



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



Using *ZOOM-events* for Scientific Conferences: the ICHEP2022 Experience

Conferences in Post-Pandemic Times

Lorenzo Rinaldi, Lorenzo Bellagamba, Paolo Giacomelli,
Roberto Giacomelli, Stefano Zani

The International Conference on High Energy Physics, ICHEP2022, Bologna (Italy), 6-13 July 2022



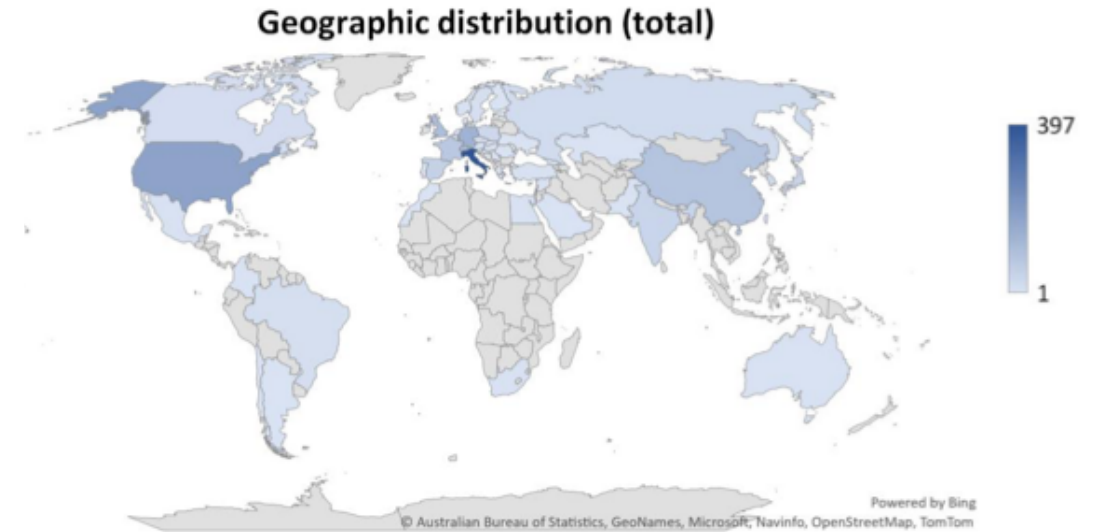
<https://www.ichep2022.it>

ICHEP is the largest and most important conference in HEP

ICHEP 2022 first big HEP conference post-pandemic

→ **fully hybrid** (in-presence and online participation)
ZOOM-events platform for online connection,
broadcasting and video-recordings

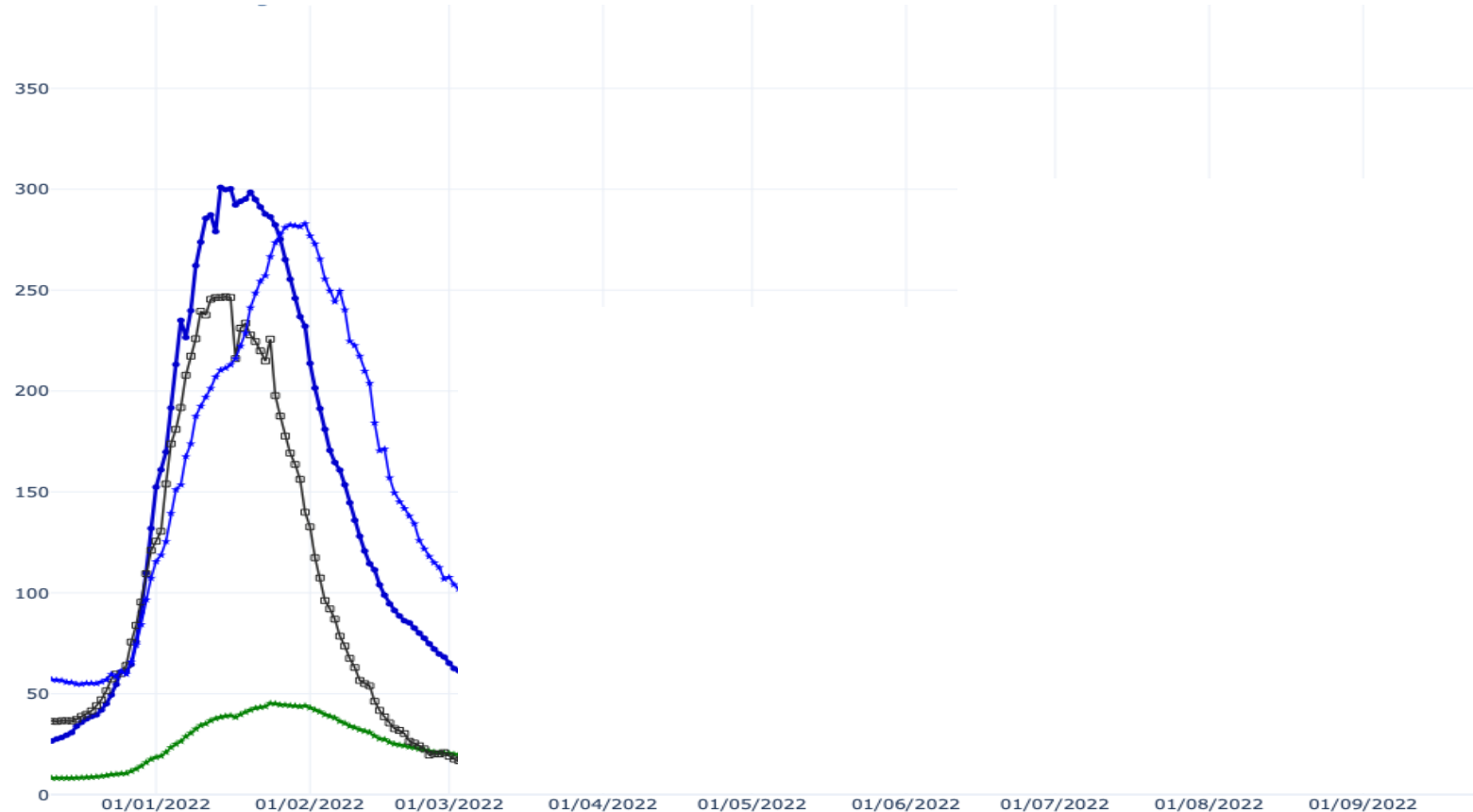
	Staff/ PostDocs	PhD Students	Total
In-person	804	344	1148
Online	235	86	321
Total	1039	430	1469



2022 pandemic timeline

Number of daily cases/100k inhabitants
(7-days average)

