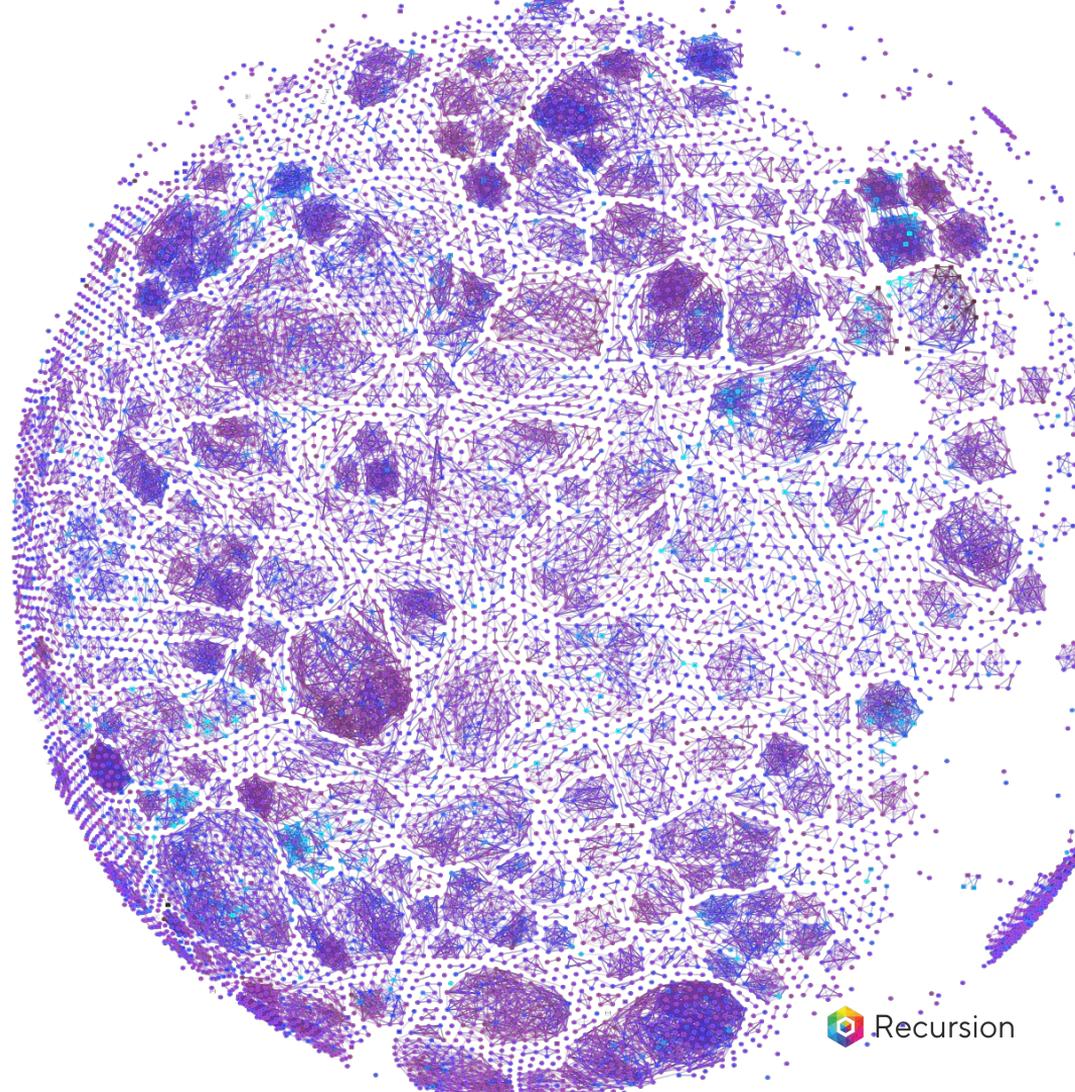


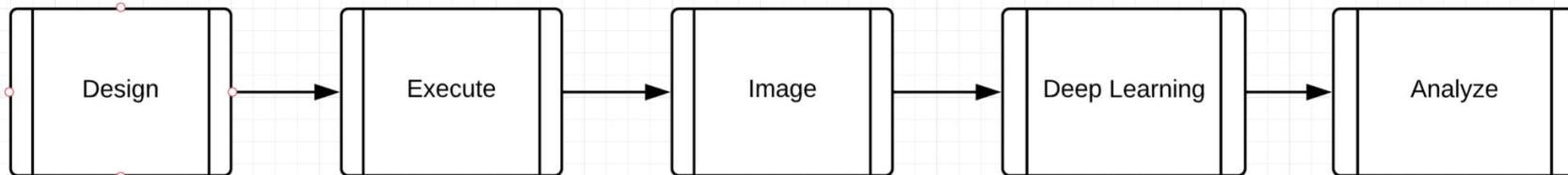
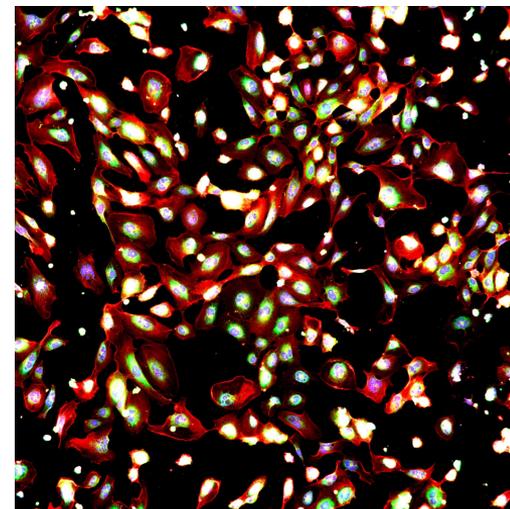
