

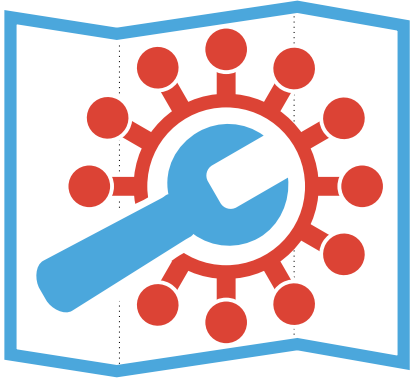
# Day 1 Wrap-up and Outlook

**Lauren J. Dupuis, PhD**

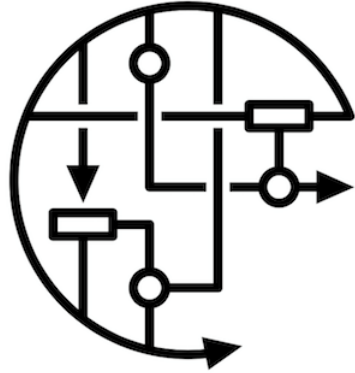
ISMB/ECCB 2021 - Tutorial 8  
22 July 2021



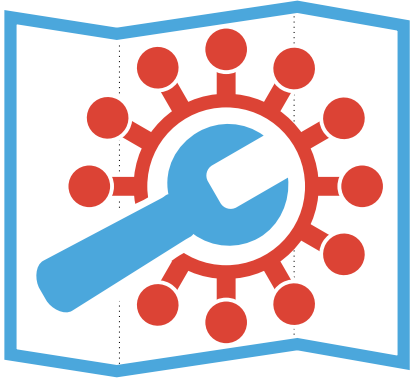
**What did we get into today?**



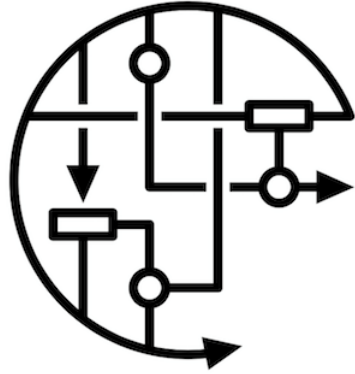
COVID-19  
Disease Maps



WikiPathways

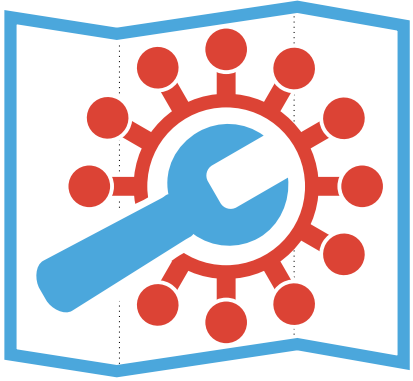


COVID-19  
Disease Maps

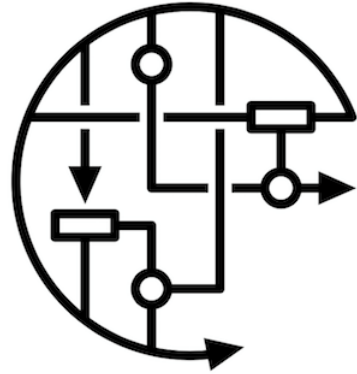


WikiPathways





COVID-19  
Disease Maps

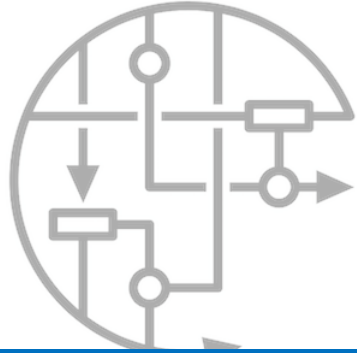
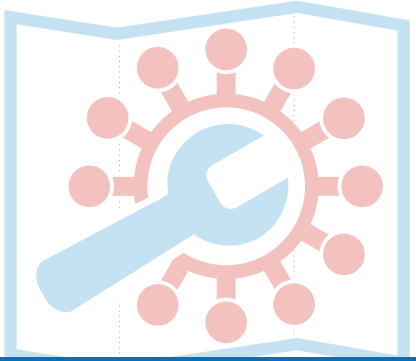


