Introduction
17:00-17:10
Prof. Dr. Carmen Faso, MCID Co-Chair
Prof. Dr. med. Nicola Low (Moderator)

Speaker presentation
17:15- Dr. Emma Hodcroft, Institute of Social and Preventive Medicine, UniBern
“What is Omicron and how do we identify it?”

17:30- Prof. Dr. Volker Thiel, Institute for Virology and Immunology, Vetsuisse, UniBern
“How is Omicron different from other variants?”

17:45- PD Dr. Christian Althaus, Institute of Social and Preventive Medicine, UniBern
“How well does Omicron spread compared to other variants?”

18:00- Prof. Dr. med. Annelies Wilder-Smith, Institute of Social and Preventive Medicine, UniBern
“What does Omicron mean for international travel?”

18:15- Prof. Dr. Joseph Francois, World Trade Institute, UniBern
“Why and how does Omicron cause an international economic shock?”

Panel discussion
Including the speakers above, together with:

Prof. Dr. Dr. Claus Beisbart
Institute of Philosophy, UniBern

PD Dr. med. Manuela Funke-Chambour
Department for Biomedical Research, Inselspital
All VOC Delta-specific mutations were present in sequencing databases before July 2020.
GISAID annotated mutations in Human sequences in % of all sequences compared to Omicron

% of annotated mutation

Mutation annotated in GISAID

% Human (no Omicron) Sequences GISAID 5. Dec. 2021 (n=5,734,824)

% Omicron GISAID 5. Dec. 2021, only > 80% shown (n=497)
Delta

- T478K
- L452R
- Δ156-157
- R158G
- T19R
- P681R
- D950N

Omicron

- G496S
- Q498R
- Y505H
- Q446S
- N501Y
- N440K
- S373F
- S377P
- S378L
- L494D

- G142D/Δ143-145
- Δ69-70
- A67V
- T9S
- ins9/14
- L21F/21L

- Δ111/212

- H655Y
- P681N
- N679K
- D796Y

COG-UK Mutation Explorer

https://twitter.com/COGUK_ME/status/1465455990204252160
On Friday Nov 26\textsuperscript{th} 2021, WHO declared B.1.1.529 VOC Omicron

- >30 mutations is the spike gene
- rapid spread in some regions in South Africa
- increased frequency of re-infections with omicron compared to previous VOCs
What do we need to know? What is happening right now?

- will omicron replace Delta?
- is there immune evasion?
- will severity of disease change?
- will vaccines still protect?
- will antivirals and therapeutc antibodies still work?
What do we need to know? What is happening right now?

- will omicron replace Delta? epidemiology soon; lab experiments will take time
- is there immune evasion? neutralization data soon T-cell data will take time
- will severity of disease change? epidemiology (weeks - months)
Is there immune evasion?

https://twitter.com/sigallab/status/1468325162860826634?s=21
Is there immune evasion?

https://twitter.com/CiesekSandra/status/1468465347519041539
What do we need to know? What is happening right now?

- Will omicron replace Delta? Epidemiology soon; lab experiments will take time
- Is there immune evasion? First neutralization data available
- Will severity of disease change? Epidemiology (weeks - months)
What do we need to know? What is happening right now?

- will vaccines still protect? epidemiology (weeks – months)
  lab experiments will take time

- will antivirals and therapeutic antibodies still work?
  some antibodies may not work anymore (data expected soon)
  polymerase and protease inhibitors very likely still active
A word on travel bans:

- Thanks to our colleagues in South Africa for their great work!

- Since almost two weeks scientists are trying to distribute and share virus isolates – urgently needed to perform lab experiments

- Many flights are canceled – no isolate shipped so far!
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