Maps To Medicines: One Map to an Atlas

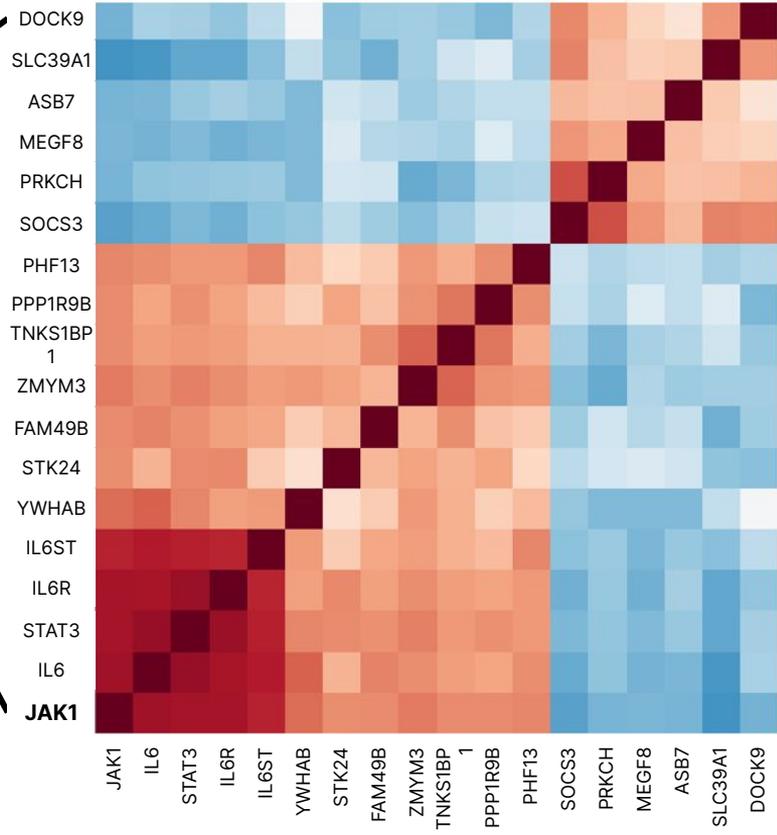
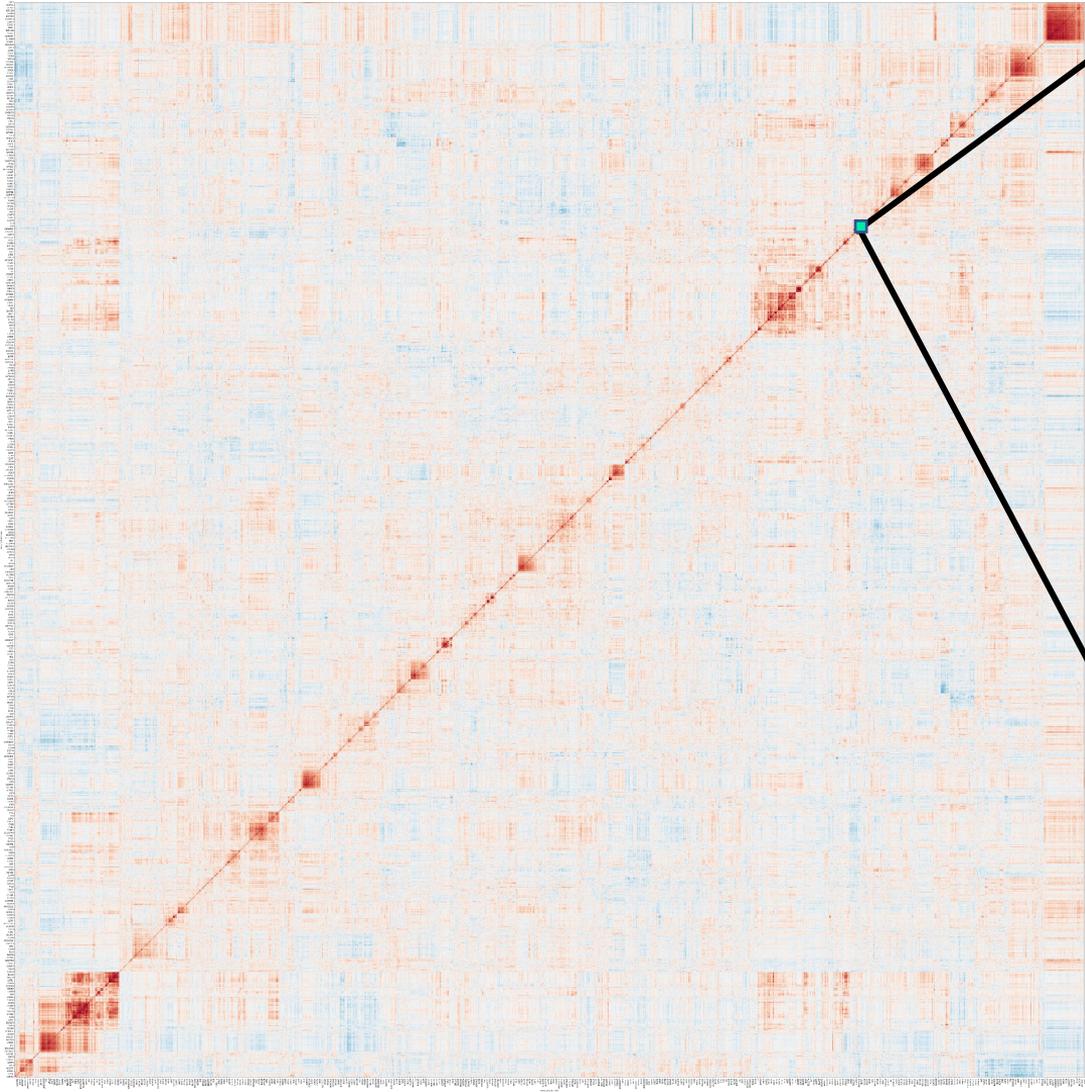
Shweta Bhandare, PhD

June 28, 2023



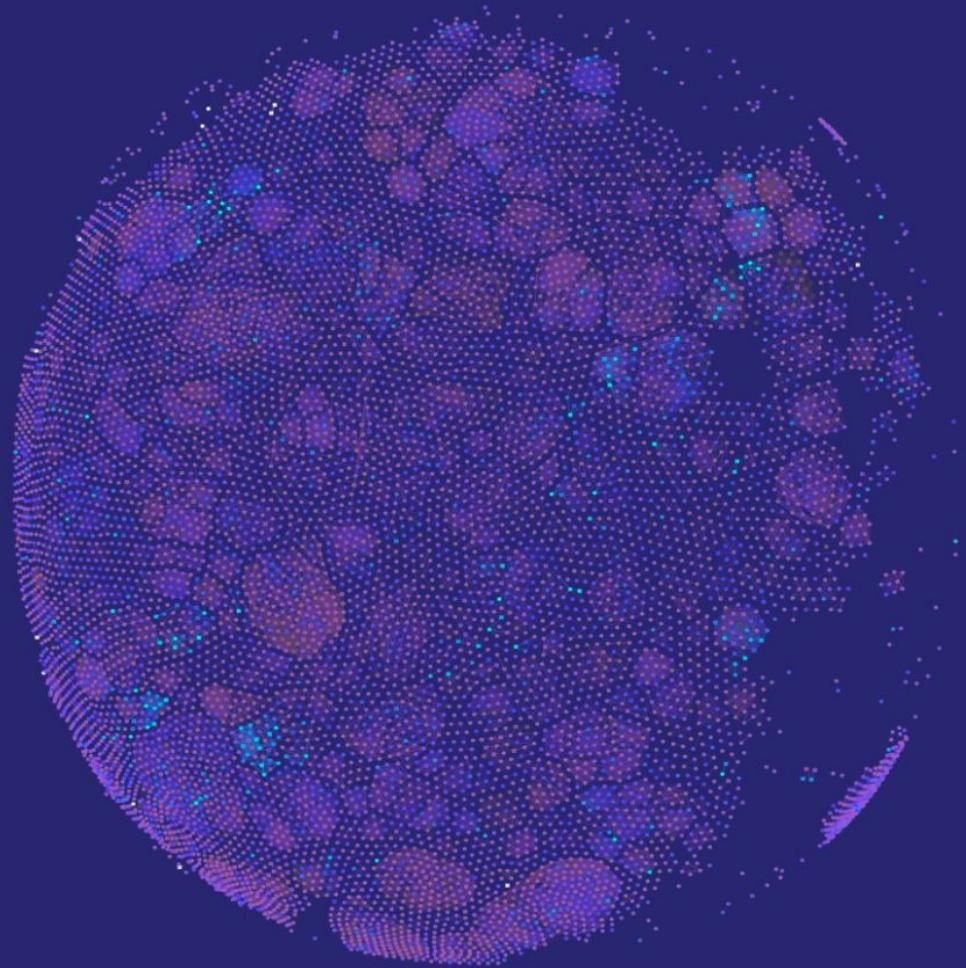
How we build our maps of biology and chemistry





GRAND CHALLENGES 2022

Build the Atlas Follow the Atlas Serve Humanity



How were the maps built?

Is my experiment in the map?



- # exp-1-request
- # exp-2-scheduling
- # exp-reports
- # exp-6-computation
- # ht-experiment-design
- # exp-3-design
- # exp-4-preparation
- # exp-5-execution
- # exp-7-data_review
- # exp-8-handoff



Slack the list of experiments to the engineers and data scientists

How were the maps built?

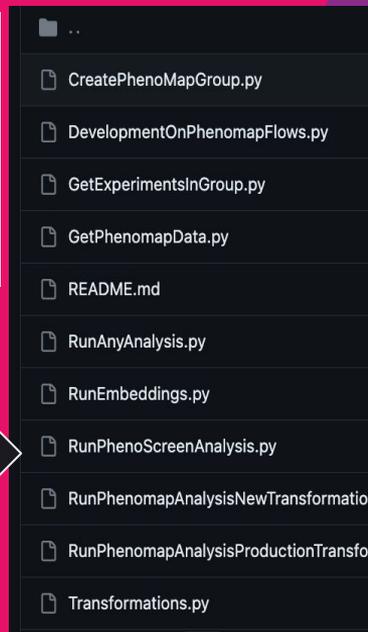
Is my experiment in the map?



```
# exp-1-request
# exp-2-scheduling
# exp-reports
# exp-6-computation
# ht-experiment-design
# exp-3-design
# exp-4-preparation
# exp-5-execution
# exp-7-data_review
# exp-8-handoff
```



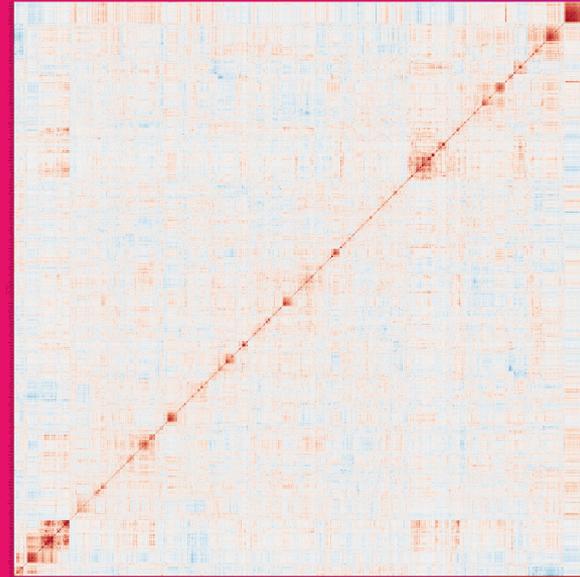
Slack the list of experiments to the engineers and data scientists



How were the maps built?

Beck's Directive

- Make it Work
- Make it Right
- Make it Fast





..

CreatePhenoMapGroup.py

DevelopmentOnPhenomapsFlows.py

GetExperimentsInGroup.py

GetPhenomapsData.py

README.md

RunAnyAnalysis.py

RunEmbeddings.py

RunPhenoScreenAnalysis.py

RunPhenomapsAnalysisNewTransformation

RunPhenomapsAnalysisProductionTransformation

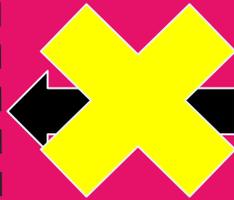
Transformations.py



Systems thinking

- # exp-1-request
- # exp-2-scheduling
- # exp-reports
- # exp-6-computation
- # ht-experiment-design
- # exp-3-design
- # exp-4-preparation
- # exp-5-execution
- # exp-7-data_review

Map Experiments
tagged



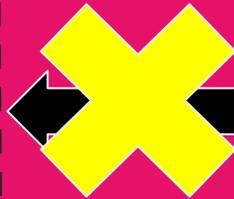
Systems thinking



List of map building experiments obtained programmatically!

Experiments QC'ed by 5 pm on Monday

- # exp-1-request
- # exp-2-scheduling
- # exp-reports
- # exp-6-computation
- # ht-experiment-design
- # exp-3-design
- # exp-4-preparation
- # exp-5-execution
- # exp-7-data_review



Map Experiments tagged



Systems thinking



exp-1-request

exp-2-scheduling

exp-reports

exp-6-computation

ht-experiment-design

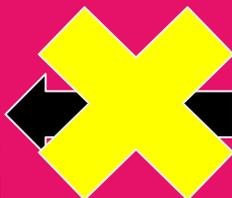
exp-3-design

exp-4-preparation

exp-5-execution

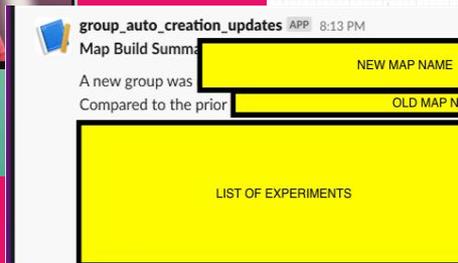
exp-7-data_review

Experiments
QC'ed by 5
pm on Monday

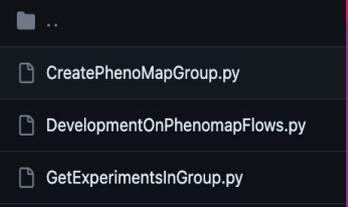


List of map building
experiments
obtained
programmatically!

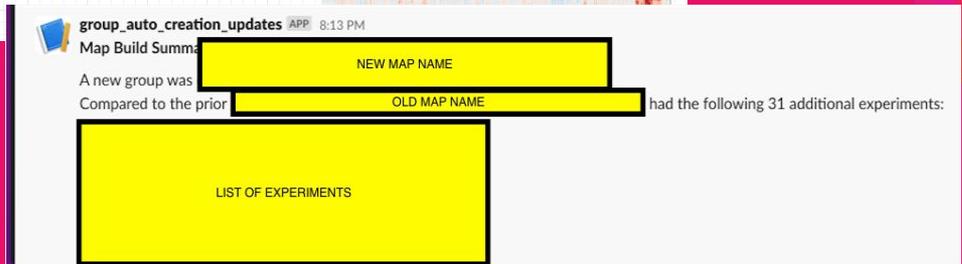
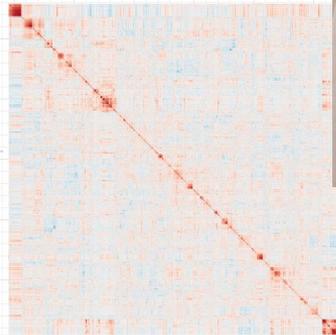
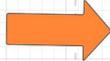
DO THE THING!



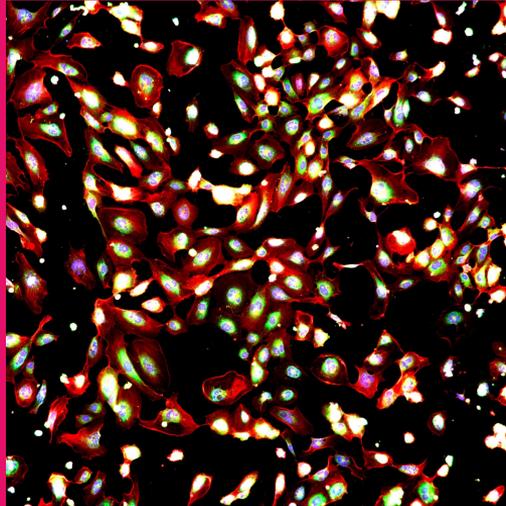
Map Experiments
tagged



Systems thinking



- It's not always about building the best technical solution – systems thinking is the key for some problems



This was One Recursion - multiple teams had to come together to build this system, and I am grateful to be here and share this win with all of you