WikiPathways



Cytoscape Automation with R





# Quiz Time!



Cytoscape Automation with R



# Still to come: Applying Day 1!

Time	Activity	Speaker/instructor
15:00 - 15:30	Introduction workflows	Martina Kutmon
15:30 - 16:15	Workflow 1 Pathway enrichment / network visualization / drug-target extension	Martina Kutmon Lauren Dupuis
16:15 - 17:00	Workflow 2 Protein-protein interaction network / pathway information extension	Martina Kutmon Lauren Dupuis
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18:00 - 18:30	Wrap up and quiz	Lauren Dupuis
18:30 - 19:00	Q&A / Get input on your own project	All instructors

# Dataset



GSE147507



# Dataset



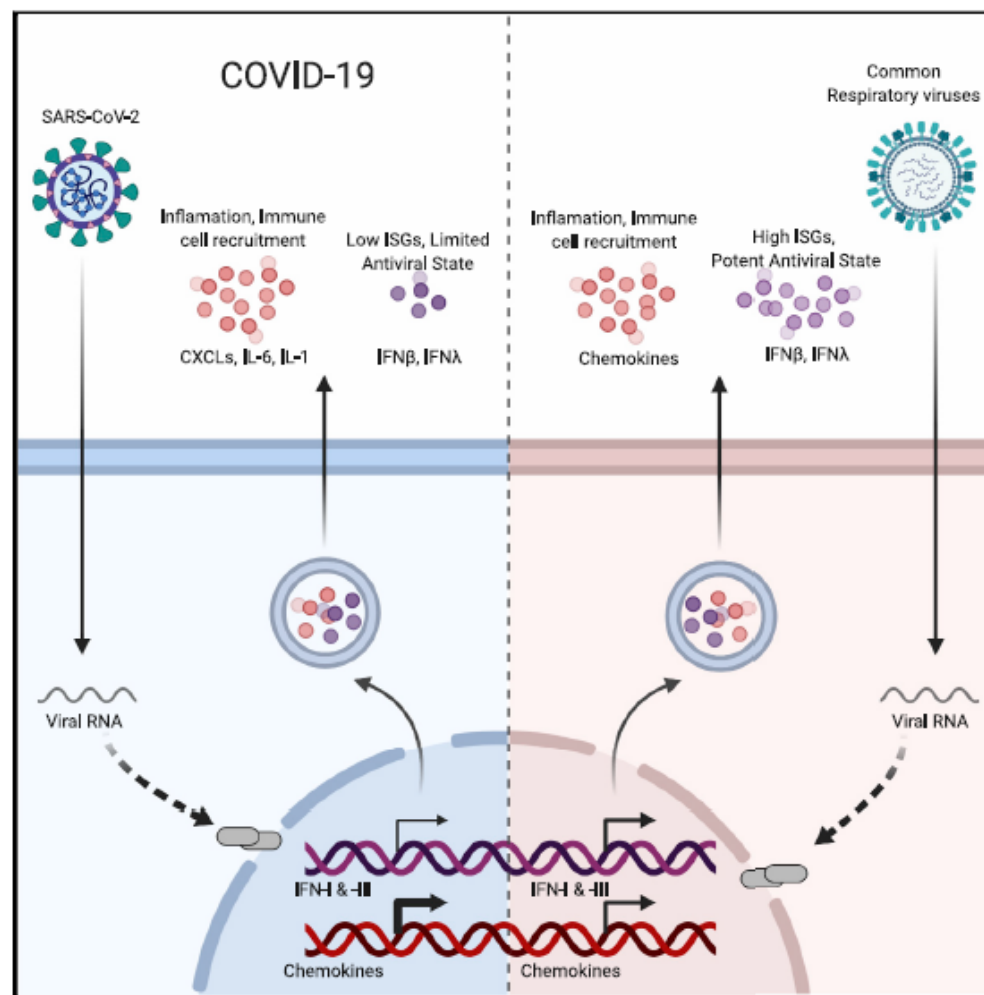
GSE147507

Cell

Article

## Imbalanced Host Response to SARS-CoV-2 Drives Development of COVID-19

### Graphical Abstract



### Authors

Daniel Blanco-Melo,  
Benjamin E. Nilsson-Payant,  
Wen-Chun Liu, ..., Jean K. Lim,  
Randy A. Albrecht, Benjamin R. tenOever