- Italy
- ★ Europe
- USA
- ★ World



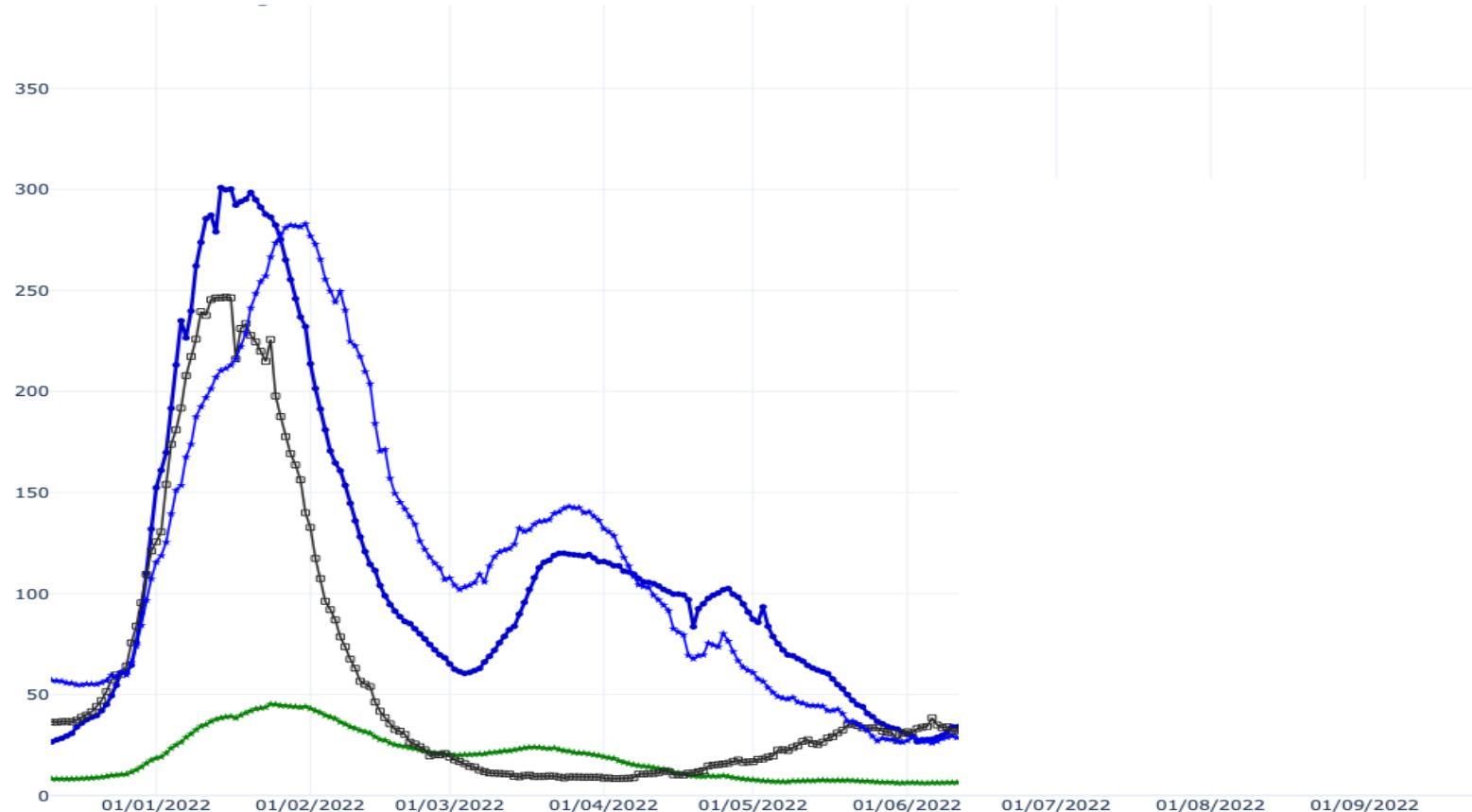
Dec. 2021: high Omicron.1
peak
first contacts with ZOOM

Covid Data: <https://covid19.infn.it>

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Omicron.2 peak

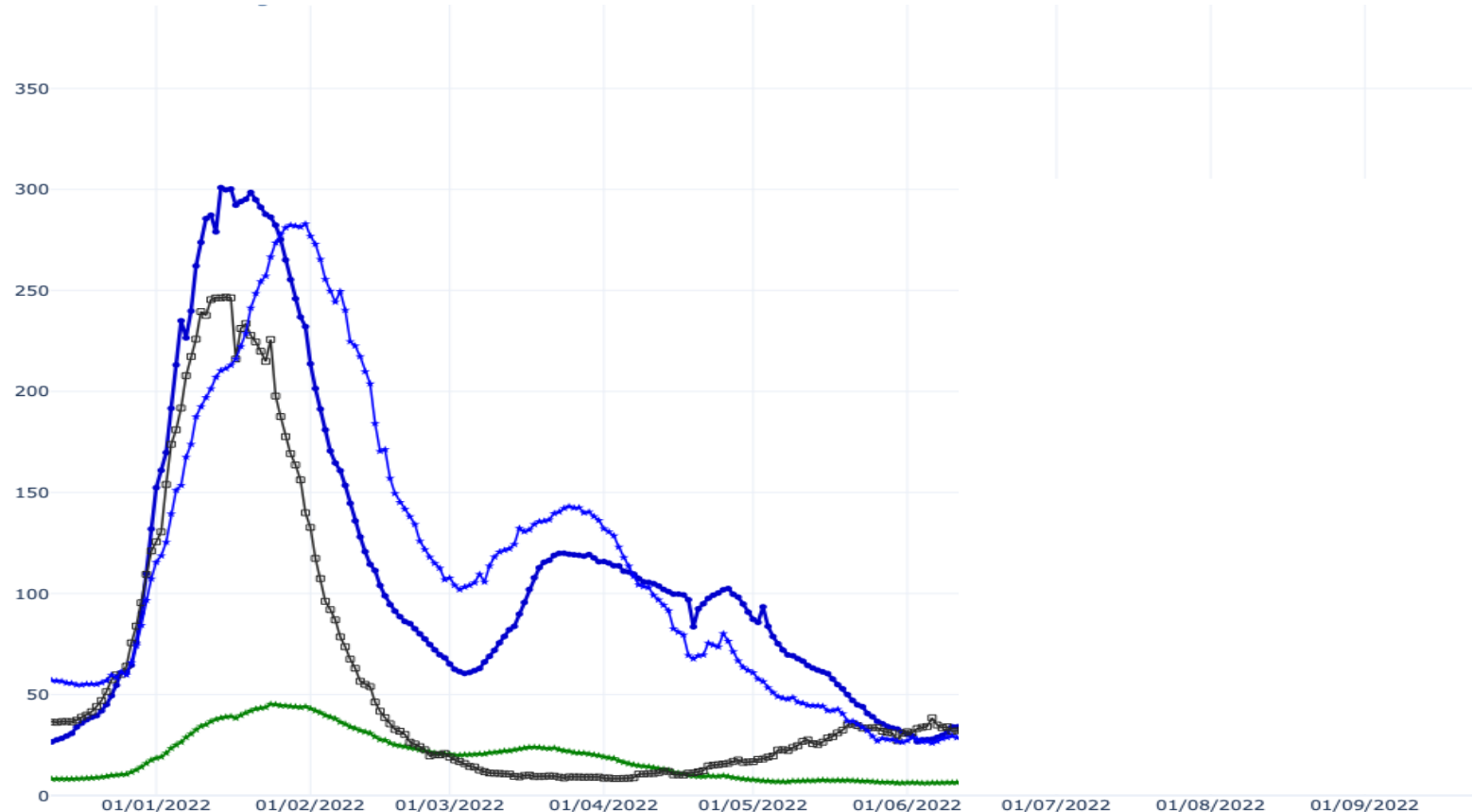
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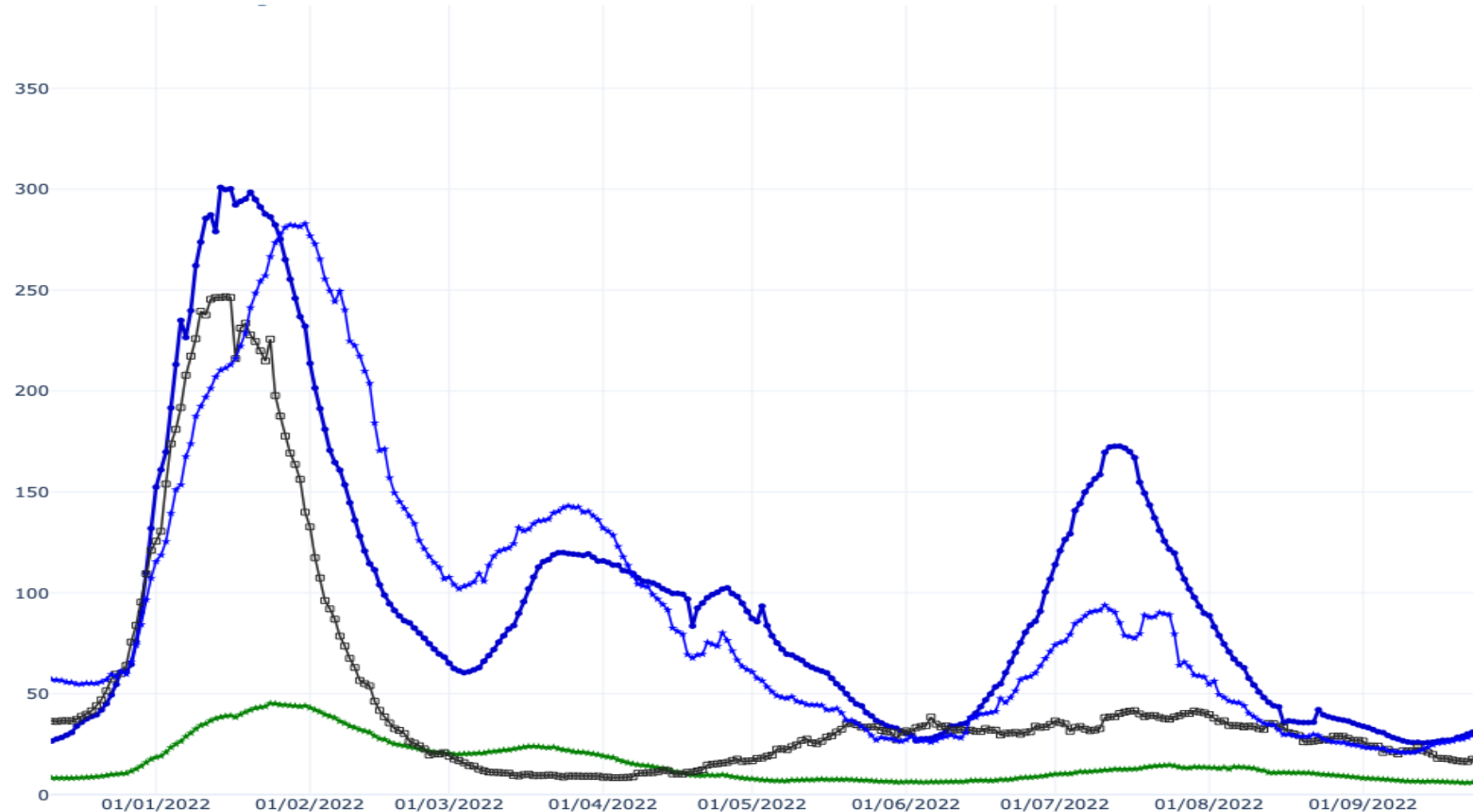
June 2022:
Contract with *ZOOM-Events*

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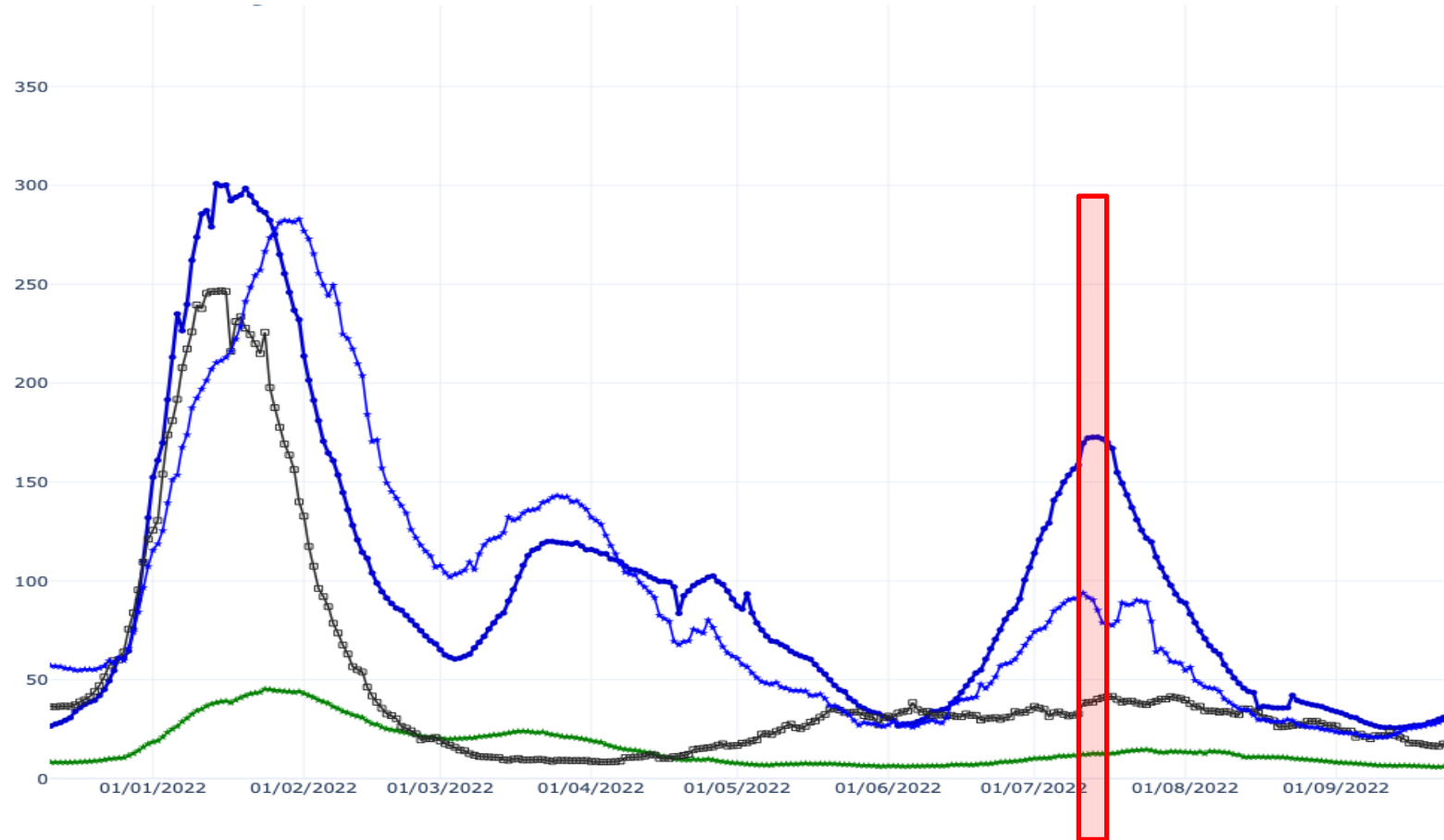
July 2022: a new
infection peak...

