

Day of BioMedical Research
Wednesday, 5 July 2023

Program

8:30 – 11:30

Foyer Auditorium Ettore Rossi/KR1

Poster Exhibition

with Unitectra, 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
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

Five shortlisted 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

Awards Ceremony

DBMR Poster Prizes 2023

Best Stem Cell Project

Research Prize Alumni MedBern

Prize for the Best Publication 2022

Benoît Pochon Prize 2022

Johanna Dürmüller-Bol DBMR Research Award 2023

Followed by an Apéro

Corresponding author: kix.hammann@unibe.ch

Background

- Despite abundant drug effective; only corticosteroids are used for treating SARS-CoV-2. Higher transmissibility specific drug therapy.
- Molnupiravir (Merck) is a SARS-CoV-2 replication nucleoside analog.
- Through modeling and simulation, antiviral therapy with molnupiravir can reduce within-host reproductivity and within-host transmissibility.

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



B. Ordinary Differential Equation system

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

Results

- Viral load dynamics reached at 5.4 dpi and 28.4 C_tmin at 8.1 dpi.
- An increased R₀ results in higher viral load peaks (25.2 (152-402%)), whereas d
- Treatment with molnupiravir

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