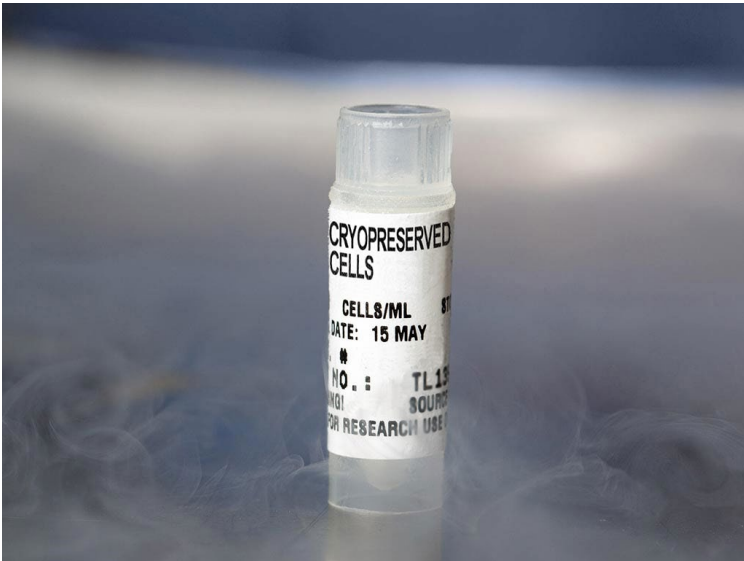
### Correspondence

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jean.lim@mssm.edu (J.K.L.),  
randy.albrecht@mssm.edu (R.A.A.),  
benjamin.tenoever@mssm.edu (B.R.t.)

### In Brief

In comparison to other respiratory viruses, SARS-CoV-2 infection drives a lower antiviral transcriptional response that is marked by low IFN-I and IFN-III levels and elevated chemokine expression, which could explain the pro-inflammatory disease state associated with COVID-19.

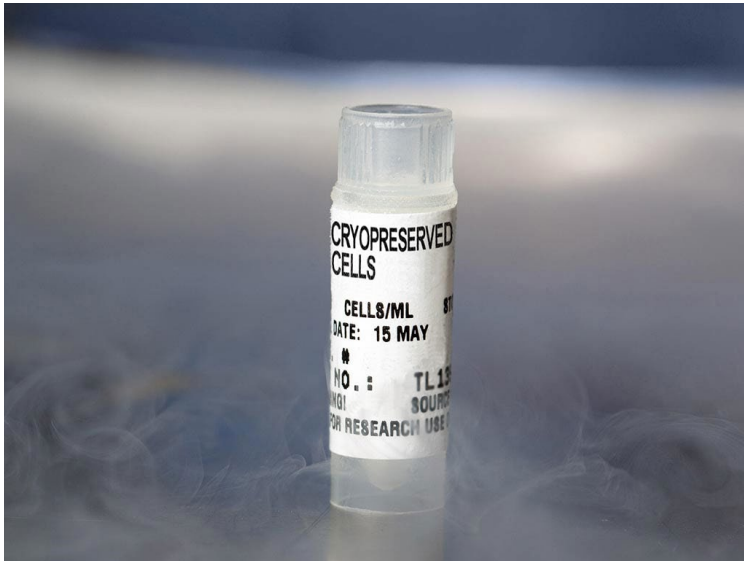
# Dataset



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Normal Human Bronchial Epithelial (NHBE) Cells

