

A low-angle photograph of a modern, multi-story building with a dark, textured facade and large windows. The building is set against a blue sky with white clouds. In the foreground, there are dark, angular concrete structures that frame the building. A tree with green leaves is visible on the right side.

Informatics master seminar

Get started on your thesis!

Andri Spilker & Matthew Good

University of Oslo library

Autumn 2026



Andri Spilker

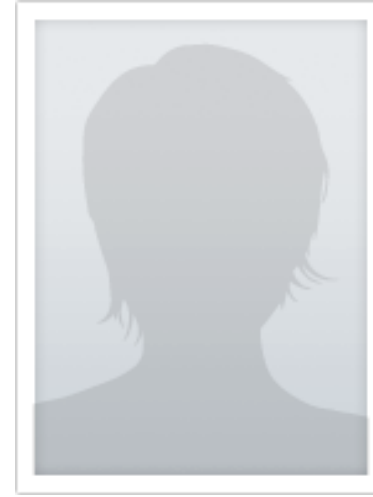
- PhD in Astrophysics
- Student support & teaching
- IFI contact person

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Matthew Good

- PhD in Innovation & Entrepreneurship
- Leader of Digital Scholarship Centre
- Research support



Erik Winge

- MSc in Computer Science
- Student support, teaching & AI

Department of Informatics

[← Studies](#) [← Information to master students](#)[Start of studies](#)[First semester](#)[The master's thesis](#)[Finishing the
programme](#)[Additional
information](#)**[Master seminars](#)**[Project description](#)

Master seminars

Welcome to the master seminars! These seminars are open for all master students at the Department of Informatics, and are organised in cooperation with the University library.



Foto: UiO/Anders Lien

Master seminars to help you through your masters

Essay writing seminar

Spring first year

- Academic writing
- Structure and readers
- Writing as a process
- Finding papers
- Correct citations
- AI in writing

Master thesis seminar

TODAY Fall final year

- How to write the thesis
- Finding and reading scientific literature
- Referencing & copyright
- Data management
- Planning your master project

Final master seminar

Spring final year

- How is your masters grade set?
- Final writing tips
- Ultimate checklist for delivering your master
- Presenting your master: how to give a great scientific presentation

You can influence what happens in upcoming seminars!

Outline for today

- Find and read scientific literature (+AI) (Matthew)
- Reference management (Andri) BREAK ~10

- Refresh writing (+AI) (Andri) BREAK ~11

- Data management (Matthew)
- Draft a project plan (Andri)

Where are you in your project?



<https://www.menti.com/alcnvatxxopt>

A photograph of a workspace on a dark wooden desk. In the background, a silver laptop is open. In the foreground, there is an open, blank, lined notebook with a black pen resting on it. A pair of white earbuds lies on the notebook. To the right of the notebook is a white ceramic cup of coffee on a matching saucer. A white cable is visible on the desk to the right of the coffee cup.

Find and read scientific articles

Why do we need literature?

