

# Using GIN-Tonic to structure and write research Papers Data

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M. Larkum, T. Wachtler, **J. Colomb**

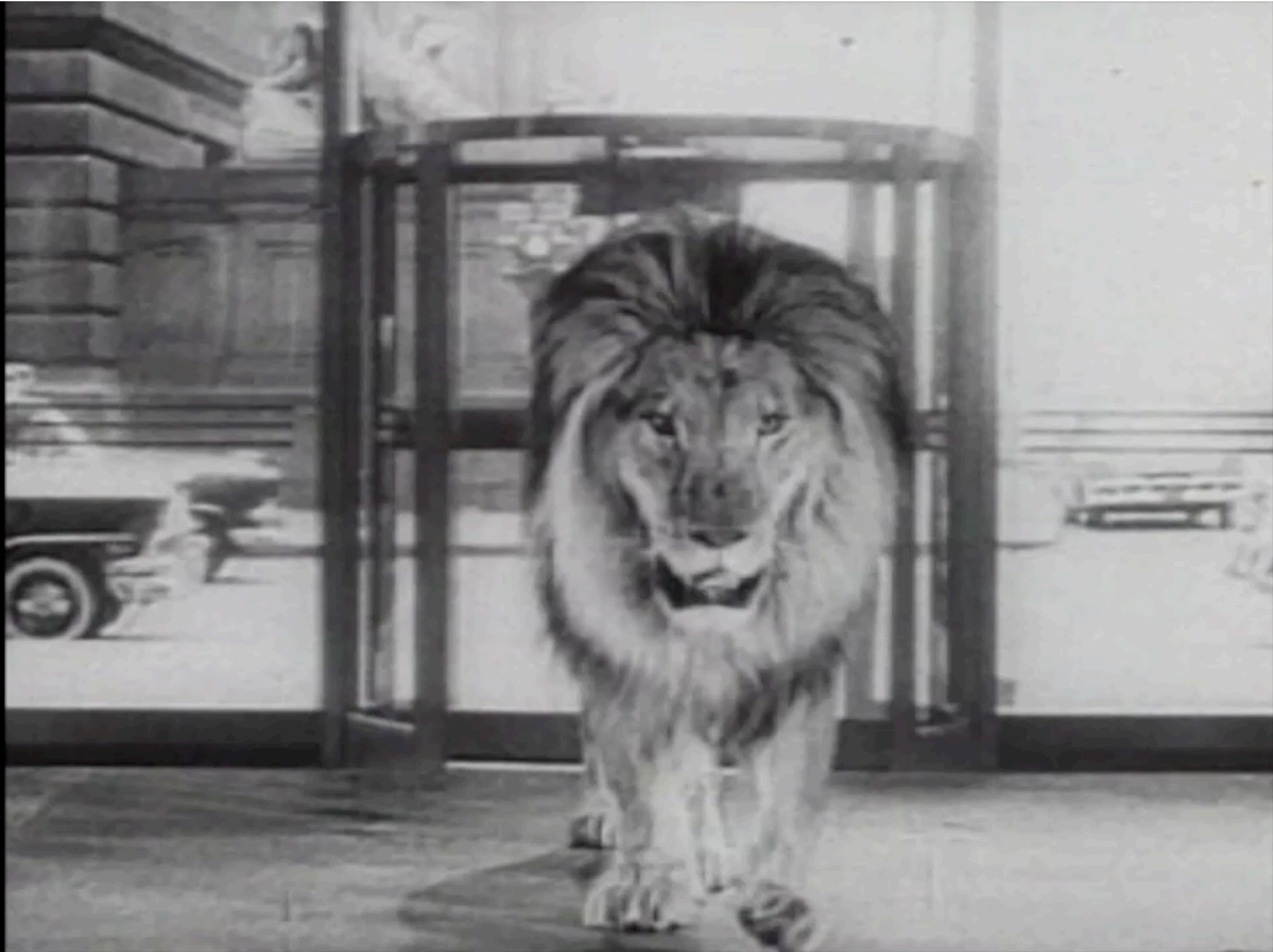
<https://github.com/tonic-team>



# Content

- The GIN-Tonic concept:
  - How to write and organise data ?
  - The GIN-Tonic implementation
  - Summary: Data-, project- and lab- management
- Interactive playing around
- Feedback session





