
  - There are many measurements which show slight hits of new particles/interactions. However, none of them is strong enough so we need to accumulate more statistics.