get overview

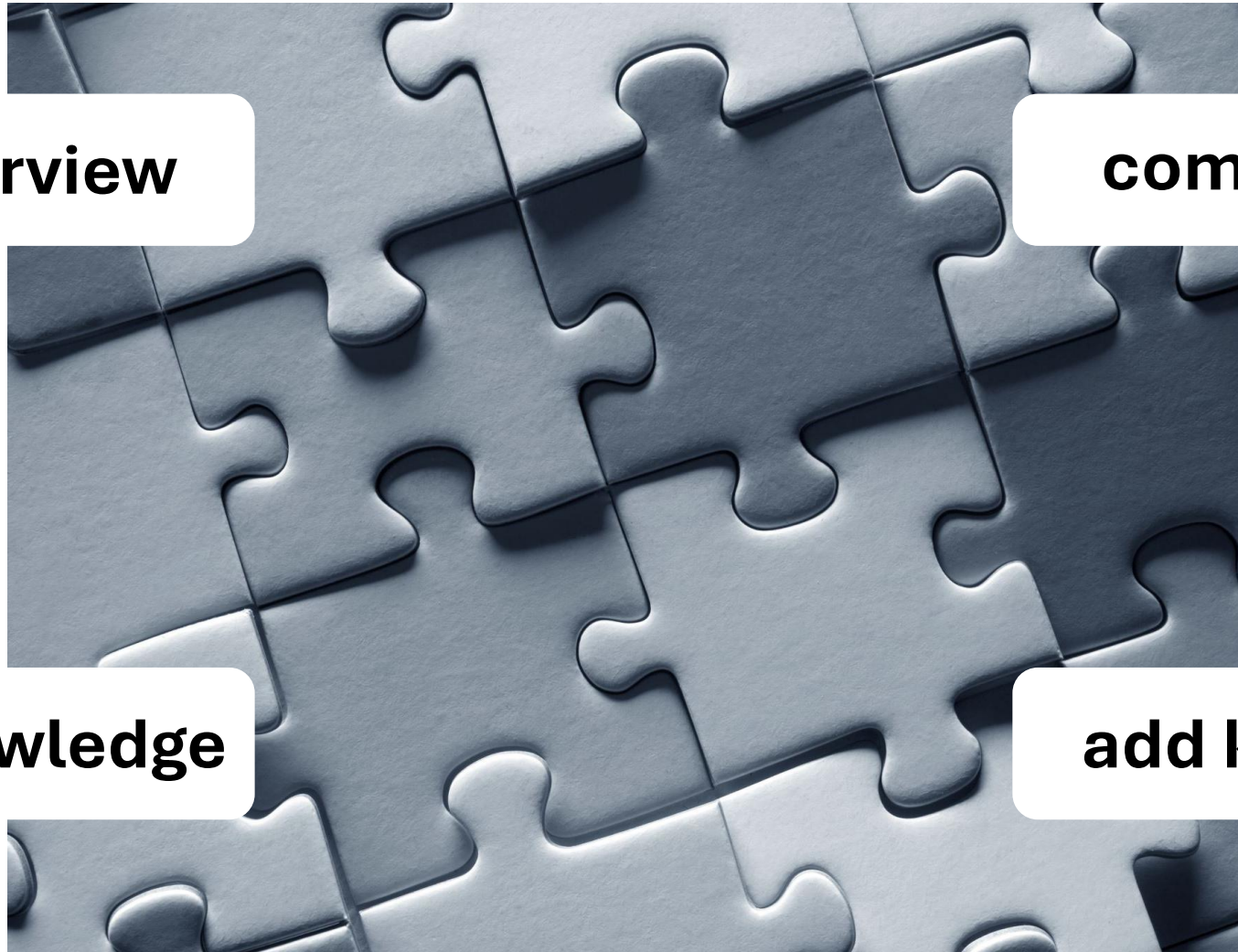
communicate

READ

WRITE

gain knowledge

add knowledge



Types of scientific papers

Original research

- new findings
- empirical data
- clear methods

Technical paper
describes method,
technique, instrument

Conceptual paper
describes concepts,