**Write and organise data**

## Research PAPERS

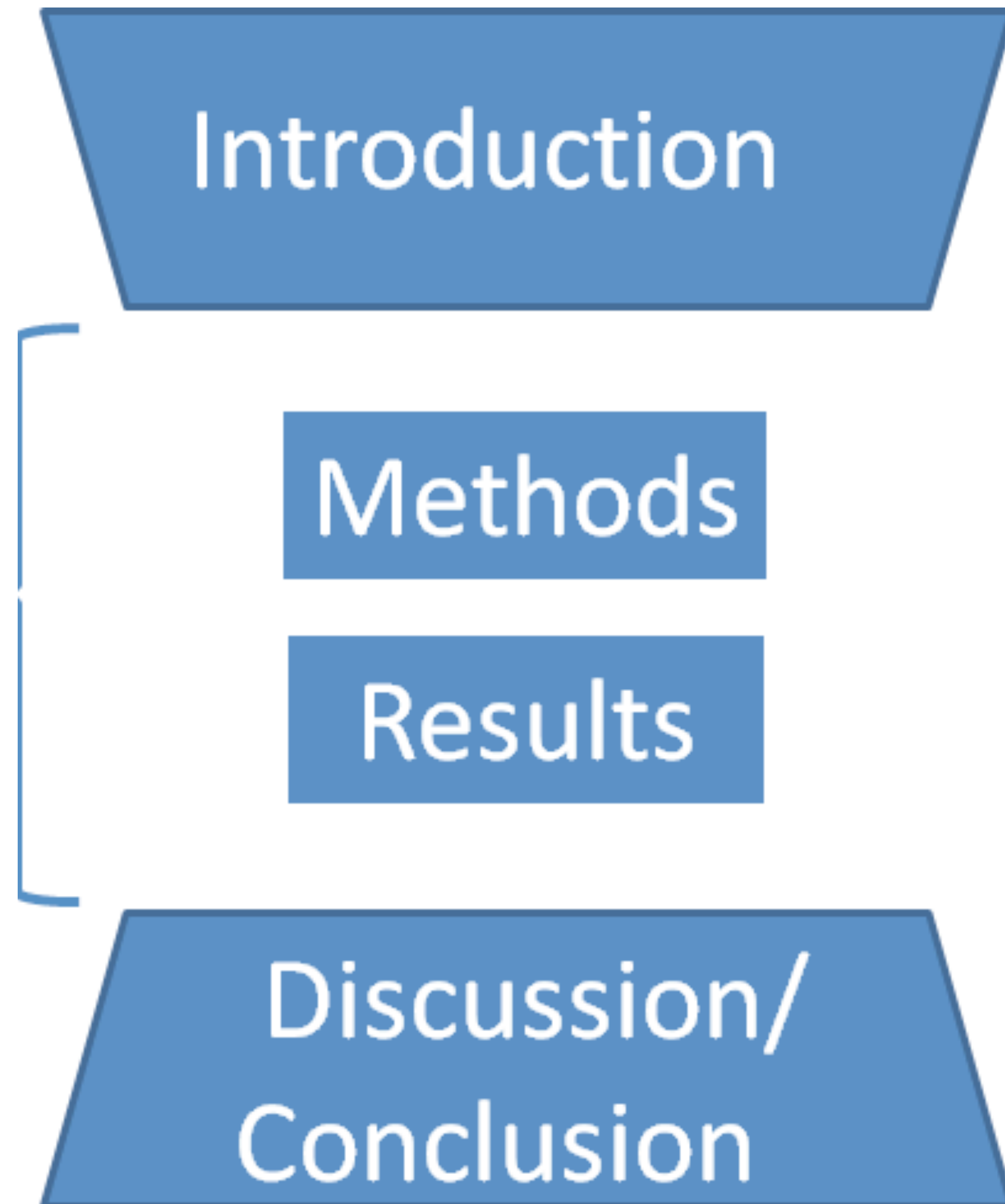
Introduction

Methods

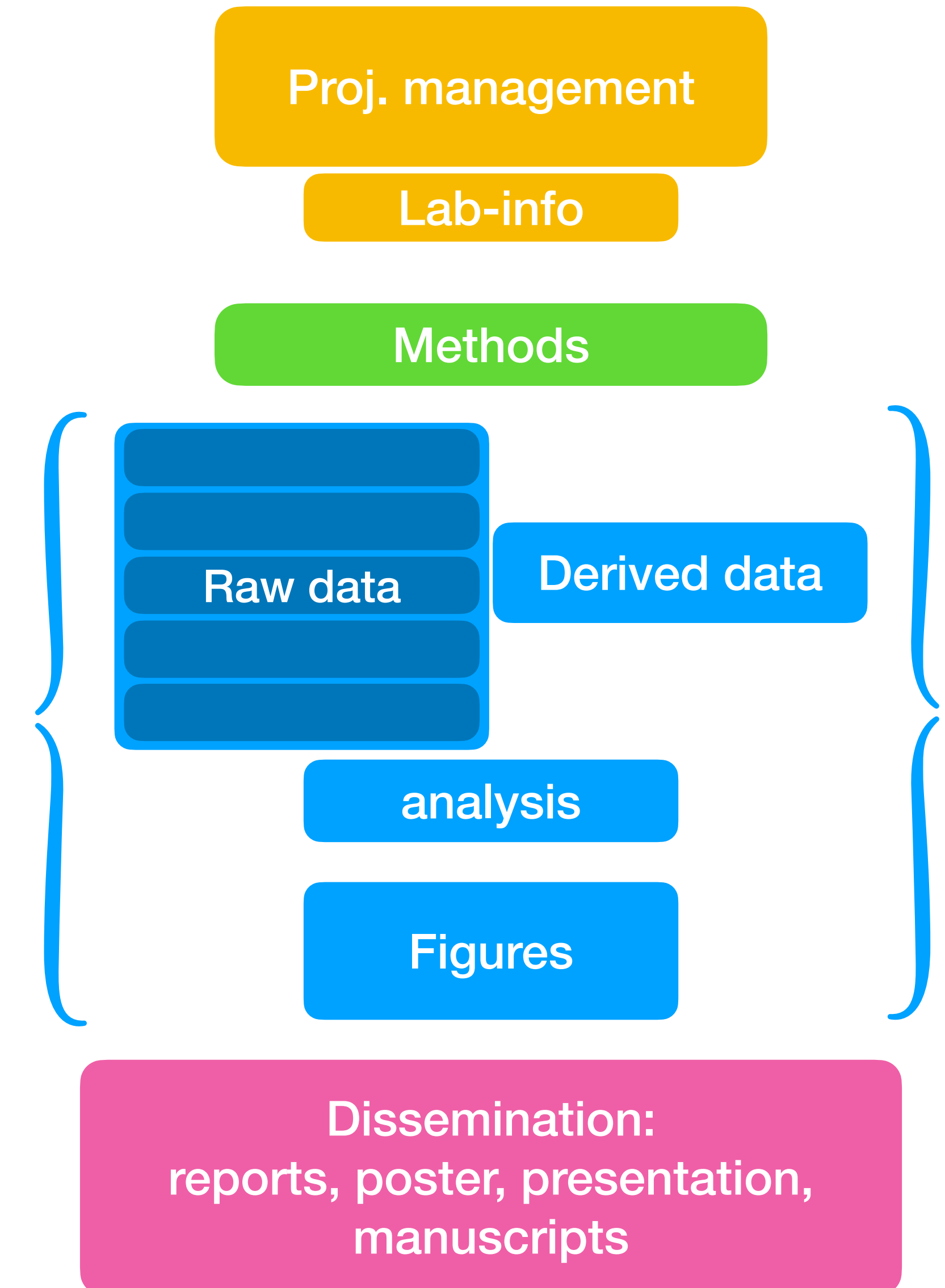
Results

Discussion/  
Conclusion

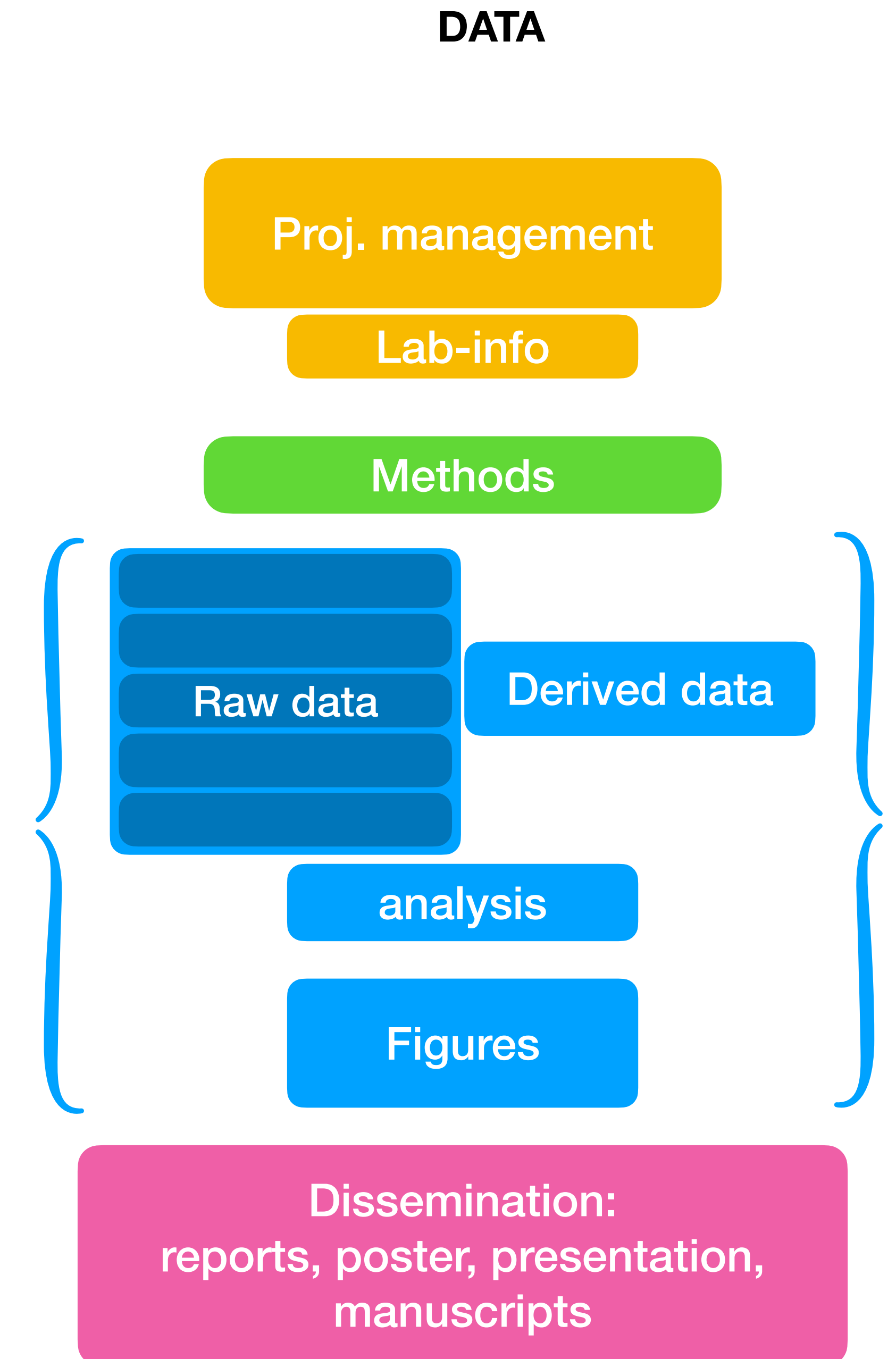
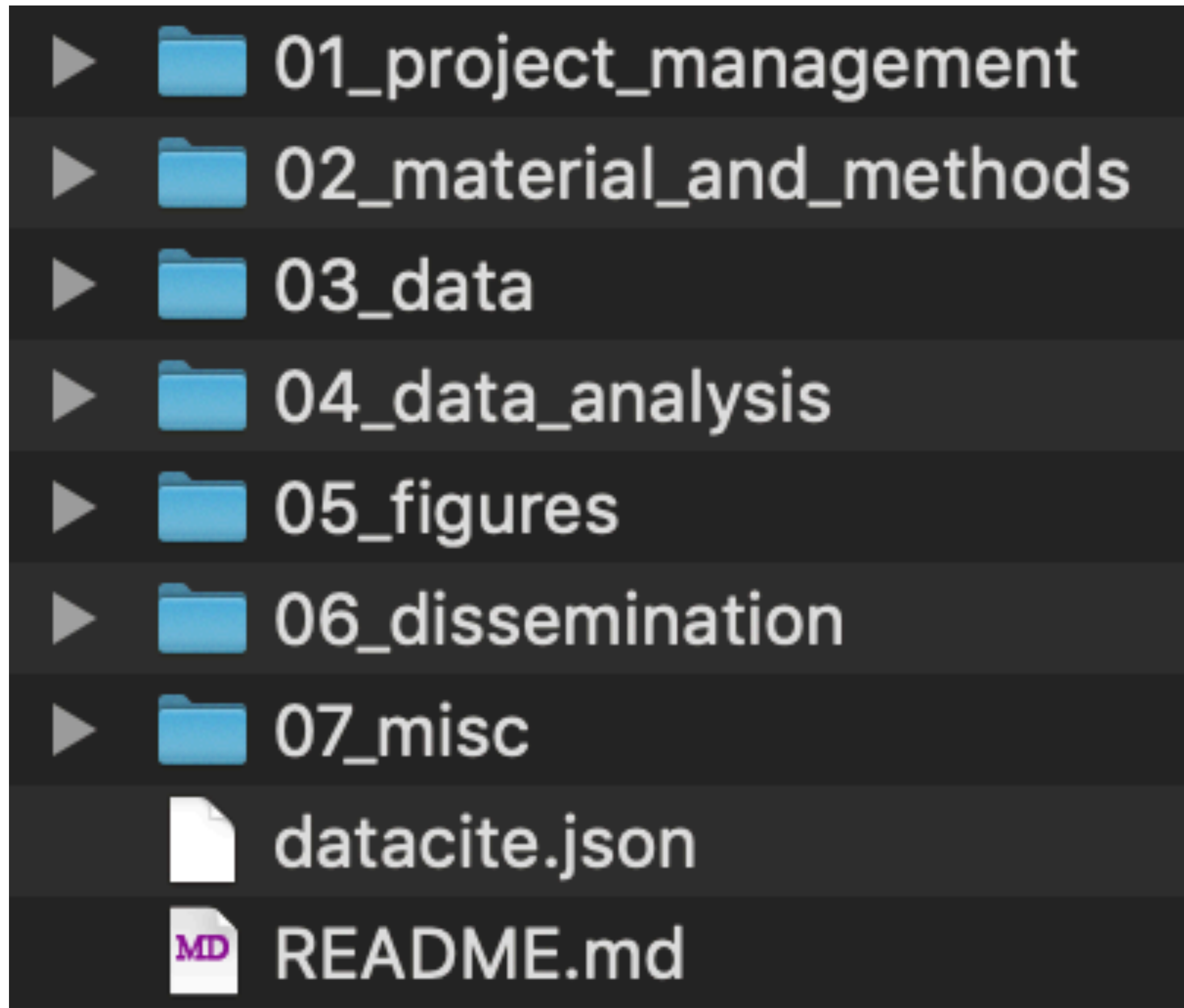
## Research PAPERS