Covid Data: <https://covid19.infn.it>

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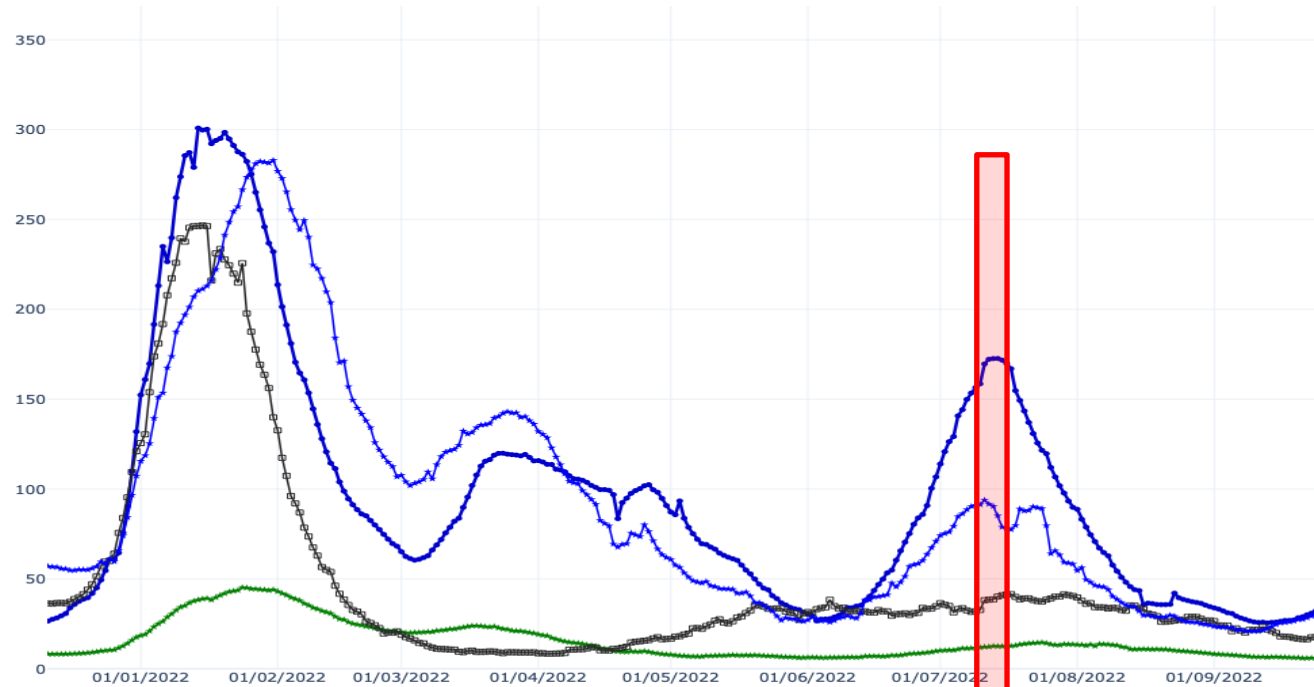
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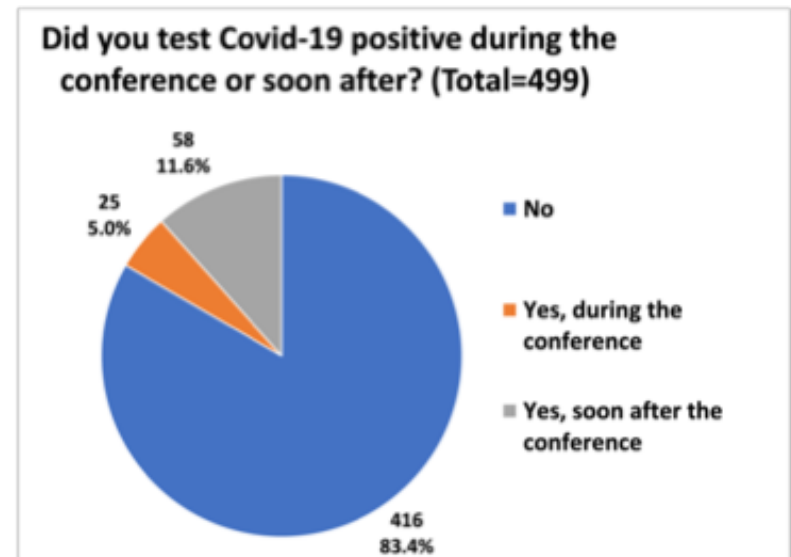
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Luckily a relatively small number of hospitalizations and deaths (thanks to large-scale vaccination and immunization) but...

At that time, still **restrictions** for infected:

- no travel
- isolation/quarantine



Conference timetable

Days 1 – 2 – 3 (7th – 9th July)

17 parallel sessions + 2 special events

12 rooms for parallel at every given time

Day 4 (Sunday 9th July)

Excursion and satellite meetings

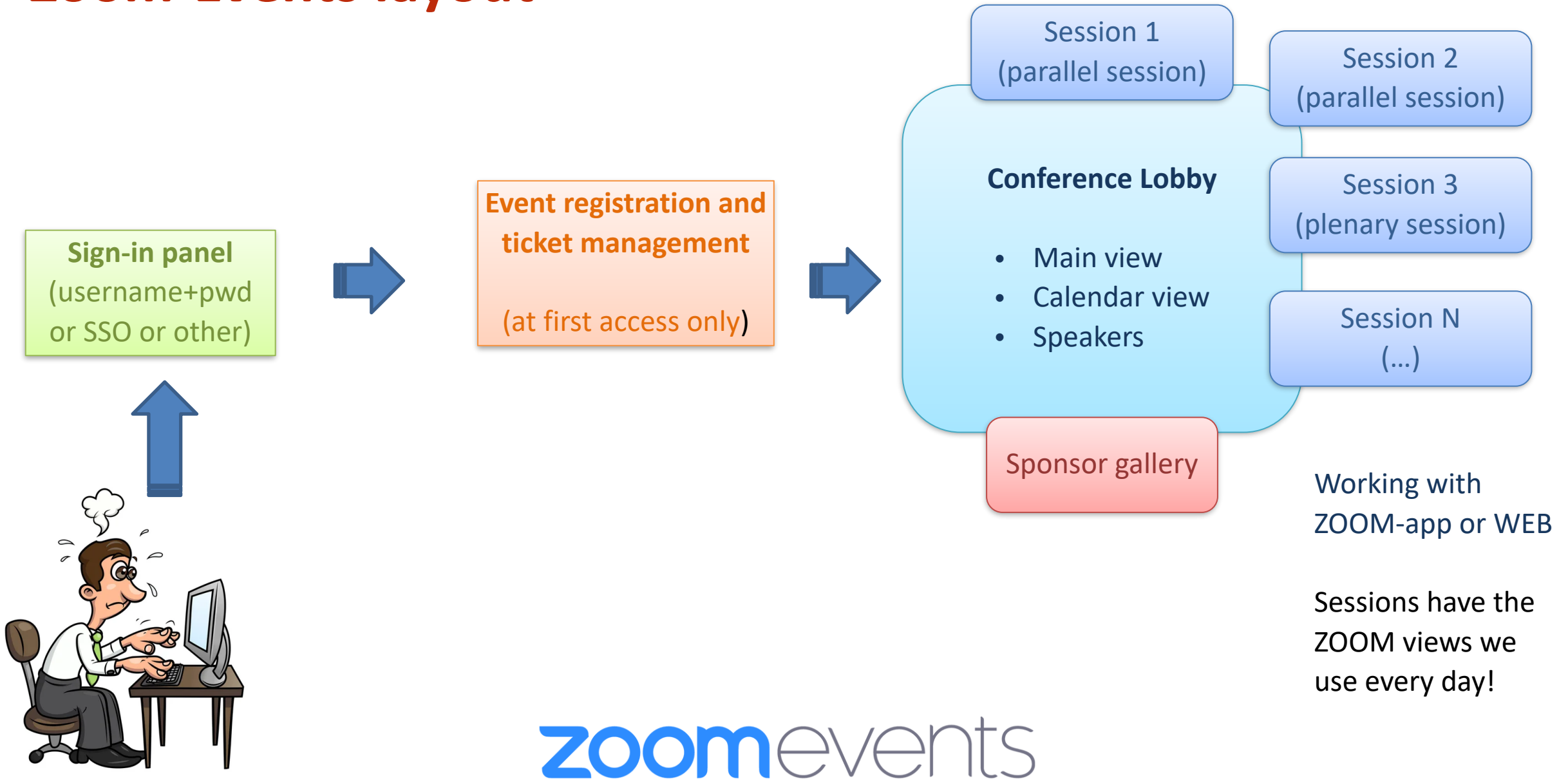
Days 5 – 6 – 7 (11th – 12th July)