creates models / frameworks

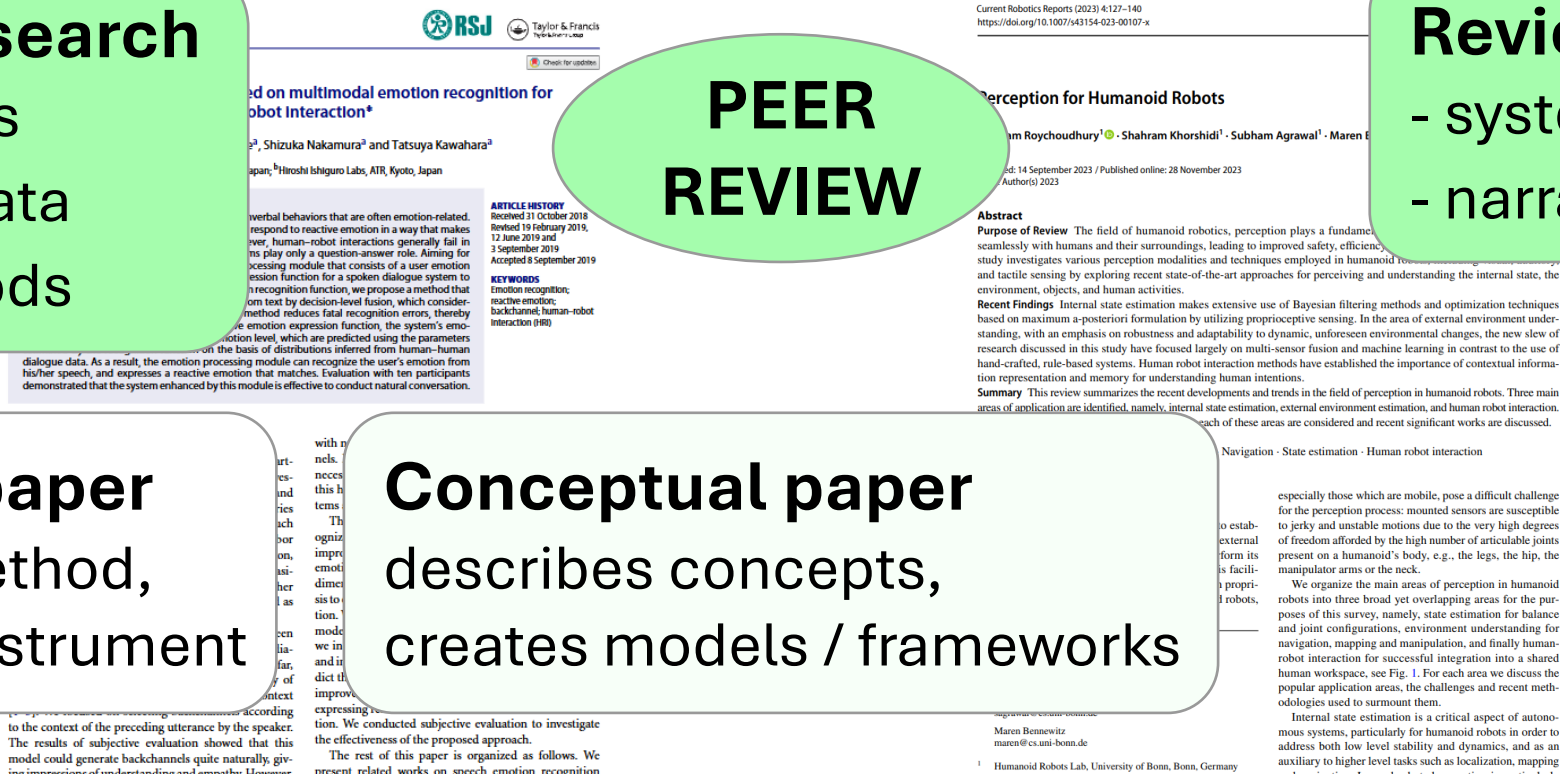
Many more:

editorials, commentary, conference abstracts, letters, research notes, ...

PEER REVIEW

Reviews

- systematic
- narrative



How and where do I start?

Fagside for informatikk

Finn bøker, artikler, tidsskrifter
m.m.

Søk etter tittel, forfatter, stikkord



[Oria-hjelp](#) [Gå til Oria](#)

→ Tilgang til elektroniske ressurser når du ikke er på campus

Kontakt



Andri Spilker

Fagansvarlig i informatikk
[Informatikkbiblioteket](#)



Matthew Good

Faglig leder
[Senter for digital forskerstøtte](#)

Fagdatabaser og andre kilder

Artikkelreferanser

- [ACM Digital Library](#) (abonnement med fulltekst)
- [IEEE Xplore](#) (abonnement med fulltekst)
- [MathSciNet](#) (abonnement, matematikk fra 1800-)
- [Collection of Computer Science Bibliographies](#)(fri)
- [DBLP Computer Science Bibliography](#) (fri med lenker til forfatteres hjemmesider)
- [Computing Research Repository \(CoRR\)](#) (fri, Search, browse and download papers through its online repository)

Referansebaser / oversiktssøk

Søk på tvers av flere ressurser

- [Scopus](#)
- [Web of Science](#)
- [Google scholar](#)

E-bøker fra Springer

- [Monographs in Theoretical Computer Science](#) (bokserie)
- [Lecture Notes in Computer Science](#) (LNCS - bokserie)
inkluderer *Lecture Notes in Bioinformatics* og *Lecture Notes in Artificial Intelligence*
- [IFIP Advances in Information and Communication Technology](#) (bokserie)
- [Studies in Big Data](#) (bokserie)
- [Dette og mer fra Springer](#) (mer realfag og andre disipliner)

Andre e-bøker

- Sjekk [IEEE Xplore](#)
- [O'Reilly](#) (Velg "Not listed" og skriv inn e-postadressen din uten ifi-subdomenet (.....@uio.no))

Annet

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Head of Research and Vice Head of Department at Department of Informatics (2021-2024)

Deputy Centre Director of SIRIUS

Publications

Scientific articles and bookchapters

Books

Other

Rasouli, Peyman; Yu, Ingrid Chieh & Jimenez-Ruiz, Ernesto (2022). Interpreting Categorical Data Classifiers using Explanation-based Locality. *IEEE International Conference on Data Mining Workshops, ICDMW*. ISSN 2375-9232. p. 163–170. doi: [10.1109/ICDMW58026.2022.00030](https://doi.org/10.1109/ICDMW58026.2022.00030).

Web of Science
Scopus

}

Interdisciplinary
citation databases

- Strict criteria for what is included.
- Transparent criteria.
- Very good level of metadata.
- Good for navigating between related papers with topic search words.
- Controlled by: libraries, scientific community

ACM digital library
IEEE Xplore

}

Subject databases

- Exist for different fields
- Find what is used in YOUR field!
- Controlled by: scientific community.

Google Scholar

Not a database

- Quick and easy.
- Not transparent.
- Not easy to reproduce search results.
- Controlled by: Google.

Demo – Conducting a search

Welcome to the University Library



New to the library?

Here you can find everything you need to know about using the library while studying.



Help and guidance

Ask us about everything from how to find reading lists, book loans and renewals, to academic writing, reference management and literature search. Book an appointment, or just drop by.



Our libraries

Opening hours and information about what you can do in our 12 different libraries.

ub.uio.no

Find books, articles, journals etc.

Books, journals, articles etc. - print & electronic



Oria help

Go to Oria

→ Get access to online resources when you are off campus



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Advanced Search →



All



Books



Book chapters



Articles



Journals



Dissertations

What is Oria?

Oria is the library's main search tool. Here you can search our catalogue plus billions of citations from other sources. In Oria you'll find all of UiO's printed and electronic resources — books, articles, journals, databases and much more.

[Guidance and help for Oria](#)

Get started

In the search box dropdown menu choose:

[University of Oslo Library] to search the collections of all UiO libraries and our electronic resources.

Request and renew

If you sign in to Oria you can request books and articles and renew your loans. You can also save searches and results and receive notifications.

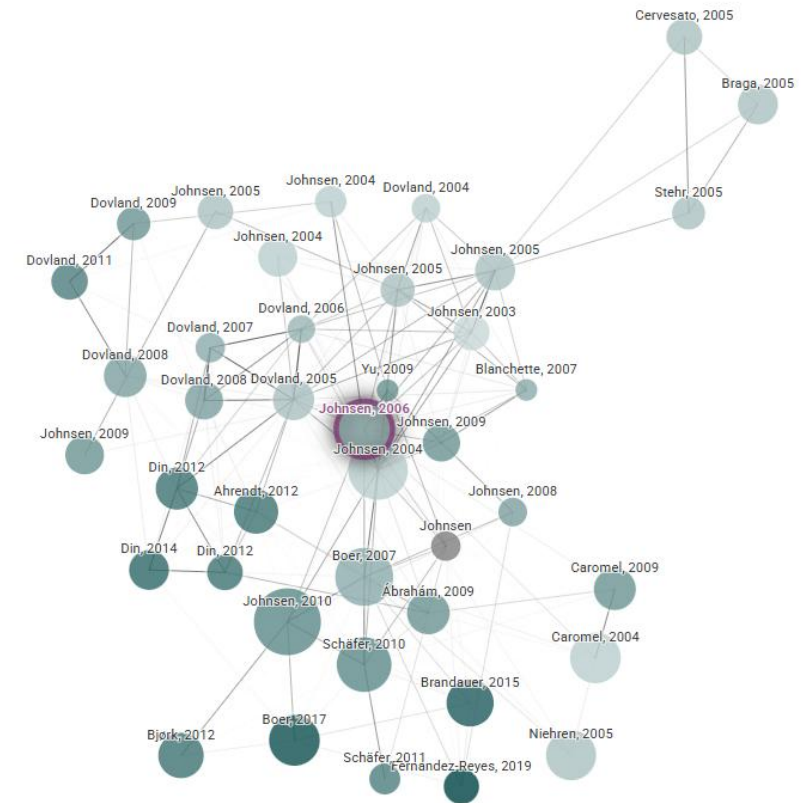
Access to e-resources

You get automatic access to e-resources when you are on the UiO or OUS network. Outside the networks you will be asked to sign in with your UiO account.

Continue your search via “snowballing”

When **you have one relevant paper** and are looking for more:

- Look at **the reference list and find papers the authors used**
- Find the paper in a database / Google Scholar and **use “cited by”** to find other papers that have cited this paper.
- Find similar articles by **exploring the suggested papers** in a database.
- Some tools exist that can visually display citation links (usually not free...)



Ref: Screenshot from Connected Papers

Many options for AI literature search...

Advantages

- Easy to search (natural language)
- Quick answers, brief summaries
- Supports exploration of a topic
- Potentially finds sources that do not appear in traditional database searches

Disadvantages

- No transparent search mechanism (**risk of bias!**)
- Censors cannot understand how you found your sources
- Amount of results / usefulness is bound to subscription and access
- More energy demanding than traditional search

AI-based tools include Research Rabbit, Keenious, Semantic Scholar, Elicit, Scite, Undermind, +++

1. How to find interesting papers to read
- 2. How to decide if a paper is worth reading**
3. How to read the papers effectively

Found something? – Some things to check

1. Is the article **retracted**?
2. Is it published in a **credible journal**?
3. Is the article **peer-reviewed** or is it a **pre-print publication**?

Retractions

Hundreds of scientific papers are retracted per year

→ Errors, fabrication, falsification, plagiarism, ...

[Retraction Watch Database](#) collects retracted papers (> 50 000 papers!)

→ Papers are flagged in subject databases and referencing tools (but not Google Scholar!)



Source: [Retraction Watch Database User Guide – Retraction Watch](#)

Beware of predatory journals!

Red flags

- No or improper use of permanent identifiers such as ISSN or DOI
- Unusually low or high processing charges (APCs)
- No clear policy on copyright licensing, open access or retraction
- Unprofessional websites with deadlinks and grammatical errors
- No Web of Science impact factors or SCImago journal rankings
- Generic email accounts for correspondences. No accurate headquarter location.

Check if you can find the journal in these registers:

- Directory of Open Access Journals (DOAJ): <https://doaj.org/>
- Norwegian register for scientific journals, series and publishers:
https://kanalregister.hkdir.no/publiseringskanaler/Forside/.action?request_locale=en

Simple criteria to judge if an article is trustworthy

✓ Is it in a reputable, peer-reviewed journal?