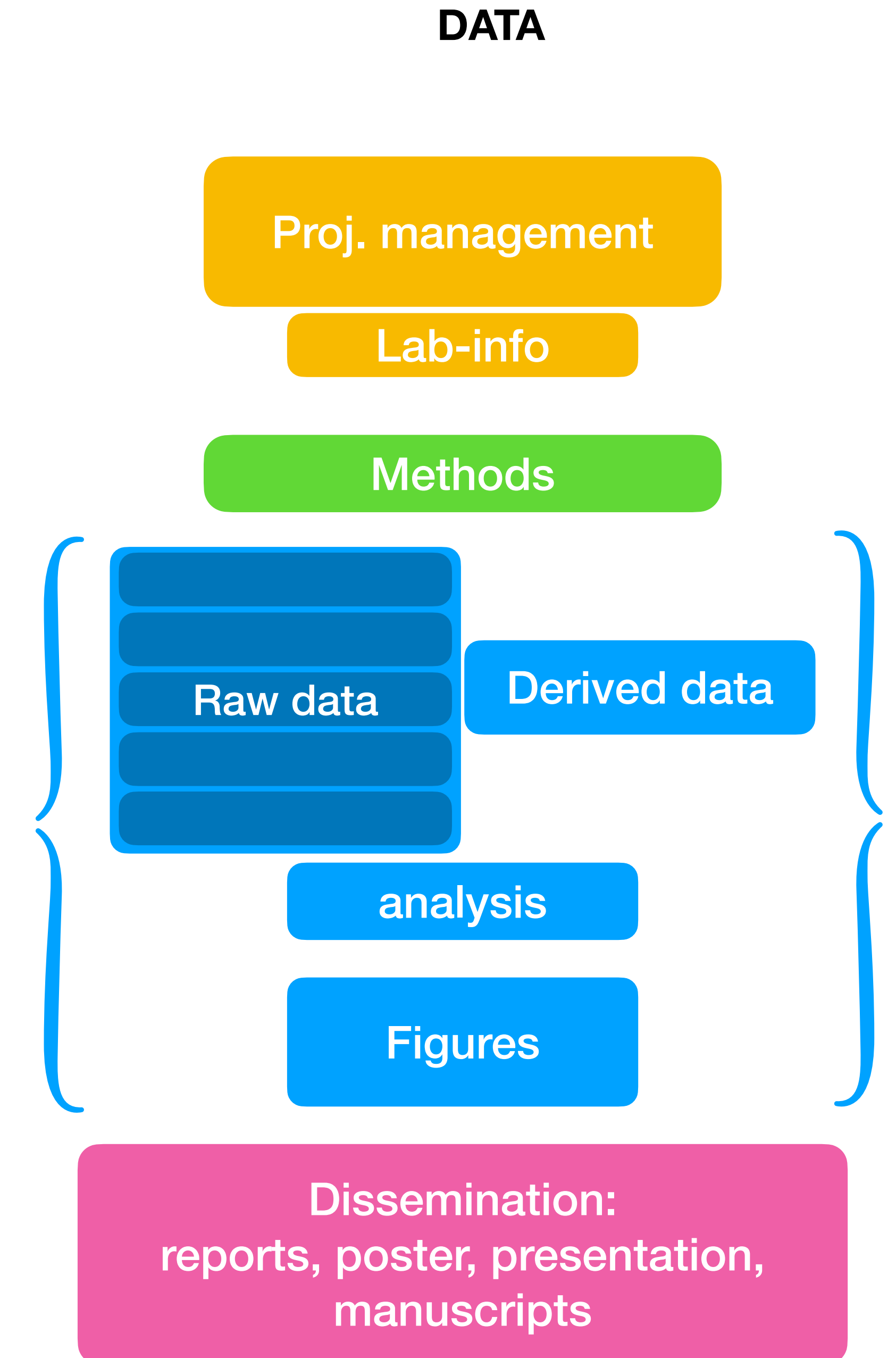
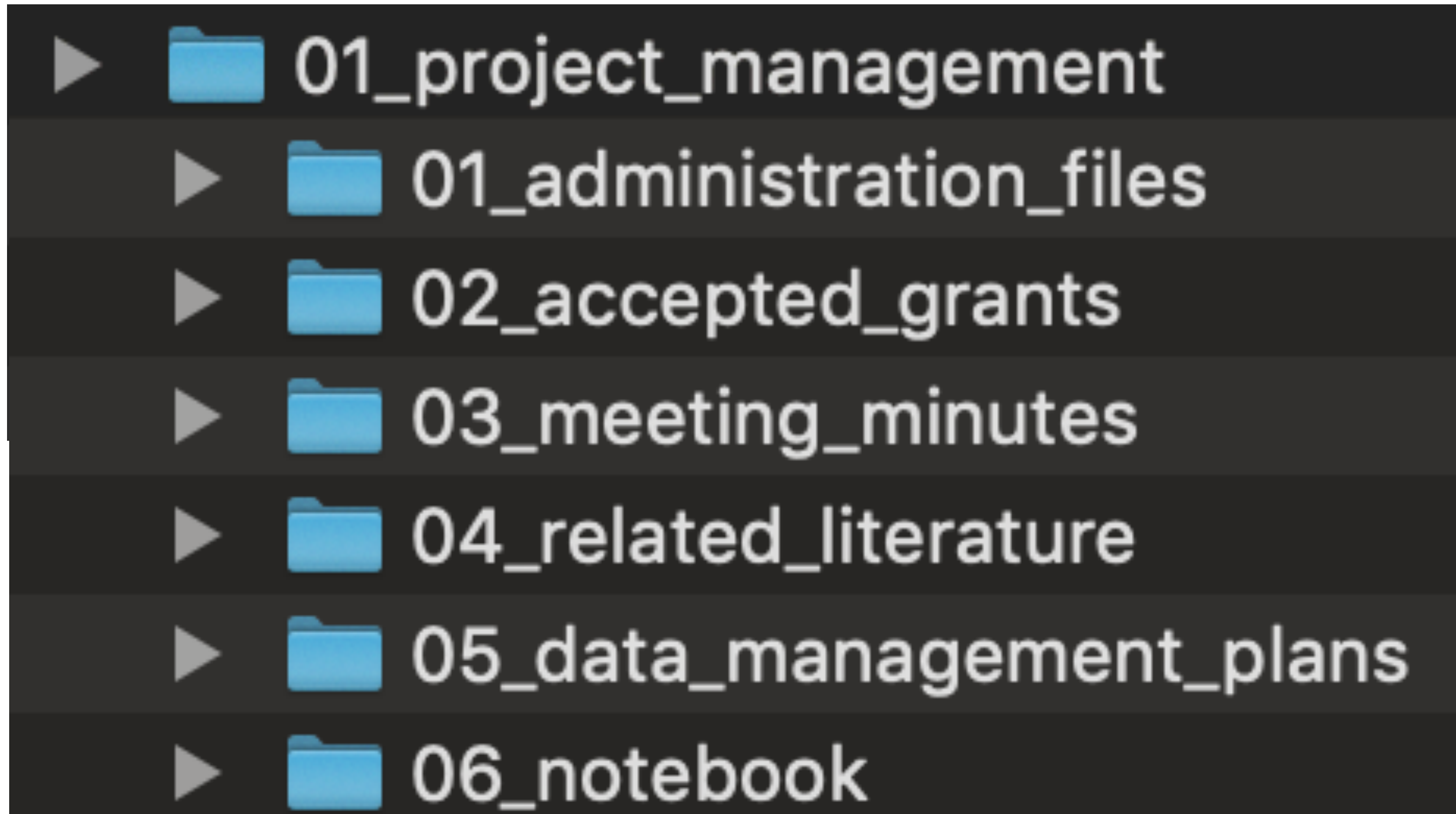