Plenary sessions (in the main Auditorium)

	Thursday 7 July	Friday 8 July	Saturday 9 July	
Higgs Physics	Room 5 (Avorio)	Room 10 (Magenta B)	Room 10 (Magenta B)	Higgs Physics
Beyond the Standard Model	Room 10 (Magenta B)	Room 10 (Magenta B)	Room 10 (Magenta B)	Beyond the Standard Model
Neutrino Physics	Room 2 (Italia)	Room 2 (Italia)	Room 2 (Italia)	Neutrino Physics
Top quark and EW Physics	Room 4 (Rossa)	Room 8 (Blu)		Top quark and EW Physics
Quark and Lepton Flavour Physics	Room 9 (Indaco)	Room 9 (Indaco)	Room 9 (Indaco)	Quark and Lepton Flavour Physics
Strong Interactions and Hadron Physics	Room 1 (Europa Auditorium)	Room 1 (Europa Auditorium)	Room 1 (Europa Auditorium)	Strong Interactions and Hadron Physics
Heavy Ions	Room 3 (Verde)	Room 3 (Verde)	Room 5 (Avorio)	Heavy Ions
Astroparticle Physics and Cosmology	Room 8 (Blu)	Room 8 (Blu)	Room 8 (Blu)	Astroparticle Physics and Cosmology
Dark Matter	Room 11 (Magenta A)	Room 11 (Magenta A)	Room 11 (Magenta A)	Dark Matter
Formal Theory	Room 7 (Gialla)	Room 7 (Gialla)	Room 7 (Gialla)	Formal Theory
Accelerators: Physics, Performance and R&D for future	Room 12 (Celeste)	Room 5 (Avorio)		Accelerators: Physics, Performance and R&D for future
Operation, Performance and Upgrade (Incl. HL-LHC) of Present Detectors for Future Facilities, R&D, novel techniques	Room 6 (Bianca)	Room 6 (Bianca)	Room 6 (Bianca)	Operation, Performance and Upgrade (Incl. HL-LHC) of Present Detectors for Future Facilities, R&D, novel techniques
Computing and Data handling		Room 4 (Rossa)	Room 4 (Rossa)	Computing and Data handling
Education and Outreach		Room 12 (Celeste)	Room 12 (Celeste)	Education and Outreach
Equality, Diversity and Inclusion		Room 3 (Verde)	Room 3 (Verde)	Equality, Diversity and Inclusion
Technology Applications and Industrial Applications		Room 7 (Gialla)		Technology Applications and Industrial Applications
EDI round table			Room 7 (Gialla)	EDI round table
When Cosmology meets the Arts and Philosophy			Room 7 (Gialla)	When Cosmology meets the Arts and Philosophy

+ poster, sponsor, lunch and coffee break areas...

Zoom-Events layout



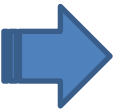
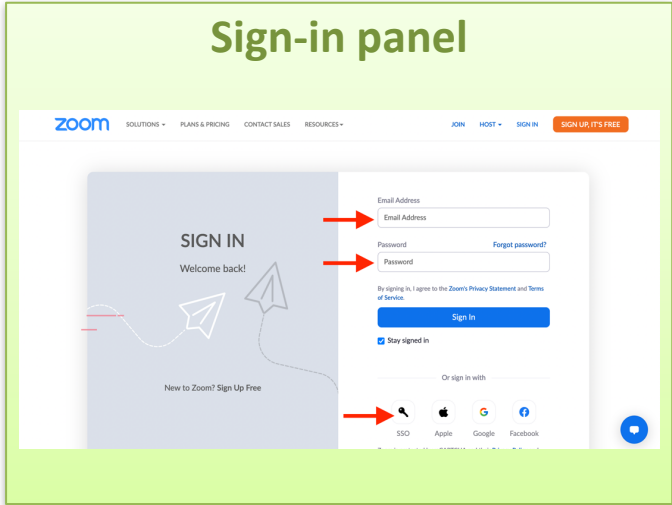
zoomevents

Zoom-Events layout



zoomevents

Event registration and ticket management



Choose Ticket

☒ ICHEP2022 Ticket Free

All Tracks

Sales end on Wed, Jul 13, 2022 08:00PM CEST

☐ Reserved Ticket Free

Contact ichep2022-zoom@lists.bo.infn.it to use it

All Tracks

Sales end on Wed, Jul 13, 2022 08:00PM CEST


[Continue](#)

Registration and tickets

Your registration is complete

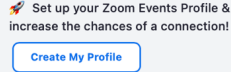
An email with this ticket has been sent to rinaldil@cern.ch


ICHEP2022


 Jul 7, 2022 8:00AM - Jul 13, 2022 8:00PM CEST
Organized by ichep2022-zoom
1 Ticket
[Add to Google](#) [Yahoo](#) [Outlook](#) [iCal](#)

ICHEP2022 Ticket Free

My ticket

 [Create My Profile](#)

 **Mindy Leveue** She/her
Product Manager @ Globotech
Don't forget to be awesome!

 **Blanc** he/him
... & raised :)

[Join Lobby](#) [Back to Event](#)



Review Order

ICHEP2022

Jul 7, 2022 8:00AM - Jul 13, 2022 8:00PM CEST

Ticket [Edit Ticket](#)

ICHEP2022 Ticket

All Tracks

Email Address * rinaldil@cern.ch

☒ I have read and agree to the [Event Participant Terms of Use](#) and acknowledge that my contact and any other information provided as part of this registration process is subject to the [Host's Privacy Notice](#).

☒ I agree to receive marketing communications from the Event Host and its sponsors.

☒ I agree I may be recorded or live-streamed at this event and the event host may use my image, voice, and name for commercial purposes (including for public viewing of the recording or livestream) on the Zoom Events platform.

[Confirm Registration](#)

Order Summary

1 x ICHEP2022 Ticket	Free
Total	Free

Geo-blocking

This event is open to users located on this [list of countries and regions](#). Users located outside of these countries or regions will not be able to register for this event.