> Kanalregisteret

Norwegian Register for Scientific Journals, Series and Publishers

In the Norwegian Register, you will find an overview over academic journals, series and publishers (publication channels), and you are welcome to suggest new.

Find journals and publishers

☒ Journal ☐ Publisher

Search by title, ISSN or ISBN prefix

physical review

Search

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Physical Review X

American Physical Society

Level 2

✓ Indexed in DOAJ

✓ Indexed in Open Policy Finder

✗ Not included in publishing agreement

Classification of academic publications:

Level 2: very high-quality

Level 1: standard

Level 0: not approved

✓ Does your supervisor approve?

Peer-reviewed or pre-print?

Today's topics

1. How to find interesting papers to read
2. How to decide if a paper is worth reading
3. How to read the papers effectively

Typical anatomy of a research paper

TITLE

AUTHORS

ABSTRACT

INTRODUCTION

A Cognitive Model for the Representation and Acquisition of Verb Selectional Preferences

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Abstract

We present a cognitive model of inducing verb selectional preferences from individual verb usages. The selectional preferences for each verb argument are represented as a probability distribution over the set of semantic properties that the argument can possess—a *semantic profile*. The semantic profiles yield verb-specific conceptualizations of the arguments associated with a syntactic position. The proposed model can learn appropriate verb profiles from a small set of noisy training data, and can use them in simulating human plausibility judgments and analyzing implicit object alternation.

1 Introduction

Verbs have preferences for the semantic properties of the arguments filling a particular role. For example, the verb *eat* expects that the object receiving its theme role will have the property of being edible, among others. Learning verb selectional preferences is an important aspect of human language acquisition, and the acquired preferences have been shown to guide children's expectations about missing or upcoming arguments in language comprehension (Nation et al., 2003).

Resnik (1996) introduced a statistical approach to learning and use of verb selectional preferences. In this framework, a semantic class hierarchy for words is used, together with statistical tools, to induce a verb's selectional preferences for a particular argument position in the form of a distribution

over all the classes that can occur in that position. Resnik's model was proposed as a model of human learning of selectional preferences that made minimal representational assumptions; it showed how such preferences could be acquired from usage data and an existing conceptual hierarchy. However, his and later computational models (see Section 2) have properties that do not match with certain cognitive plausibility criteria for a child language acquisition model. All these models use the training data in "batch mode", and most of them use information theoretic measures that rely on total counts from a corpus. Therefore, it is not clear how the representation of selectional preferences could be updated incrementally in these models as the person receives more data. Moreover, the assumption that children have access to a full hierarchical representation of semantic classes may be too strict. We propose an alternative view in this paper which is more plausible in the context of child language acquisition.

In previous work (Alishahi and Stevenson, 2005), we have proposed a usage-based computational model of early verb learning that uses Bayesian clustering and prediction to model language acquisition and use. Individual verb usages are incrementally grouped to form emergent classes of linguistic constructions that share semantic and syntactic properties. We have shown that our Bayesian model can incrementally acquire a general conception of the semantic roles of predicates based only on exposure to individual verb usages (Alishahi and Stevenson, 2007). The model forms probabilistic associations between the semantic properties of arguments, their syntactic positions, and the semantic primitives

PUBLICATION

Alternating verbs		Non-alternating verbs	
write	0.61	hang	0.56
sing	0.67	wear	0.71
drink	0.67	say	0.75
eat	0.74	catch	0.76
play	0.74	show	0.77
pour	0.76	make	0.78
watch	0.77	let	0.78
pack	0.78	open	0.81
steal	0.80	take	0.83
push	0.80	see	0.87
call	0.80	like	0.87
pull	0.80	get	0.87
explain	0.81	find	0.87
read	0.82	give	0.88
hear	0.87	bring	0.89
		put	0.90
Mean	0.76	Mean	0.81