## DATA

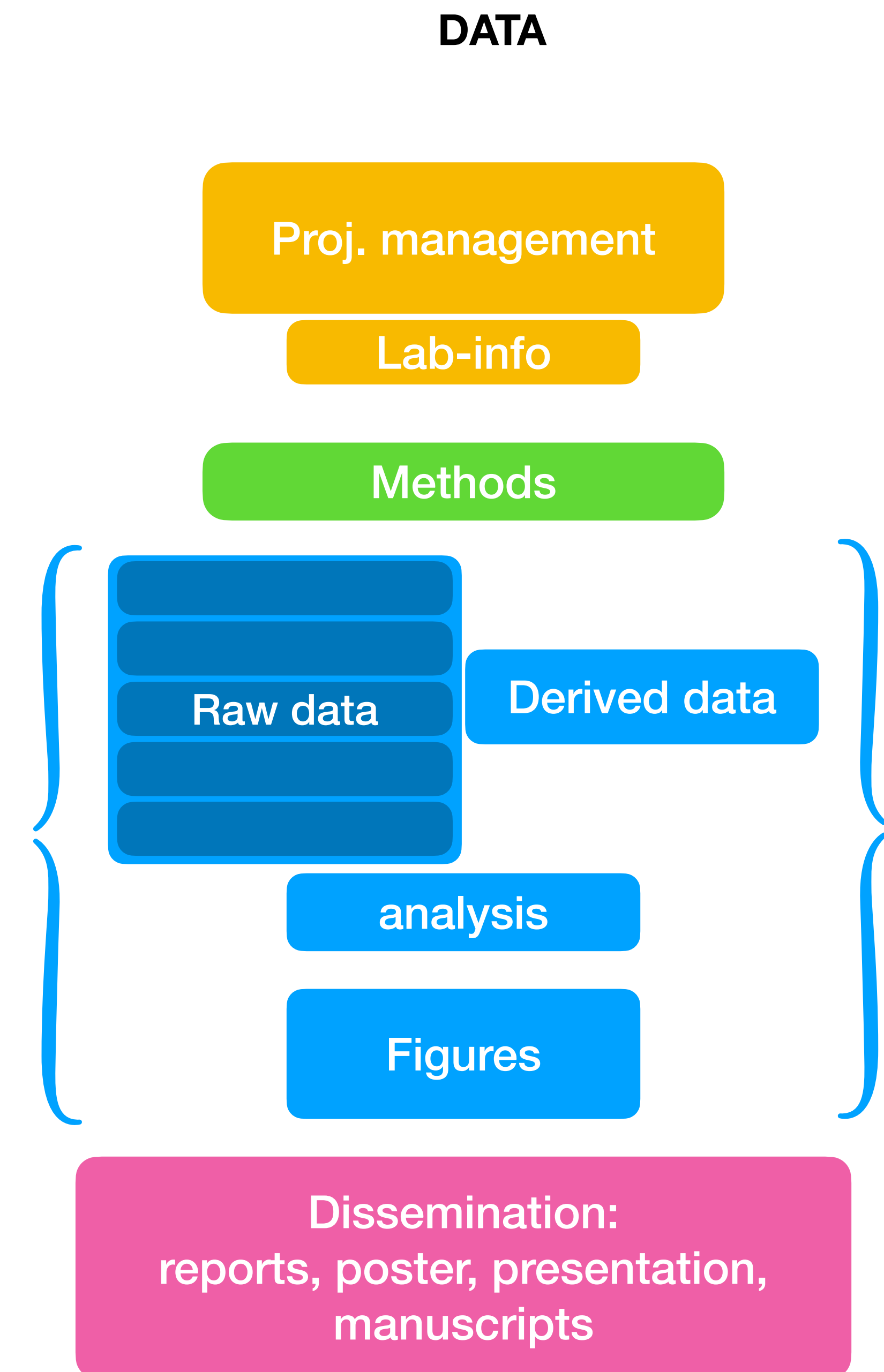
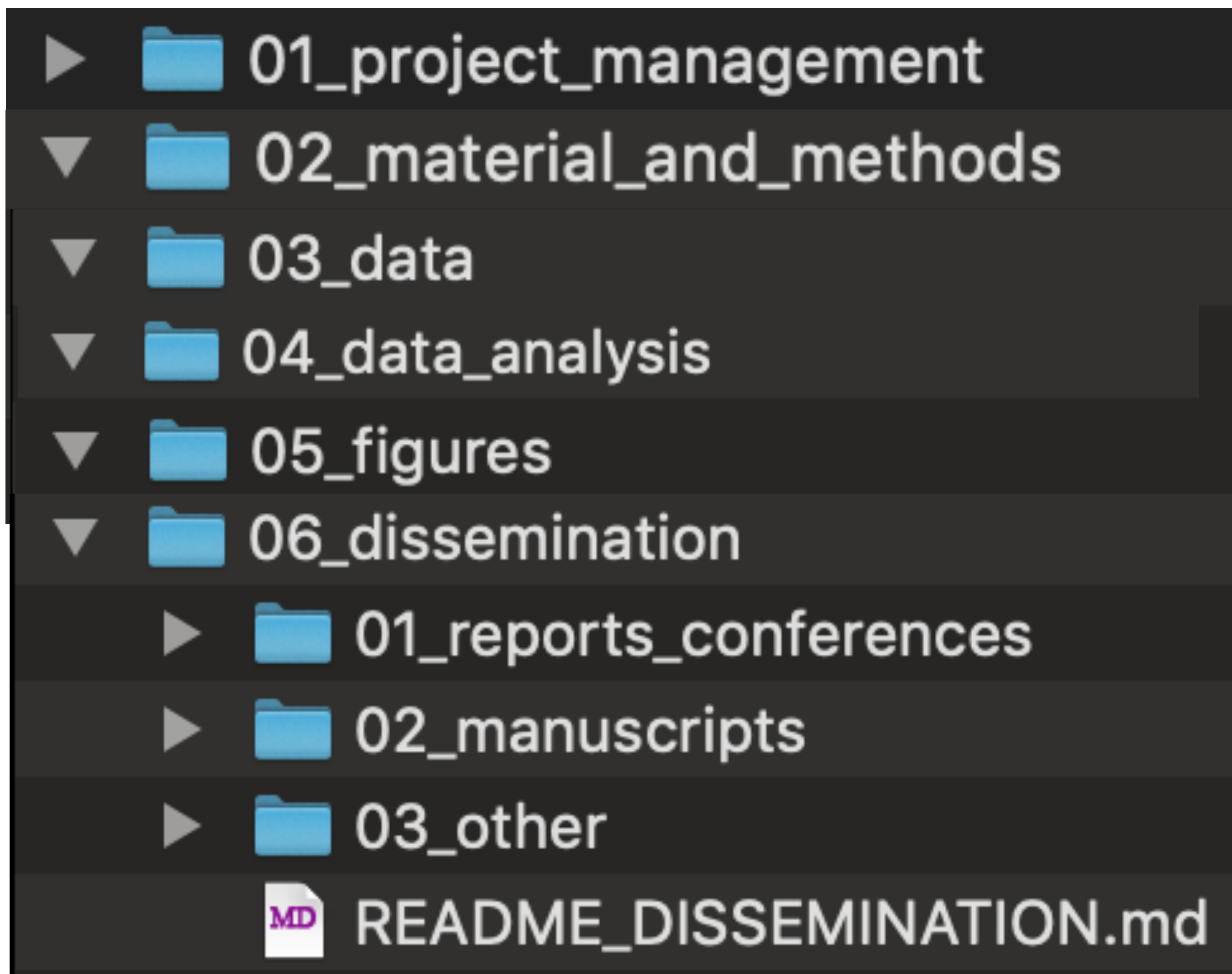













# History of team-tonic

- 2019-04: I started to work for the CRC1315 in Berlin.
- 2019-09: Contact with other CRCs about collaboration, concomitantly with Neuro-NFDI initiative starts, CRC135 (Thorsten) and CRC1158 (Deepti) interested to collaborate, starting discussions about teaching/gitlab/standards/...
- 2020-01: using folder structure template, discussion with G-Node (GIN, Achilleas)
- 2020-03: CRC135 also working on a template. We decide to run a survey about which kind of template will be best and design a better one.
- 2021-01 Results of survey and new template “published” <https://genr.eu/wp/towards-a-standardized-research-folder-structure/>
- 2021-06 Template pushed to GitHub, documentation website started



A good structure is worth a lot of time

Especially, it is a great idea for collaborative projects

I can ensure I have my project organised efficiently, without having to put lots of work into planning at the start