Event registration

Access was **restricted** to conference participants only
(CSV with the list of emails)

All participants received an invitation by email and
detailed instructions for signing in

Sign-in panel

The screenshot shows the Zoom sign-in interface. On the left, a grey panel contains the text "SIGN IN", "Welcome back!", and "New to Zoom? Sign Up Free" with a paper airplane icon. On the right, a white panel contains the sign-in form. Red arrows point to the "Email Address" input field, the "Password" input field, and the "SSO" button. The form also includes a "Forgot password?" link, a "Sign In" button, a "Stay signed in" checkbox, and social login options for Apple, Google, and Facebook. The Zoom logo and navigation links are at the top.

zoom SOLUTIONS ▾ PLANS & PRICING CONTACT SALES RESOURCES ▾ JOIN HOST ▾ SIGN IN SIGN UP, IT'S FREE

SIGN IN
Welcome back!

Email Address
Email Address

Password [Forgot password?](#)
Password

By signing in, I agree to the [Zoom's Privacy Statement](#) and [Terms of Service](#).

Sign In

☒ Stay signed in

Or sign in with

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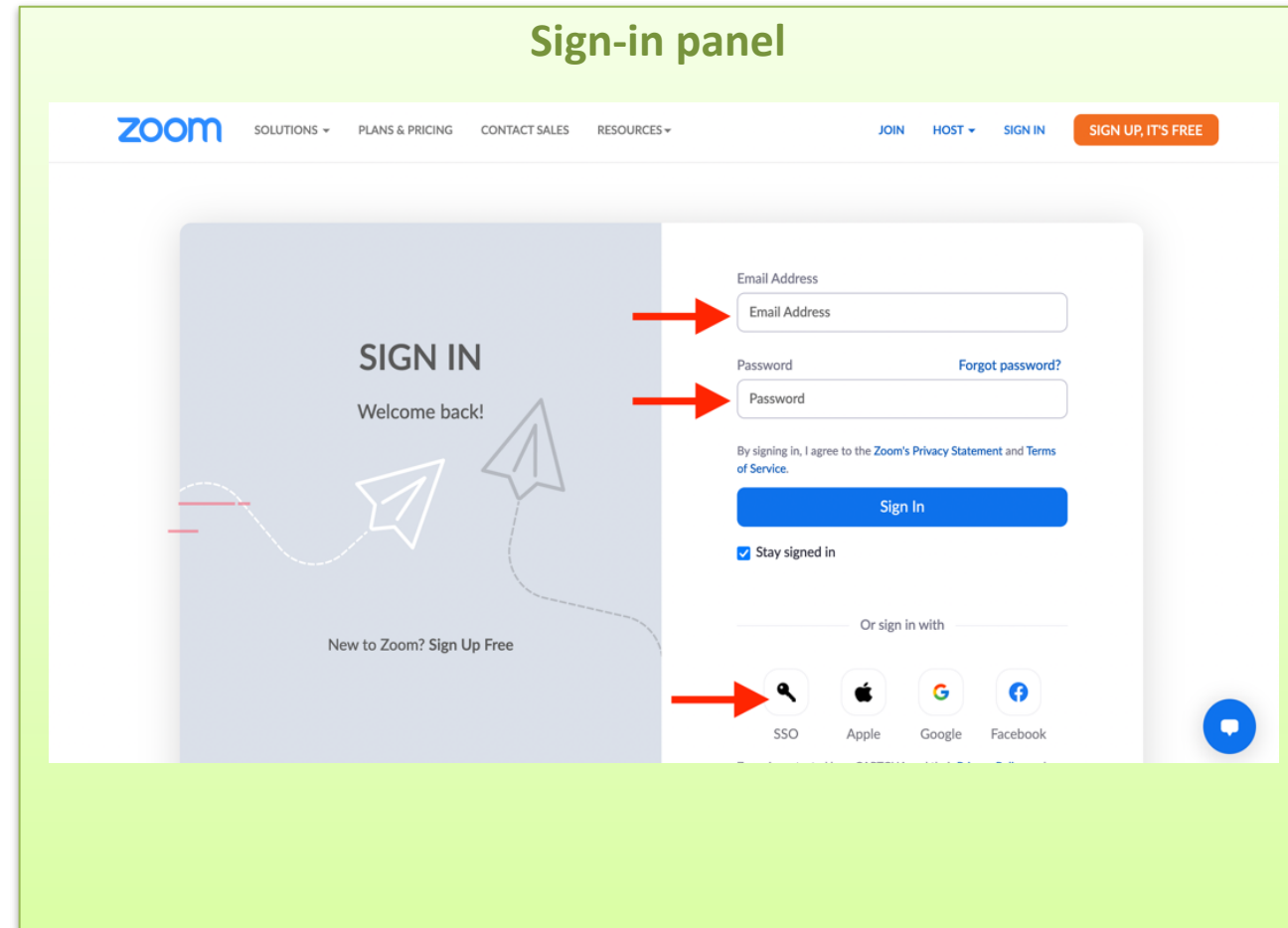
The problem:

Conference registration with INFN-INDICO account (email)

In many cases, INDICO and ZOOM credentials DID NOT match (also CERN username-email mismatch)

In that cases, it was asked to participants to communicate their usual ZOOM account to be added to the access list

That was hard work!
(more than 600 emails **promptly** handled in one week...)



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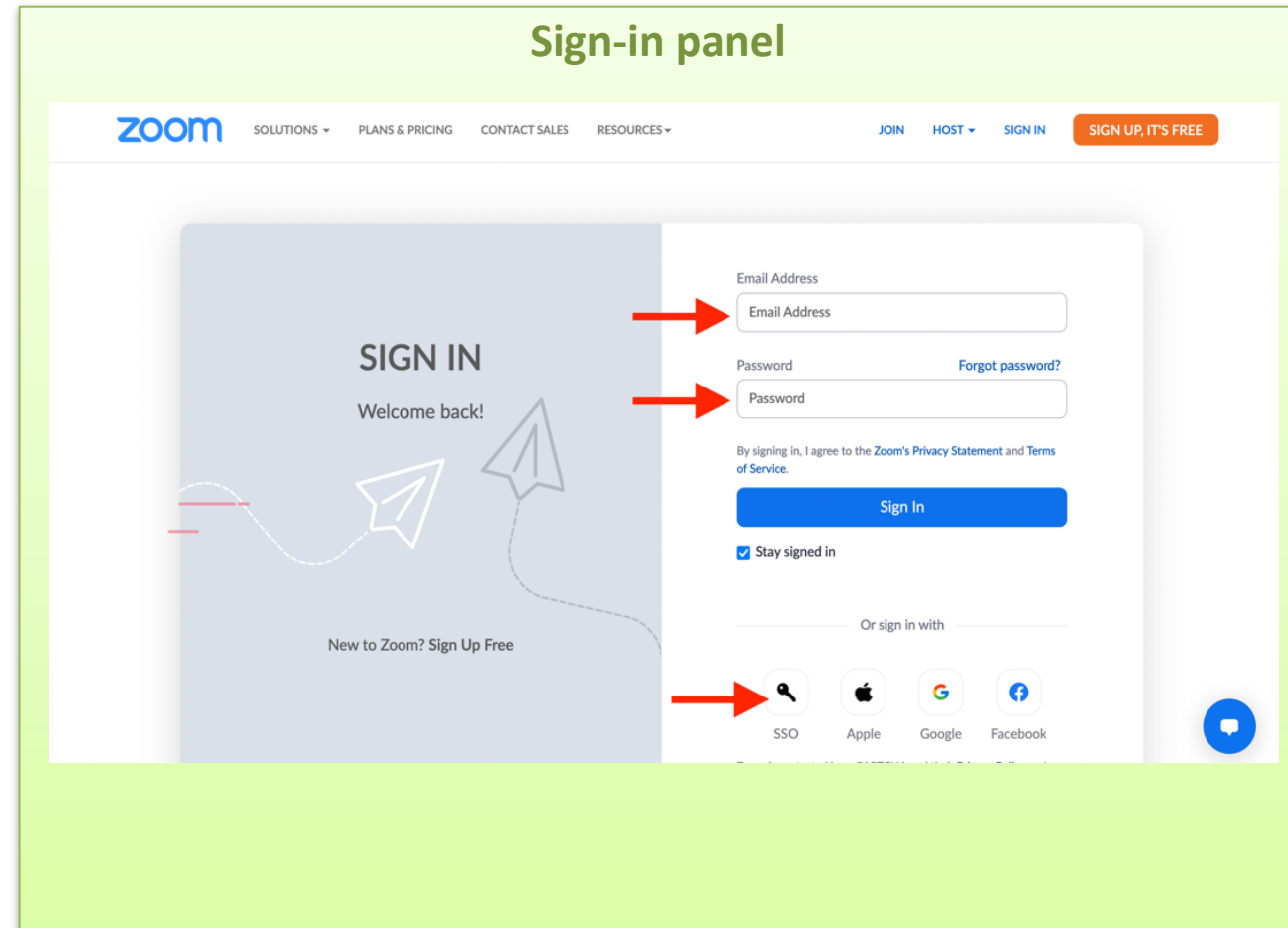
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Maybe a ZOOM/INDICO authentication integration would have helped a lot! (ZOOM devs notified)