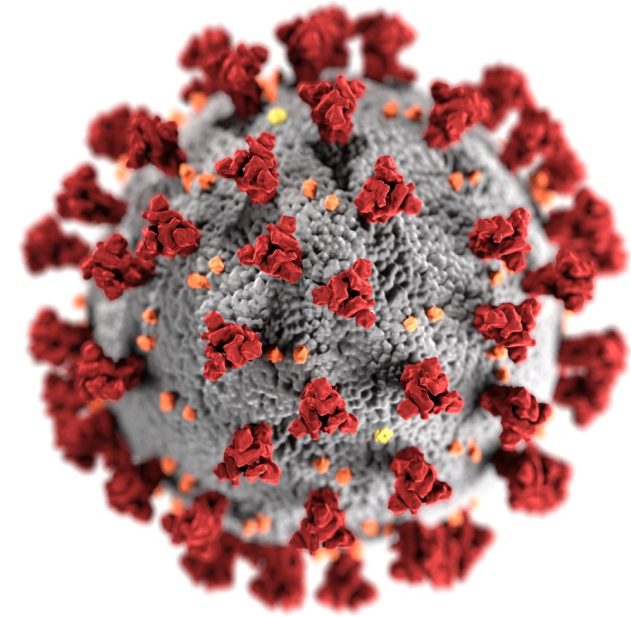
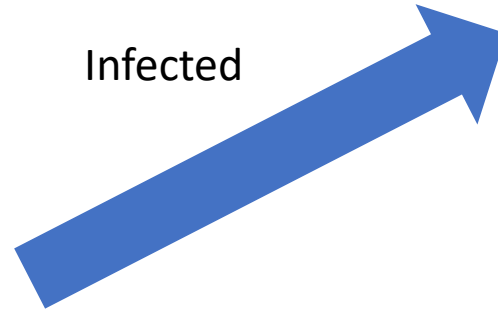
# Dataset



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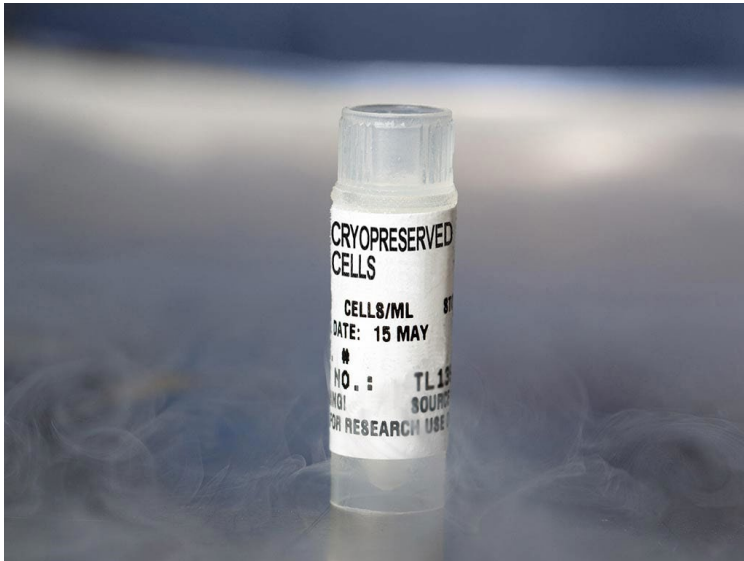
Normal Human Bronchial Epithelial (NHBE) Cells