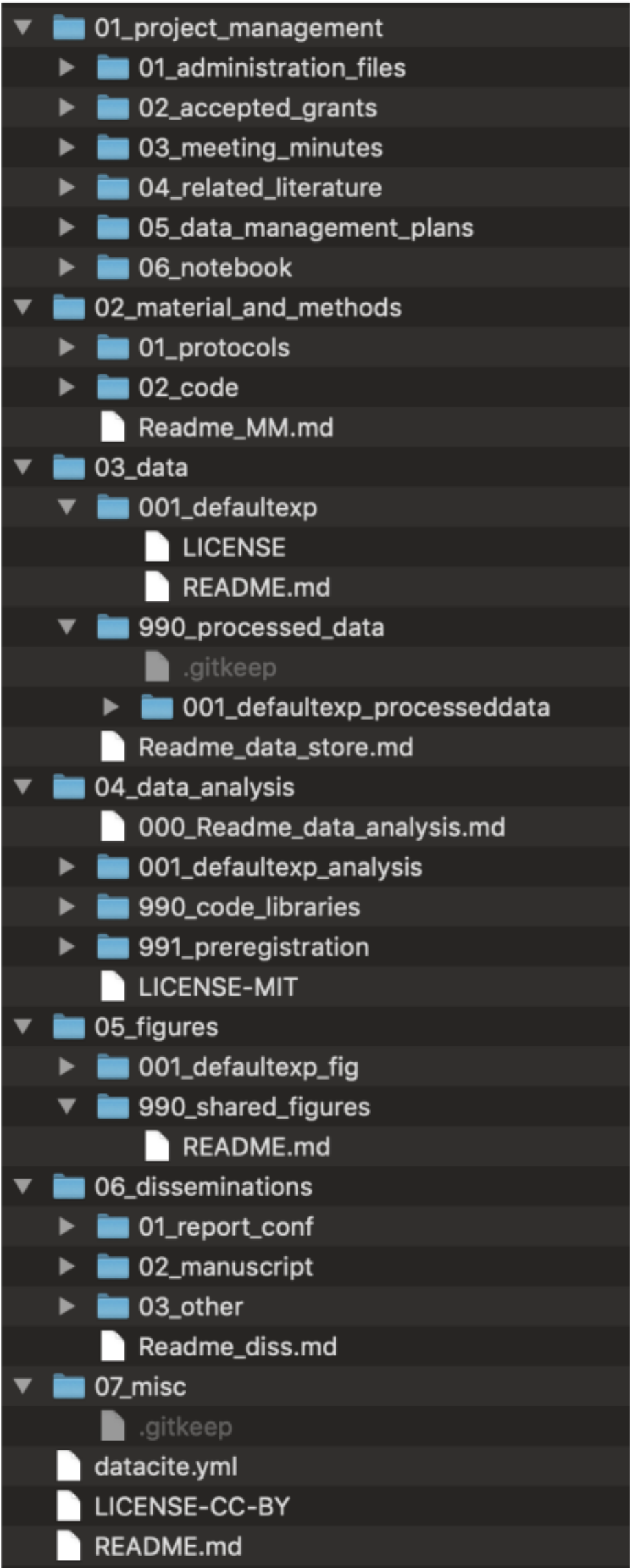


# Experiment level:

add sub-folders for each experiment

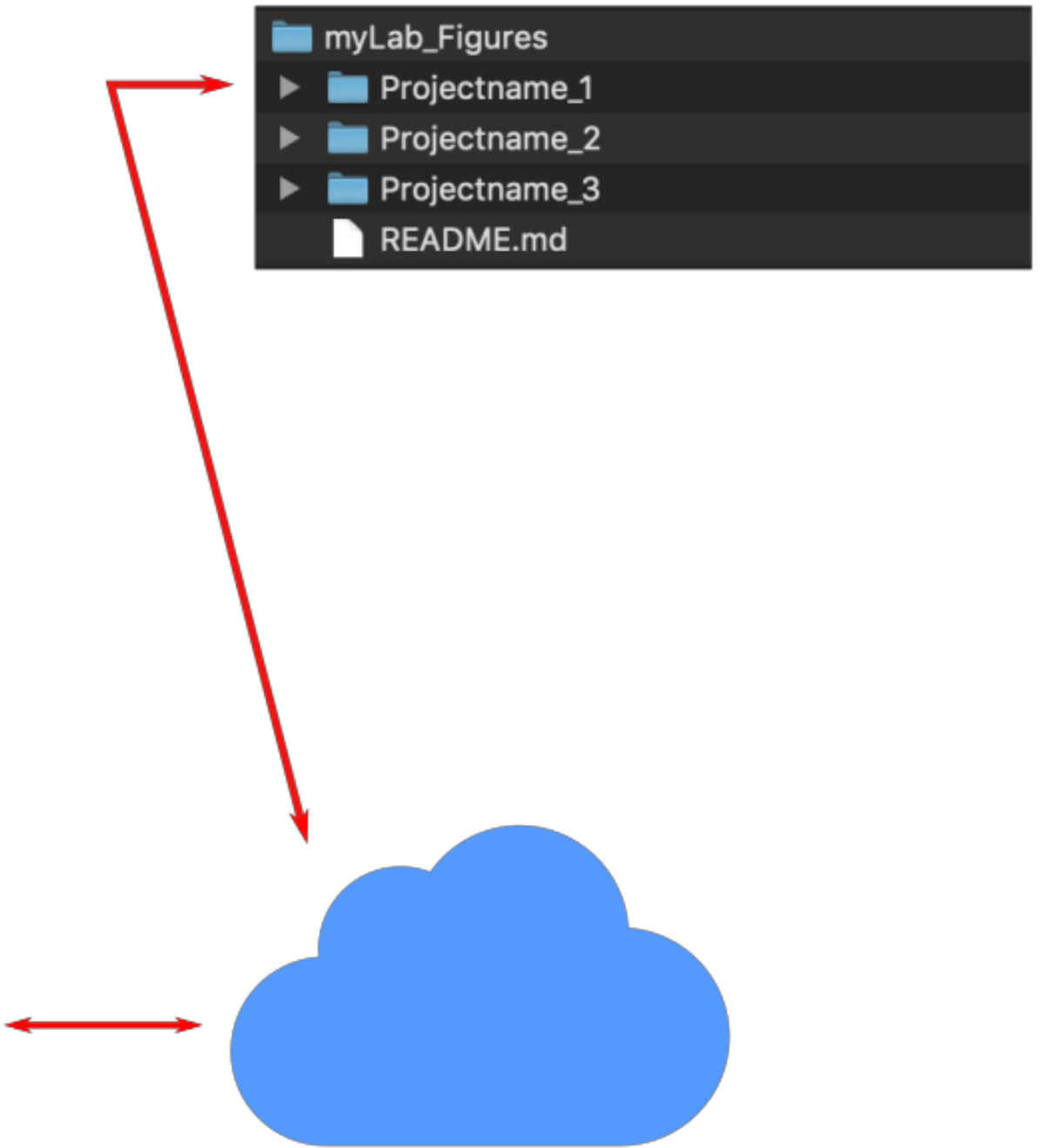


# Project level



# Laboratory level:

mirror sub-folders in other structures





**The Tech:**  
**GIN, tonic, scripts**

# Git-submodule magic

On my computer

▶	90__sharedfolder	22. Jun 2020 at 13:34
▼	91_larkumlab_commons	18. Sep 2020 at 13:33
	.git	18. Sep 2020 at 13:31
▶	01_template_doc	18. Sep 2020 at 13:32
▶	02_info_for_new_personal	18. Sep 2020 at 13:32
▶	03_administration_forms	18. Sep 2020 at 13:32
	LICENSE	17. Jul 2020 at 10:24
	README.md	18. Sep 2020 at 13:32

On GIN (browser)

90__sharedfolder @ 06c90...	68cf92366a	gin commit from MacBook-Pro-4	1 minute ago
91_larkumlab_commons @ ...	68cf92366a	gin commit from MacBook-Pro-4	1 minute ago

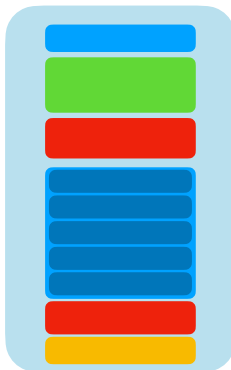
Shared with the lab

# GIN-Tonic

Lab computer



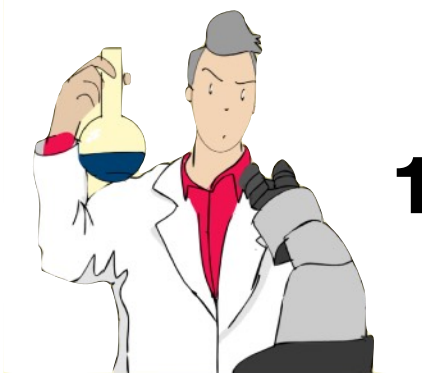
1 TB



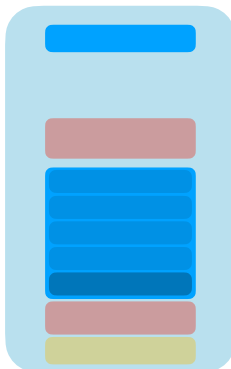
sync



Lab setup



10 MB



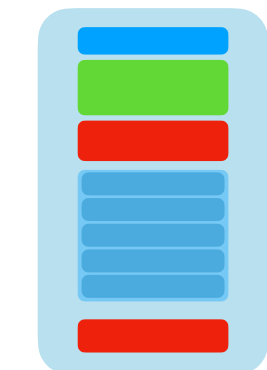
sync



Home computer



1 GB



sync



Documentatio

Figures/  
manuscript

Derived data

Raw data

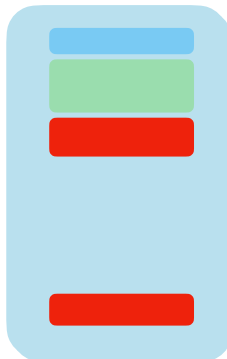
analysis

Lab-info

Open Wiki and Issues

Data analyst

sync

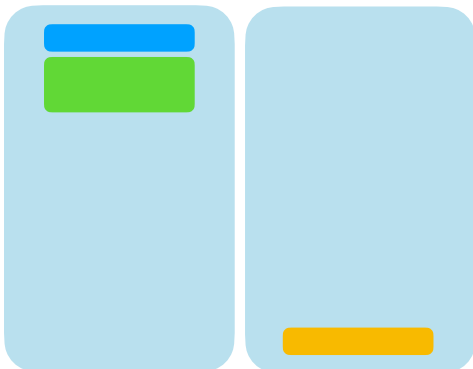


1 MB



PI

sync

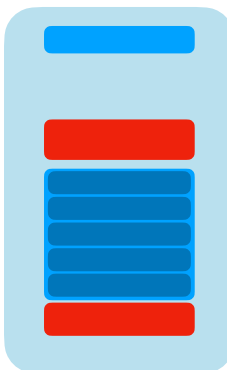


100 MB



Data curator

sync



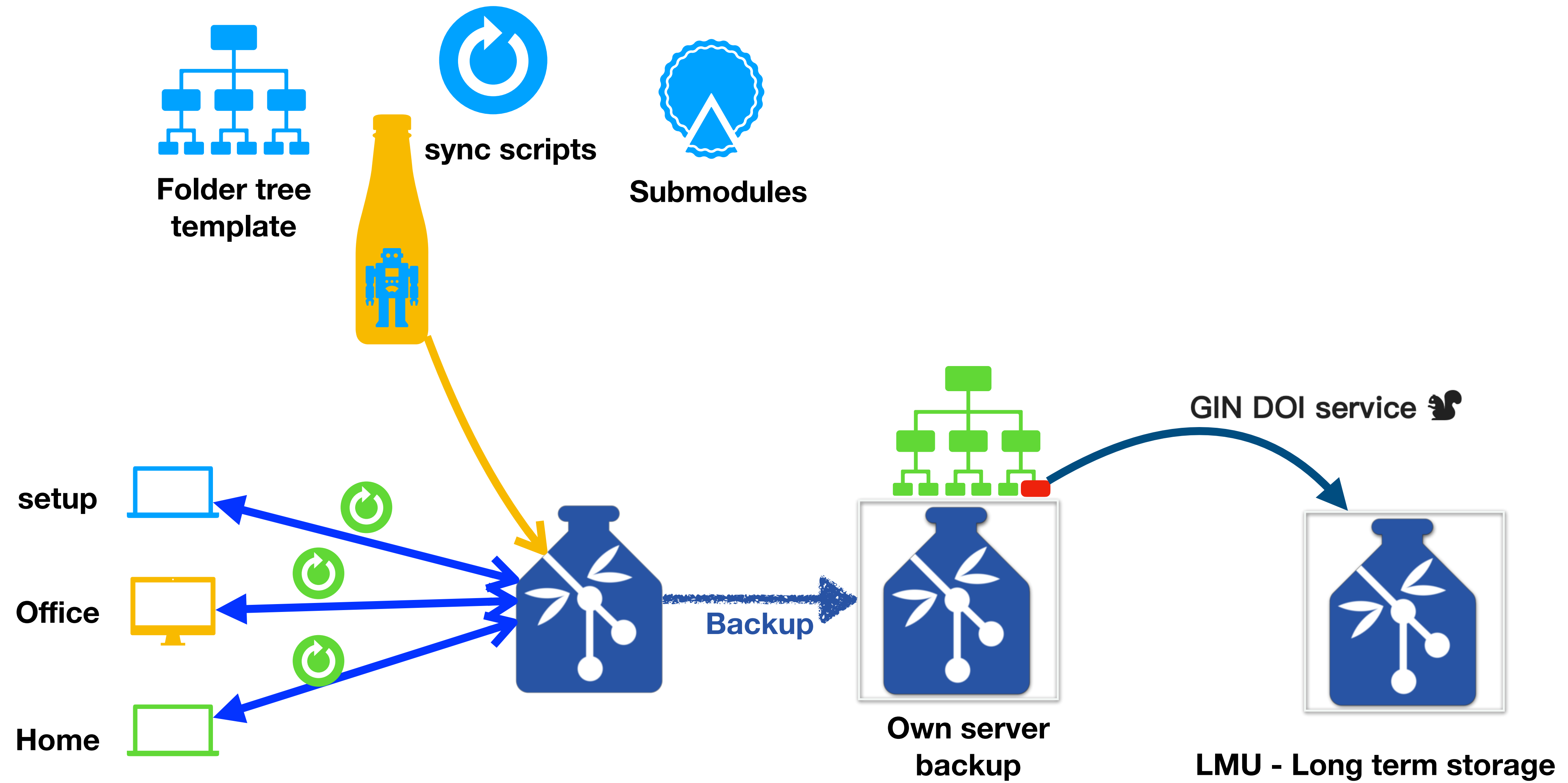
220 MB



Other

online only





Registered with: [re3data.org](http://re3data.org)   
REGISTRY OF RESEARCH DATA REPOSITORIES  
<http://doi.org/10.17616/R3SX9N>  
GIN

Recommended by:  



## tonic: add experiment (planned)

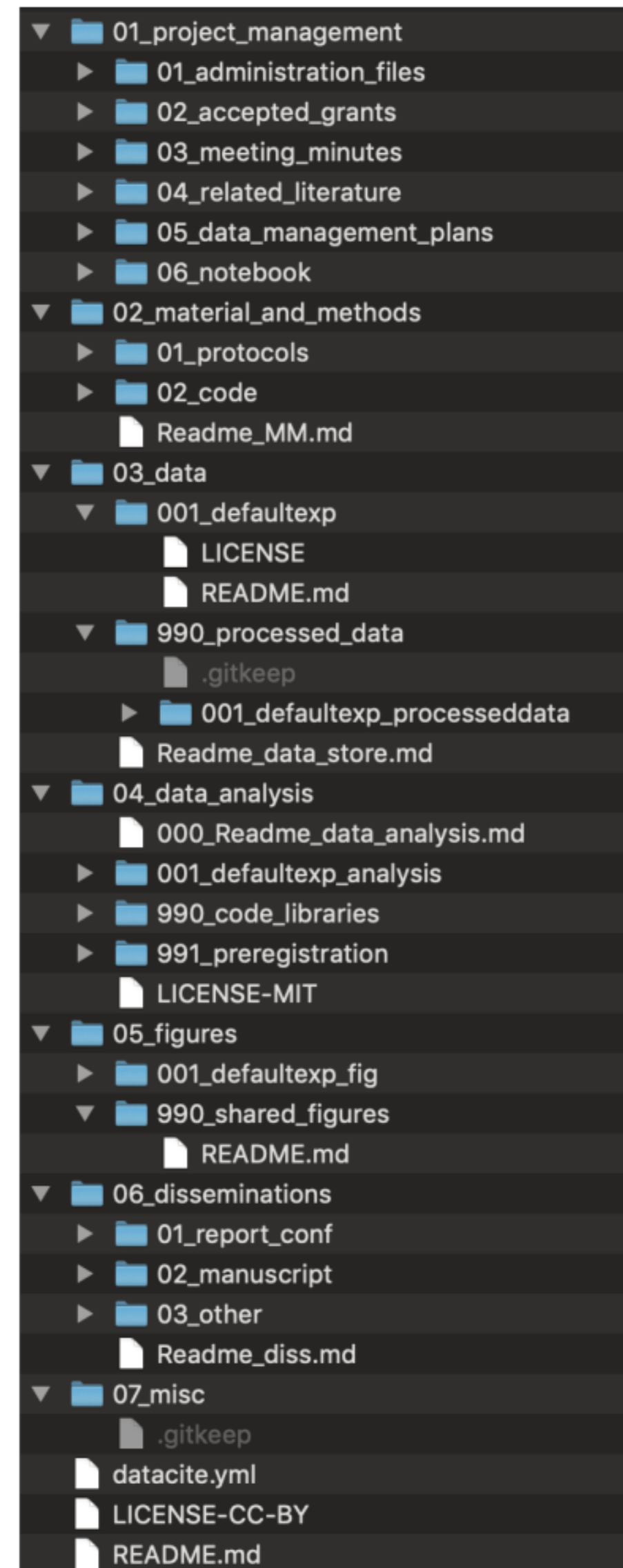
### Experiment level:

add sub-folders for each experiment



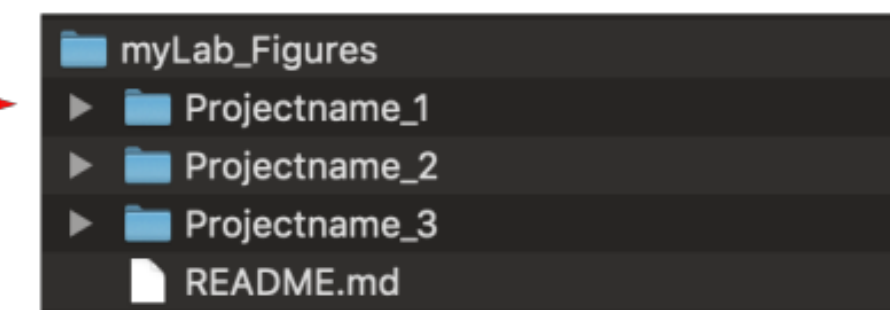
## tonic: create repo (in dev)

### Project level

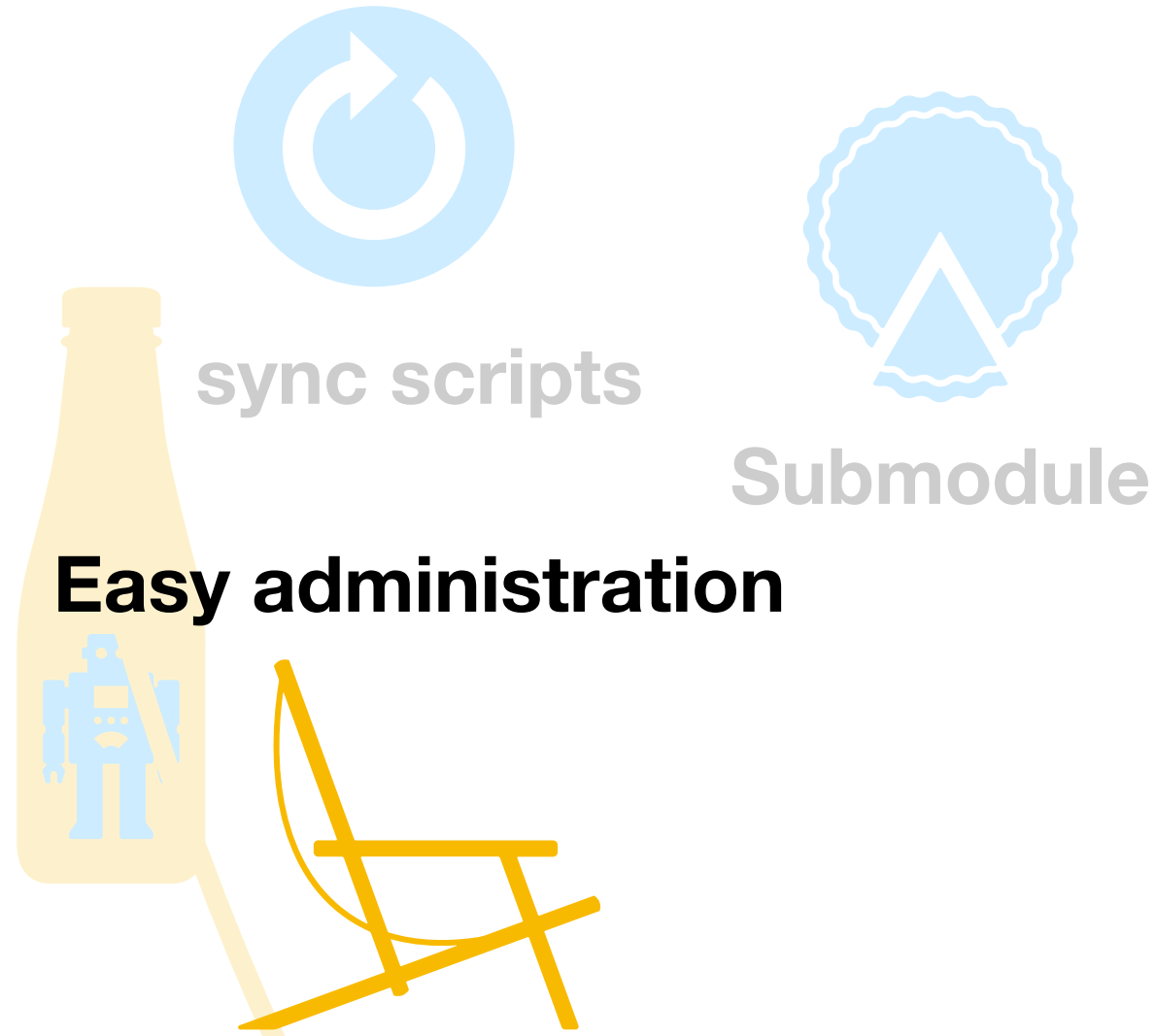
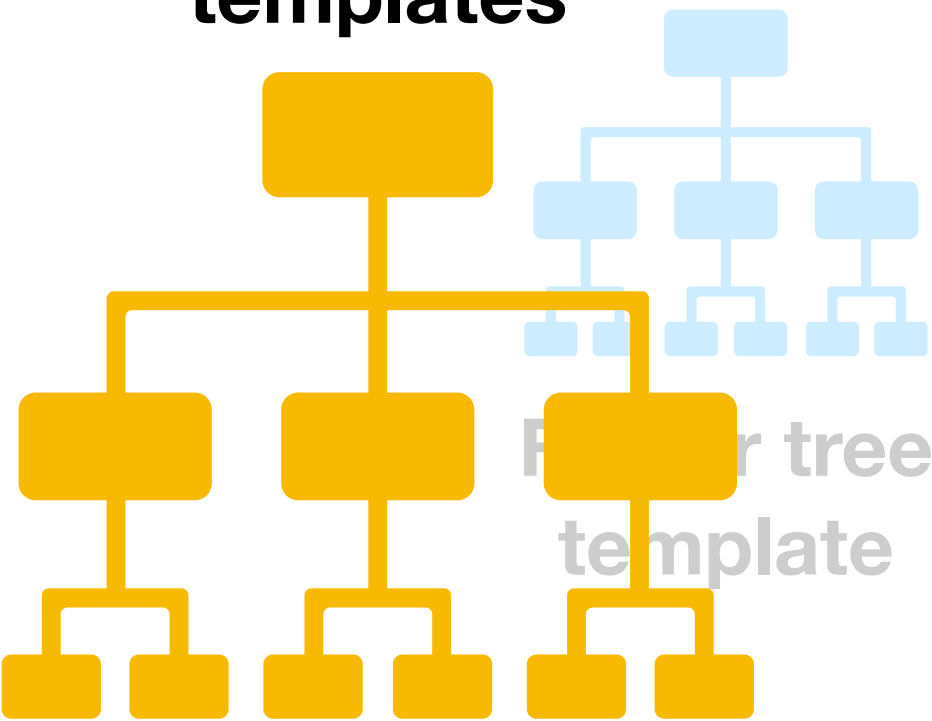