Ticket management

Conference Fee	Regular (half price for students)
Early registration	500 €
Late registration	600 €
On site registration	700 €
Online participation	200 €

ZOOM-events ticket: **FREE** for all registered participants

Several attendees registered or changed their plans at the last minute (or even during the conference...): fee difference refunded

Periodical check of accesses (if attendees did actually pay!)

Daily, ~50 free RESERVED tickets for special/problematic cases

NO geo-blocking (remote connection from everywhere)

Choose Ticket

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Free

All Tracks

Sales end on Wed, Jul 13, 2022 08:00PM CEST

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Contact ichep2022-zoom@lists.bo.infn.it to use it

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[Edit Ticket](#)

ICHEP2022 Ticket

All Tracks

Email Address *
rinaldil@cern.ch



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The Lobby and the Sessions

Conference Lobby

ICHEP2022 • July 07 - 13

LobbySessionsItinerarySponsorsSpeakersLR...



ICHEP 2022
XLI
International Conference
on High Energy Physics
Bologna (Italy)

6-13 07 2022

5
DAYS

15
HOURS

29
MINUTES

0
SECONDS

Sessions

Discover and bookmark sessions that pique your interest


Explore Sessions

Itinerary

Join your bookmarked sessions with ease

View Your Itinerary

Featured by Event Organizer




ICHEP 2022
XLI
International Conference
on High Energy Physics
Bologna (Italy)

6-13 07 2022

Mon Jul 11 08:30 AM - 01:30 PM

Plenary




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Mon Jul 11 02:00 - 07:30 PM

Plenary




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Higgs Physics

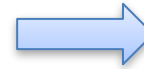
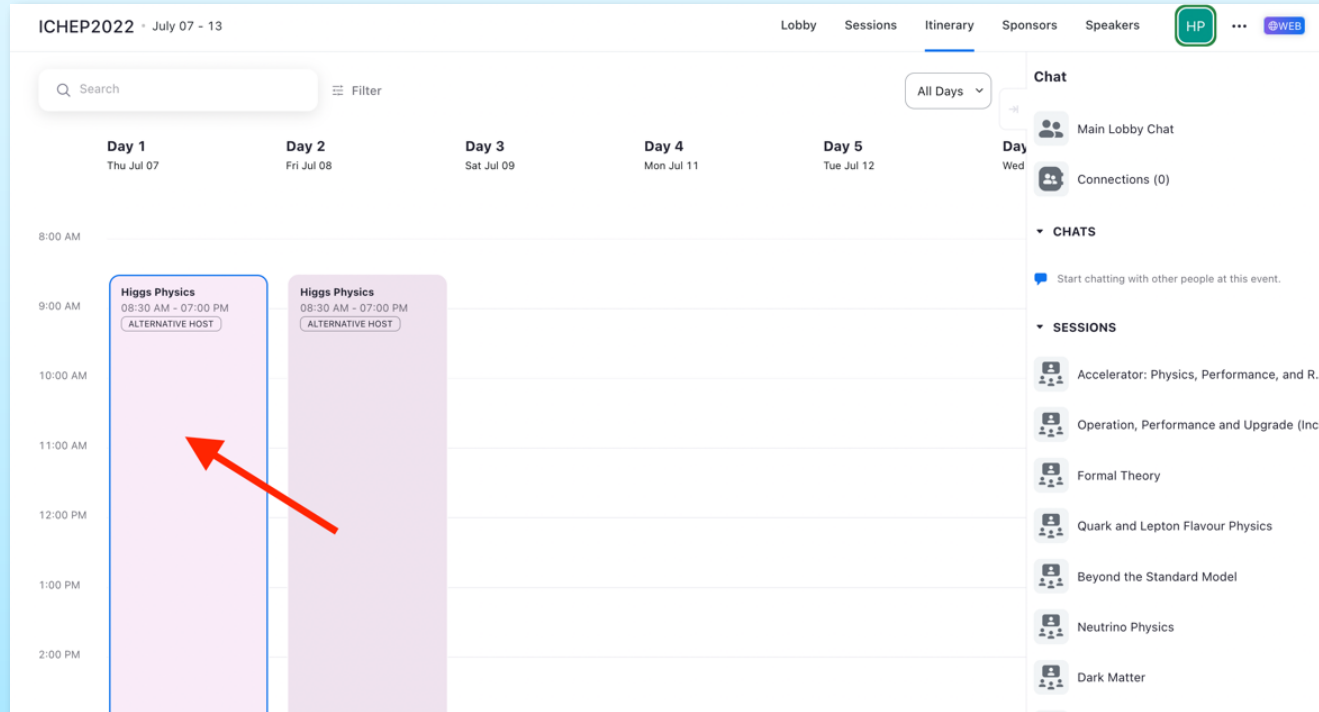
Neutrino Physics

Plenary

10

The Lobby and the Sessions

Conference Lobby (calendar view)



This screenshot shows the details for the 'Higgs Physics' session. At the top, it says 'You're the Alternative Host' and 'Higgs Physics'. Below this, it indicates the session is 'Live' on Thursday, July 7, from 08:30 AM to 07:00 PM. A 'Join' button is highlighted with a red arrow, and a small icon shows 6 participants. The 'Speakers' section lists six individuals: Sylvie Braibant (Title, UniBO (LOC liaison)), Karsten Koeneke (Freiburg), Christophe Grojean (DESY and Humboldt Uni...), Maria Cepeda Hermida (CIEMAT), Yuji Enari (ICEPP), and Laura Reina (Florida State Univ.). At the bottom, it says '1 Higgs Physics' and a 'View more details' link.



