

Workshop on the Mathematical Modelling of Variant Replacement of
Infectious Diseases Pathogens

Advanced Practice Using the RelRe Program

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Exercise 1

- Conduct analyses using the count files in the SARS-CoV-2-GT-Denmark folder.
 - Try the -D option to use Dirichlet Multinomial
 - Try the -g option to estimate the relative generation time
- Compare the AIC in the likelihood.csv

Exercise 2

- Remove several lines at the bottom of Tokyo_BA1_BA2.csv.
- Using the remaining data, predict the variant frequencies at the deleted part.
- Use the -q and -f option for the prediction.
- Compare the relative frequencies of predictions with those in actual observations.

Exercise 3

- Prepare count data in a CSV file by
 - finding count data in a paper, or
 - generating artificial count data.
- Run the RelRe program to estimate R_{RI} .
- Don't forget to give proper parameters for the gamma-distributed generation time.