### Laboratory level:

mirror sub-folders in other structures



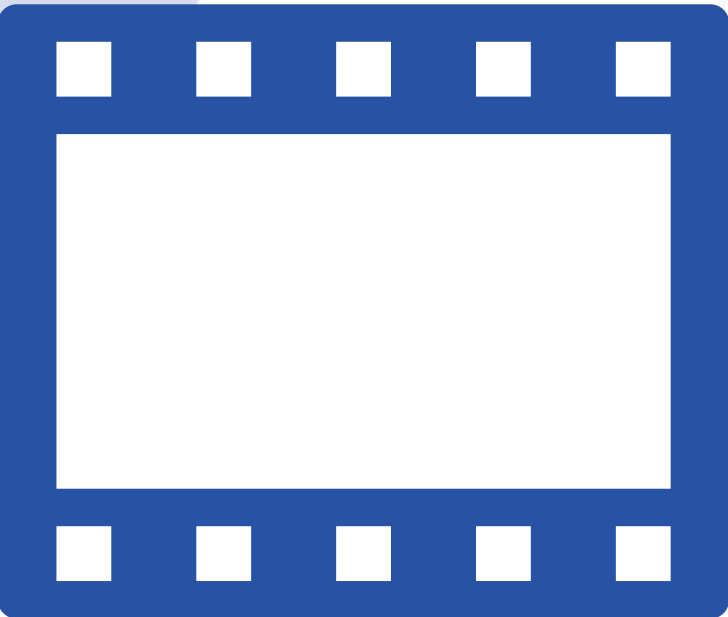
**Research-oriented  
templates**



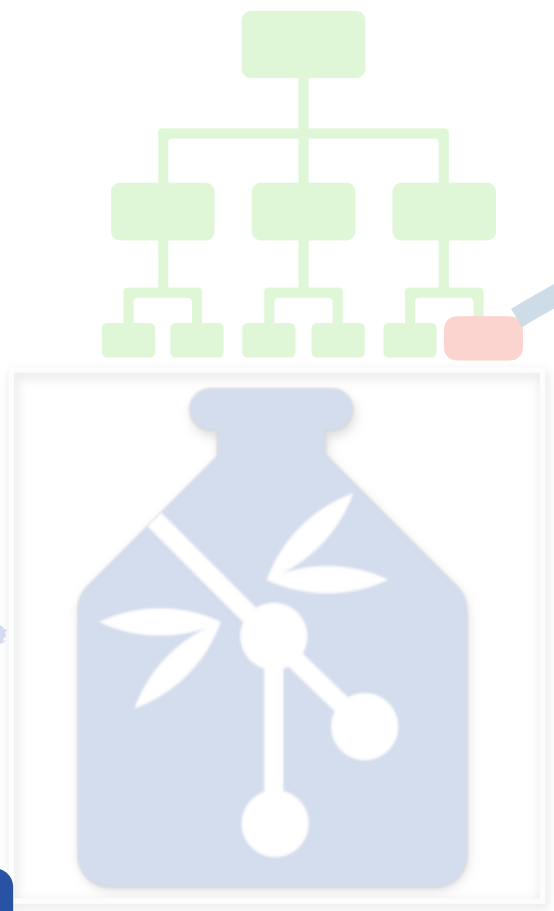
**Easy publication**



**Easy synchronisation**



Via git-annex



Own server  
backup

GIN DOI service 

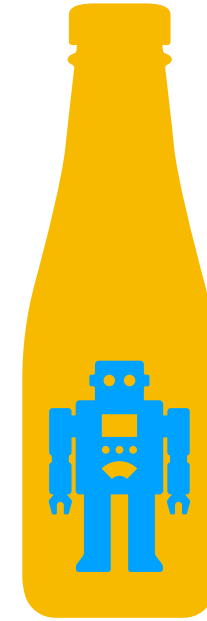


LMU - Long term storage

Registered with: [re3data.org](http://re3data.org)   
REGISTRY OF RESEARCH DATA REPOSITORIES  
<http://doi.org/10.17616/R3SX9N>  
GIN

Recommended by:   **PLOS**

# GIN-TONIC



- Binging vigour into the G-node INfrastructure :

☒ More functionalities

☒ Simplified administration

# Open Infrastructure

- Open source: GIN (MIT license) based on gogs, tonic is go code (BSD 3-Clause License), install via docker.
- Maintained by G-node



**data-, project, lab-  
management**



SFB 1315

Mechanisms and Disturbances in Memory  
Consolidation: From synapses to systems

# SFB1315 research data center

portal to our GIN-Tonic instance

*data management, backup, sharing and publication.*



DATA management

Data backup and synchronisation across devices  
Data available for collaboration and curation



PROJECT management

Use a standardised research folder structure  
Use issues and wiki to organize the work



LAB management

Automatic sharing of some subfolders in the lab.  
Use repos and wiki to share information in the lab.



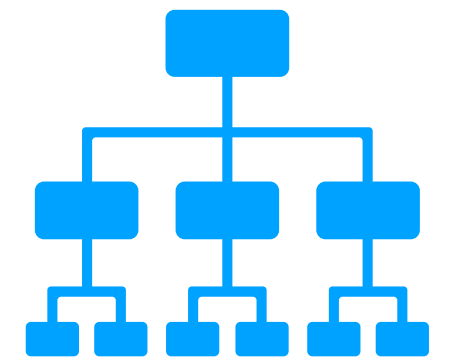
A pioneering approach !

Your feedback is important.  
New developments in the pipeline.



Data curation:  
access data

create data folder templates










- project files organised
- one organisation for all project
- common folder for whole lab




[https://  
gindata.biologie.  
hu-berlin.de/](https://gindata.biologie.hu-berlin.de/)











- Backup
- issues / Pull request
- “organisation” and data sharing

# Collaboration tools

 Dashboard Issues Pull Requests  Explore  Help News    



 gin4RRI / 01\_outreach\_manuscript  How to publish  Edit DataCite file






 Unwatch 5  Star 0  Fork 0

 Files  Issues 6  Pull Requests 1  Wiki  Settings

Labels Milestones

New Issue

 6 Open  0 Closed

Label  Milestone  Assignee  Type  Sort 

#6 https://neuromatch.io conference 

presentation

opened 4 weeks ago by [julien colomb](#)

#5 discussion after survey results

opened 1 month ago by [julien colomb](#)

#4 survey data analysis 

5

opened 1 month ago by [julien colomb](#)

#3 presentation needs feedback 

feedback/help needed

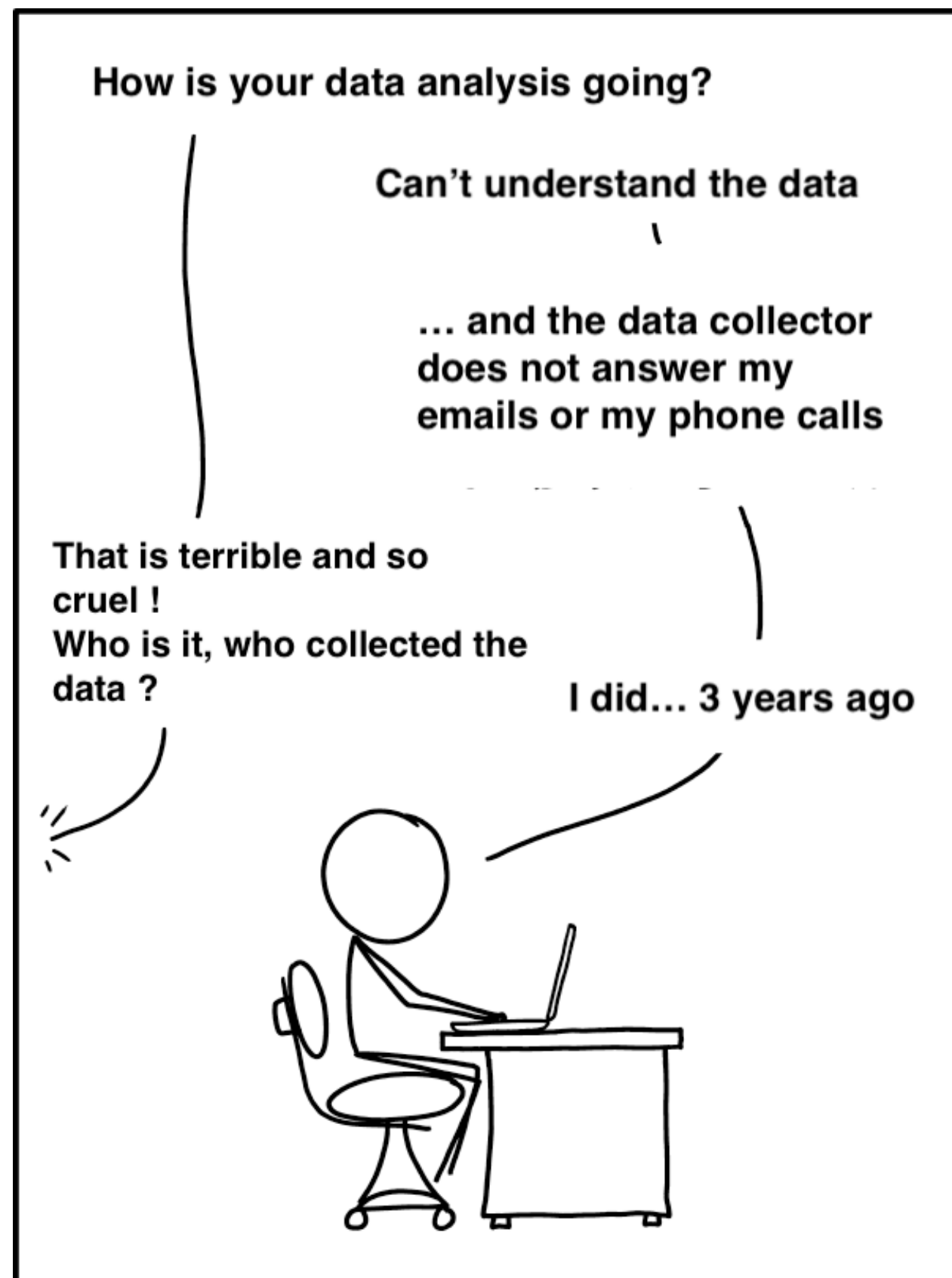
presentation

8

opened 1 month ago by [julien colomb](#)

example

[https://gin.g-node.org/larkumlab/larkumlab\\_commons](https://gin.g-node.org/larkumlab/larkumlab_commons)



**Your first collaborators  
are your future selves,  
be nice to them !**

your future self, by Julien Colomb, CC-BY-NC, derived from .NORM Normal File Format, CC-BY-NC, by Randall Munroe



<https://github.com/tonic-team>