

## Program

The Auditorium Ettore Rossi  
Kinderklinik (KKL), Freiburgstrasse 15, 3010 Bern

8:30 – 11:30

### Foyer Auditorium Ettore Rossi/KR1

#### Poster Exhibition

with Unictetra, Innovation Office, Grants Office and FELS Network

### Auditorium Ettore Rossi

12:00 – 12:15

#### Welcome Address

Prof. Dr. Mark A. Rubin

Director DBMR

12:15 – 13:00

#### Keynote Lecture

Prof. Dr. Hans Clevers

Head of pharma Research & Early Development (pRED), Roche (CH)

Professor in Molecular Genetics, the University of Utrecht (NL)

*"Organoids to Model Human Disease"*

13:00 – 13:45

#### Johanna Dürmüller-Bol DBMR Research Award 2023

#### Welcome Address

Mr. Marc Stucki

General Manager of the Foundation Johanna Dürmüller-Bol

#### Shortlist Project Presentation

moderated by Prof. Dr. Volker Enzmann

13:45 – 14:15

#### Break

14:15 – 14:30

#### Case Study by Innovation Office

14:30 – 15:00

#### Award Ceremony

Benoît Pochon Prize 2022

Best DBMR Publication 2022 Prize

Research Prize Alumni MedBern

Poster Prize Best Stem Cell Project

DBMR Poster Prizes 2023

Johanna Dürmüller-Bol DBMR Research Award 2023

Followed by an Apéro

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#### Background

- Despite abundant drug effective; only corticosteroids are used for the treatment of SARS-CoV-2 infection. Emerging SARS-CoV-2 variants with higher transmissibility and resistance to specific drug therapy.
- Molnupiravir (Merck) is a SARS-CoV-2 replication inhibitor, a nucleoside analog.
- Through modeling and simulation, we investigated the antiviral therapy with molnupiravir within-host reproductivity and within-host transmissibility.

Fig. 1: Viral kinetics model  
A. Target-cell limited model



B. Ordinary Differential Equation system

$$\begin{aligned} \frac{dT}{dt} &= -\beta TV \\ \frac{dI}{dt} &= \beta TV - \delta I \\ \frac{dV}{dt} &= (1-\eta)pI - c(1 + \epsilon_{immunity})V \end{aligned}$$

#### Results

- Viral load dynamics reached at 5.4 dpi and 28.4 Ctmin at 8.1 dpi.
- An increased R<sub>0</sub> results in higher viral load peaks (25.2 (152-402%), whereas d
- Treatment with molnupiravir

Johanna Dürmüller-Bol DBMR  
Research Prize by:



Poster Prize Best Stem Cell  
Project by:



Alumni MedBern Research Prize  
by:

