

---

---

# Group Projects

## - Week1, Day2

A guide by NMA and Gagana

---

# Primary goals

1. Understand how to develop a clear scientific question
2. Understand limitations of particular datasets
3. Understand how to select appropriate techniques/tools to answer scientific questions given available data
4. Interact with mentors who can provide experience, guidance and support for scientific growth
5. Completing a full cycle of the scientific process: question generation, analysis, and presentation of the findings



# Note

→ **How not What**

We're interested in the process  
not the dataset etc.

→ **Completeness**

'quality', 'novelty' and 'depth' of the  
question and outcome are less  
important than completing the full  
cycle

# BrainStorming and Idea refinement

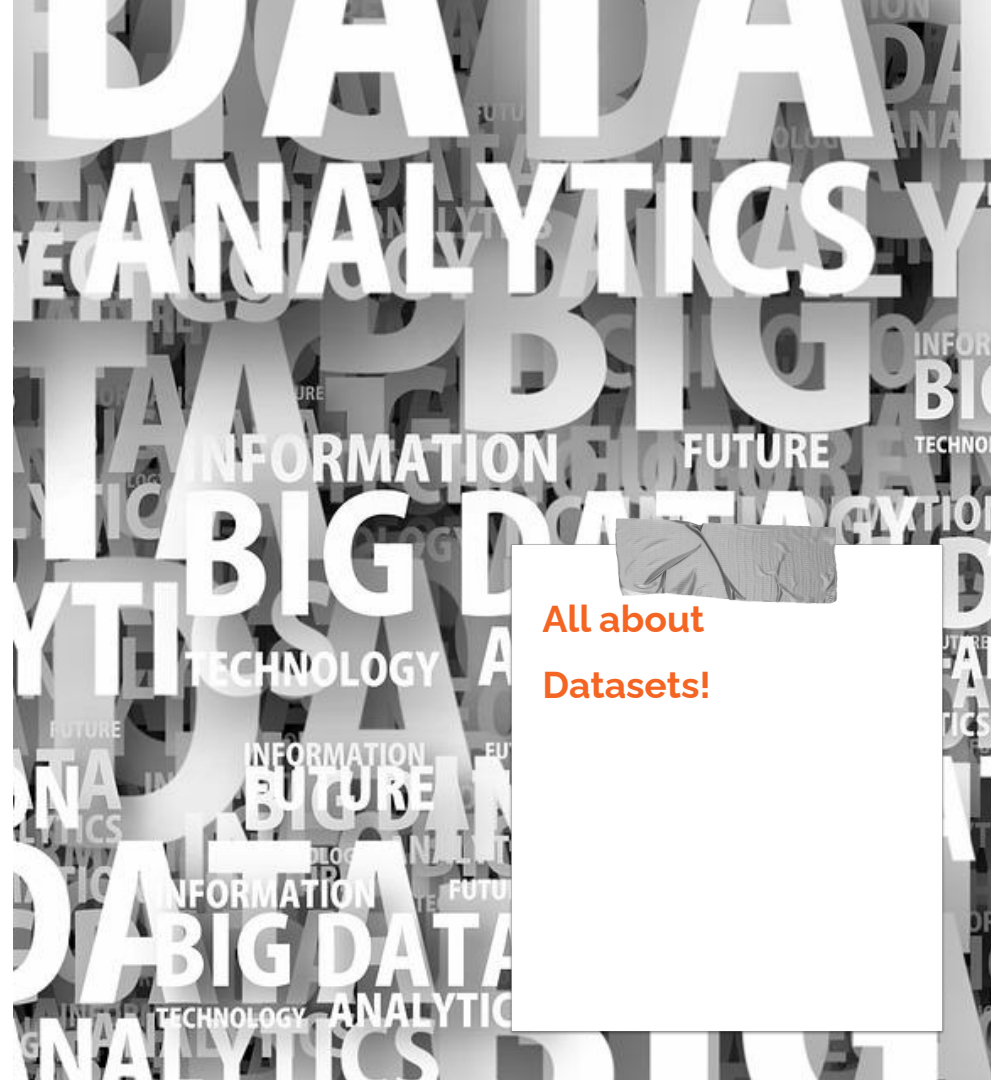
# — Deliverable!

By the end of week one (Project day five), you should have selected a project that is coherent and can be applied to a dataset (unless purely theoretical/computational)

Normally, this should be one of the NMA datasets, but if I feel that you have a clear, just coherent plan that is achievable in two weeks working 2h a day, they can use other public datasets.

Importantly, you can **not** use your own data set, even if they think this could help, because this would create imbalances within the project group.

It's important to spend as little time with data pipelining (cleaning, formatting/organising, anomaly detection etc).



All about  
Datasets!



# Talk to me!

→ Coding/tech issues

→ Lost? Guidance!



## NOTE

The emphasis is (kind of) on neuroscience here with respect to data and problem statement and on computation with respect to implementation..

# Meet [NAME].

I have [scientific background in...],

I'm interested in [...]

My goals are [....]



# Breakout rooms!

Discuss these!

(Project Intro, Curriculum overview,  
Dataset Intro, and Brainstorm  
Example)

*Story for illustration purposes only*



# MIRO!



# EXPANSION PHASE

1. I will create links to miro whiteboard.
2. 5 min: log in to miro, and explore/play with interface.
3. 15 min: independent thinking, entering ideas in different places on miro board.

For example:

- \* Sticky notes (try to use distinct colors) with a few sentences for a topic, idea, questions
- \* Sketch plots you might like to generate imaginary data

4. 20 min: Each present 1 or 2 of your favorite ideas
5. 10 min: Put into **random breakout rooms** to respond to favorite ideas
6. 10 min: Come back together to present new ideas
7. 30 min break



# Contraction phase

8. 10 min: Divide ideas into a few different categories
9. 10 min: Put students into new random breakout rooms to brainstorm new ideas, prioritize previous ideas
10. 10 min: present organization
11. 30 min: Open discussion aimed toward practical projects





**Good luck!**