Infected



<https://covid-19.sciensano.be/nl>

# Dataset

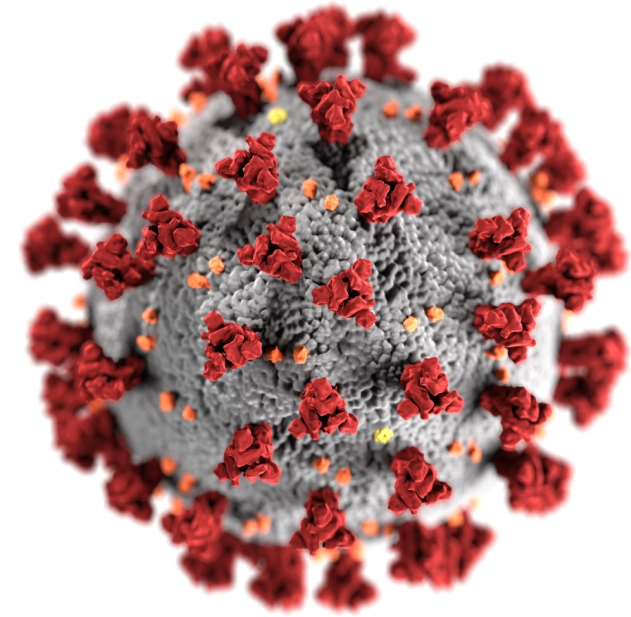


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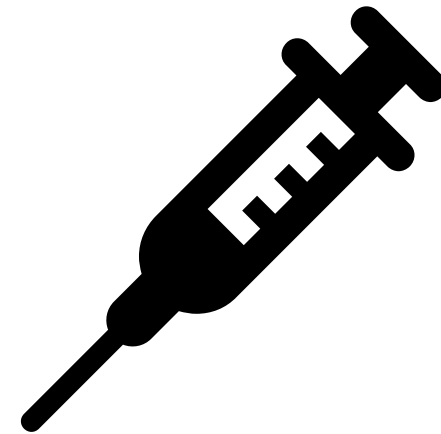
Normal Human Bronchial Epithelial (NHBE) Cells

Infected

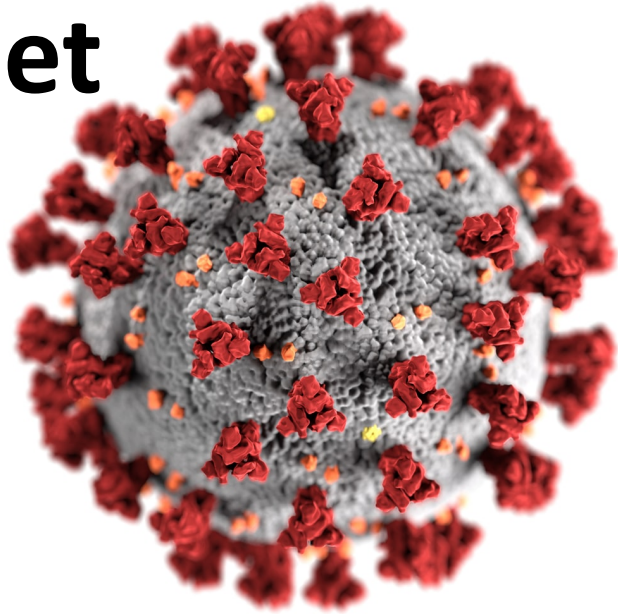
Mock Treated



<https://covid-19.sciensano.be/nl>



# Dataset



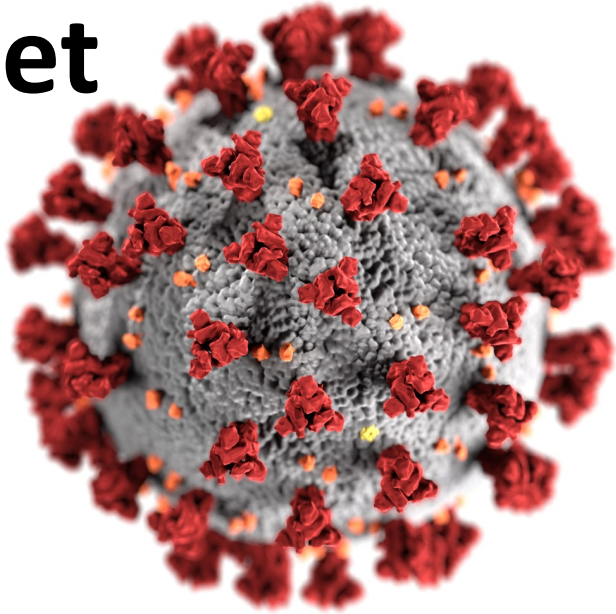
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Infected



