# Tutorials

* The SIR model: a mathematical approach to epidemic dynamics
  + <https://www.fabriziomusacchio.com/blog/2020-12-11-sir_model/>
* Modeling epidemics with SIR
  + <https://www.biointeractive.org/classroom-resources/modeling-disease-spread>
* Simulating an epidemic – 3Blue1Brown
  + <https://youtu.be/gxAaO2rsdIs?si=YPJ7bGTfRcrrYKWd>
* The spread of 7 epidemics – Kite
  + <https://youtu.be/uNs8cb8V-5c?si=ZKmqMoslxlmEq5JE>
* How to stop an epidemic using the atomica python tool – PyLadies
  + <https://youtu.be/LXMahU76H4s?si=NvHgV4yfTtUiOSKm>
* Epidemic, endemic, and eradication simulations – Primer
  + <https://youtu.be/7OLpKqTriio?si=8WHbI1DZcQsxftxW>

# R Packages

## Data

* cleanepi: Clean and Standardize Epidemiological Data
  + <https://cran.r-project.org/web/packages/cleanepi/index.html>
* epiparameterDB: Database of Epidemiological Parameters
  + <https://cran.r-project.org/web/packages/epiparameterDB/index.html>
* InfectiousR: access infectious and epidemiological data via ‘disease.sh API’
  + <https://cran.r-project.org/web/packages/infectiousR/index.html>
* Rifttable: Results Tables to Bridge the Rift Between Epidemiologists and Their Data
  + <https://cran.r-project.org/web/packages/rifttable/index.html>
* tidyrates: Tidy Epidemiological Rates
  + <https://cran.r-project.org/web/packages/tidyrates/index.html>

## Models/Analysis

* BayesianFitForecast: Bayesian Parameter Estimation and Forecasting for Epidemiological Models
  + <https://cran.r-project.org/web/packages/BayesianFitForecast/index.html>
* Bernadette: Bayesian Inference and Model Selection for Stochastic Epidemics
  + <https://cran.r-project.org/web/packages/Bernadette/index.html>
* epigrowthfit: Nonlinear Mixed Effects Models of Epidemic Growth
  + <https://cran.r-project.org/web/packages/epigrowthfit/index.html>
* EpiSimR: A 'Shiny' App to Simulate the Dynamics of Epidemic and Endemic Diseases Spread
  + <https://cran.r-project.org/web/packages/EpiSimR/index.html>
* epiR: Tools for the Analysis of Epidemiological Data
  + <https://cran.r-project.org/web/packages/epiR/index.html>
* eSIR: Extended State-Space SIR Models
  + <https://cran.r-project.org/web/packages/eSIR/index.html>
* epiparameter: Classes and Helper Functions for Working with Epidemiological Parameters
  + <https://cran.r-project.org/web/packages/epiparameter/index.html>
* GDILM.SIR: Inference for Infectious Disease Transmission in SIR Framework
  + <https://cran.r-project.org/web/packages/GDILM.SIR/index.html>
* mem: The Moving Epidemic Method
  + <https://cran.r-project.org/web/packages/mem/index.html>
* pubh: A Toolbox for Public Health and Epidemiology
  + <https://cran.r-project.org/web/packages/pubh/index.html>
* REffectivePred: Pandemic Prediction Model in an SIRS Framework
  + <https://cran.r-project.org/web/packages/REffectivePred/index.html>
* surveillance: Temporal and Spatio-Temporal Modeling and Monitoring of Epidemic Phenomena
  + <https://cran.r-project.org/web/packages/surveillance/index.html>
* swash: Swash-Backwash Model for the Single Epidemic Wave
  + <https://cran.r-project.org/web/packages/swash/index.html>
* SIRmcmc: Compartmental Susceptible-Infectious-Recovered (SIR) Model of Community and Household Infection
  + <https://cran.r-project.org/web/packages/SIRmcmc/index.html>