Higgs Physics



Parallel sessions configuration

A dedicated *ZOOM-events* session was created for each active parallel session in a given time window

Common account (ichep2022_XX) created for ZOOM session management (i.e. session start → delicate operation)

ZOOM-speaker role assigned to the parallel session convenors and to the common account. Convenors did know the credentials to access and manage their rooms
(instruction check-list provided to convs)

All other participants entered the sessions with muted microphone and camera off

Convenors invited remote speakers to unmute, slide shows driven by the convenors from real rooms

Plenary sessions configuration

Plenary sessions

Dedicated *ZOOM-events* sessions were created for the 6 plenary sessions (morning-afternoon of 11th – 12th July)

Common account created for ZOOM session management (ic hep2022_00).

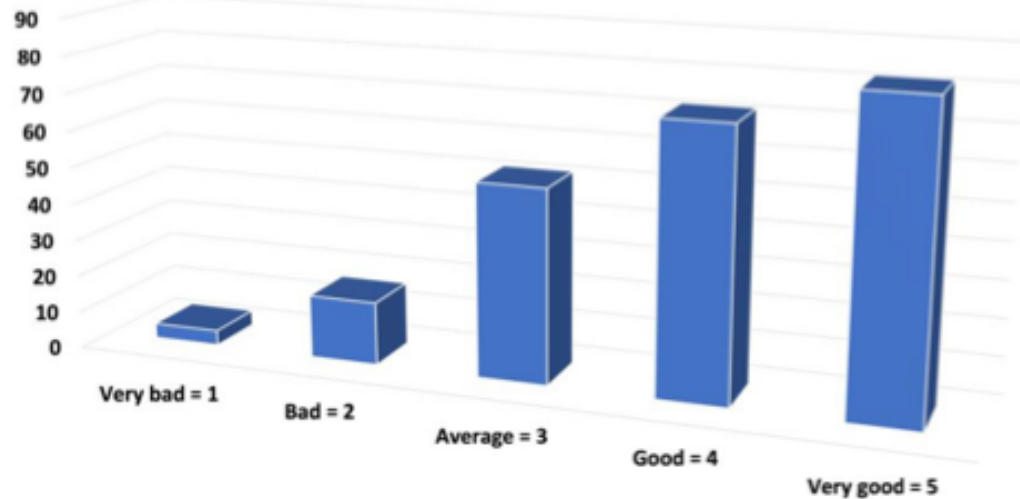
Plenary configured in broadcast modality (no possibility for connected people to use the microphone, possibility to write questions on the chat)

Speaker role granted to remote speakers

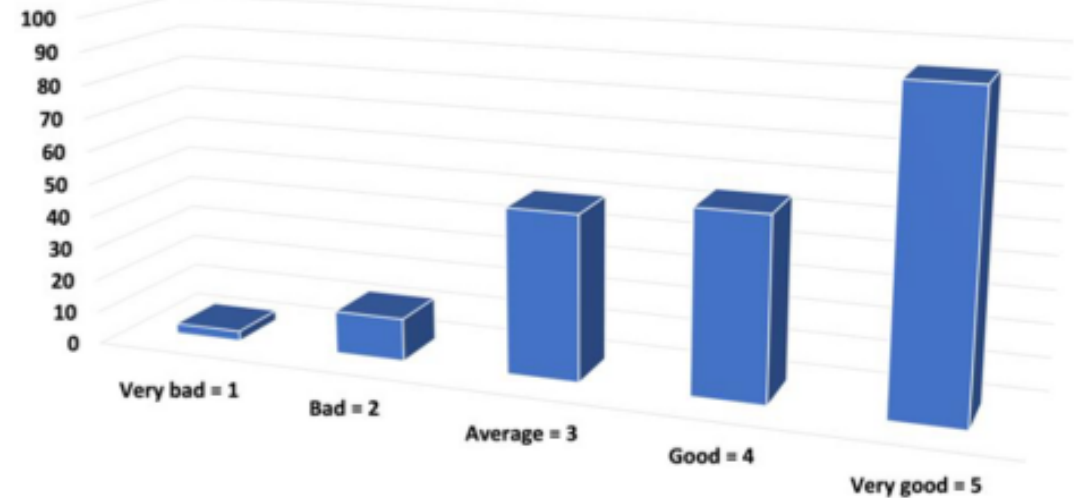
Survey

More than 500 attendees answered the survey distributed soon after the conference

Online participation: evaluate the experience of the remote participation with ZOOM events (Total=227, Mean=3.93, Sigma=1.02)



Online participation: evaluate the support for technical problems related to the ZOOM events platform (Total=215, Mean=4.04, Sigma=1.02)



In general **very positive** feedback (here reported answers on online participation)

Outlook and conclusions

ICHEP2022 conference was held in Bologna (in presence) with the possibility of remote attendance with the *ZOOM-events* platform

Due to the covid19 pandemic trend, several in-presence participants switched to on-line modality (last minute!)

Intense amount of work for configuring and managing the *ZOOM-events* platform and for user support

Excellent performance of the online participation, very high satisfaction level from participants

Thank you!



lorenzo.rinaldi@unibo.it



backup

Past ICHEP editions

I Rochester (1950)	XI Geneva (1962)	XXI Paris (1982)	XXXI Amsterdam (2002)
II Rochester (1952)	XII Dubna (1964)	XXII Leipzig (1984)	XXXII Beijing (2004)
III Rochester (1952)	XIII Berkeley (1966)	XXIII Berkeley (1986)	XXXIII Moscow (2006)
IV Rochester (1954)	XIV Vienna (1968)	XXIV Munich (1988)	XXXIV Philadelphia (2008)
V Rochester (1955)	XV Kiev (1970)	XXV Singapore (1990)	XXXV Paris (2010)
VI Rochester (1956)	XVI Chicago (1972)	XXVI Dallas (1992)	XXXVI Melbourne (2012)
VII Rochester (1957)	XVII London (1974)	XXVII Glasgow (1994)	XXXVII Valencia (2014)
VIII Geneva (1958)	XVIII Tbilisi (1976)	XXVIII Warsaw (1996)	XXXVIII Chicago (2016)
IX Kiev (1959)	XIX Tokyo (1978)	XXIX Vancouver (1998)	XXXIX Seoul (2018)
X Rochester (1960)	XX Madison (1980)	XXX Osaka (2000)	XL Prague (2020, virtual conference)

Parallel sessions

Parallel Sessions

The first three days of the conference (7-9 July) hosted 17 sessions, with 12 running in parallel at every given time, listed in the following table.

Parallel sessions
1 - Higgs Physics
2 - Neutrino Physics
3 - Beyond the Standard Model
4 - Top quark and EW Physics
5 - Quark and Lepton Flavour Physics
6 - Strong interactions and Hadron Physics
7 - Heavy Ions
8 - Astroparticle Physics and Cosmology
9 - Dark Matter
10 - Formal Theory
11 - Accelerators: Physics, Performance and R&D for future facilities
12 - Operation, Performance and Upgrade (Incl. HL-LHC) of Present Detectors
13 - Detectors for Future Facilities, R&D, novel techniques
14 - Computing and Data handling
15 - Education and Outreach
16 - Equality, Diversity, and Inclusion
17 - Technology and Industrial Applications

2022 Pandemics trend: around the world and in Bologna