Mock Treated

# Dataset

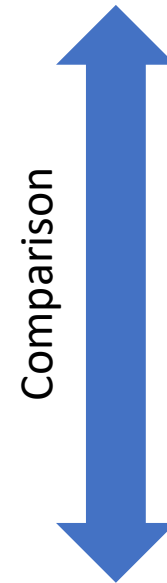


<https://covid-19.sciensano.be/nl>

Infected



RNA-Seq



RNA-Seq

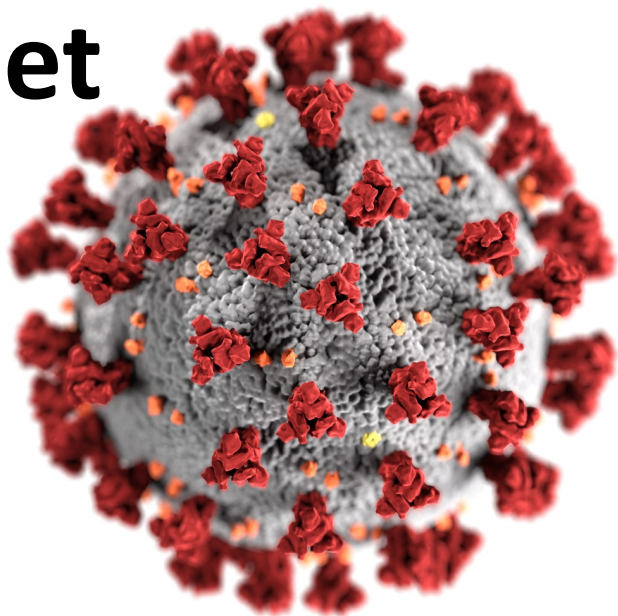


Mock Treated





# Dataset



<https://covid-19.sciensano.be/nl>

Infected



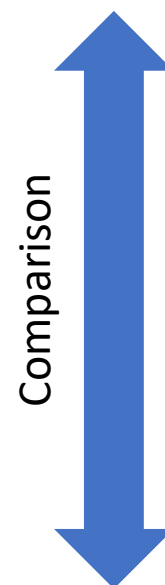
Mock Treated



RNA-Seq



RNA-Seq



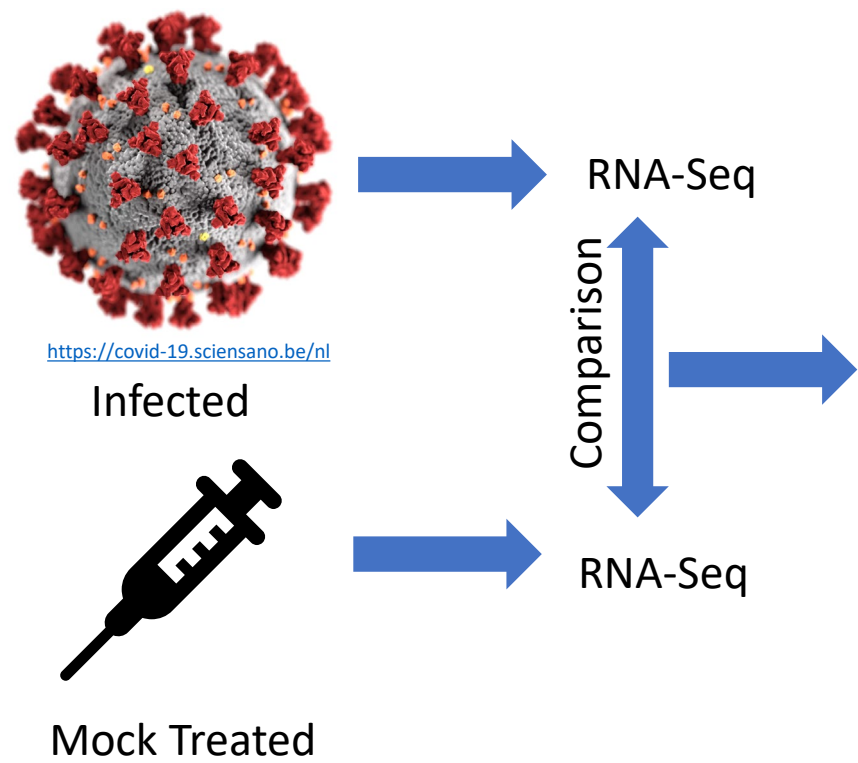
Comparison



Cytoscape



# Questions?



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# Questions?

Lauren J. Dupuis, PhD

[l.dupuis@maastrichtuniversity.nl](mailto:l.dupuis@maastrichtuniversity.nl)