Figure 6: Similarity with the base profile for Alternating and Non-alternating verbs.

than verbs with stronger preferences. We use the cosine measure to estimate the similarity between two profiles p and q :

$$\text{cosine}(p, q) = \frac{p \cdot q}{|p| \times |q|} \quad (9)$$

The similarity values for the Alternating and Non-alternating verbs are shown in Figure 6. The larger values represent more similarity with the base profile, which means a weaker selectional preference. The means for the Alternating and Non-alternating verbs were respectively 0.76 and 0.81, which confirm the hypothesis that verbs participating in implicit object alternations select more strongly for the direct objects than verbs that do not. However, like Resnik (1996), we find that it is not possible to set a threshold that will distinguish the two sets of verbs.

5 Conclusions

We have proposed a cognitively plausible model for learning selectional preferences from instances of verb usage. The model represents verb selectional preferences as a semantic profile, which is a probability distribution over the semantic properties that an argument can take. One of the strengths of our model is the incremental nature of its learning mechanism, in contrast to other approaches which learn selectional preferences in batch mode. Here we have only reported the results for the final stage of learning, but the model allows us to monitor the semantic

profiles during the course of learning, and compare it with child data for different age groups, as we do with semantic roles (Alishahi and Stevenson, 2007). We have shown that the model can predict appropriate semantic profiles for a variety of verbs, and use these profiles to simulate human judgments of verb-argument plausibility, using a small and highly noisy set of training data. The model can also use the profiles to measure verb-argument compatibility, which was used in analyzing the implicit object alternation.

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- Alishahi, A. and Stevenson, S. (2007). A computational usage-based model for learning general properties of semantic roles. In *Proc. of the EuroCogSci 2007*.
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RESULTS
(graphs, charts)

REFERENCES

ARTICLE TEXT

CONCLUSION

<https://www.lib.ncsu.edu/tutorials/scholarly-journal/>

Reading scientific papers

First: Read the title and abstract

- The **title and abstract** tells you whether or not to read a paper.
- Contains the necessary information to **decide if** the paper is **relevant**.
- Practice reading titles and abstract and distilling out useful information.

Exercise

- Read the following abstract
- Try to identify the key information
 - ✓ What is this paper about?
 - ✓ What method did they use?
 - ✓ What did they find?



ELSEVIER



Data governance spaces: The case of a national digital service for personal health data

Dragana Paparova ^{a 1} , Margunn Aanestad ^{a c} , Polyxeni Vassilakopoulou ^a ,
Marianne Klungland Bahus ^b

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<https://doi.org/10.1016/j.infoandorg.2023.100451>

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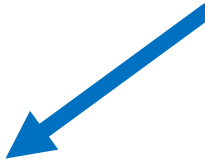
A B S T R A C T

This paper investigates data governance empirically by conducting a retrospective study of the ten-year evolution of a national digital service for personal health data in Norway. We show how data governance unfolds over time as data become shared and itinerant across multiple actors. Building on our findings, we introduce the concept of data governance spaces to refer to the authorized relationships among multiple actors, which specify the boundaries of decision-making authority, rights, roles, and responsibilities around data processing. We contribute to the literature on data governance by distinguishing between a) authority multiplication, where data are handed over to other actors to serve diverse purposes triggering horizontal dynamics, and b) actor subordination, where authorities delegate data handling for uniform purposes triggering vertical dynamics. Overall, the paper extends prior research by showing how data governance unfolds beyond intra-, or inter-organizational boundaries and shifts attention to data's pivotal role, and the purposes for which data are collected, shared or used across multiple actors.

What



How



Data governance spaces: The case of a national digital service for personal health data

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Paparova, D., Aanestad, M., Vassilakopoulou, P., & Bahus, M. K. (2023). Data governance spaces: The case of a national digital service for personal health data. *Information and Organization*, 33(1), 100451. <https://doi.org/10.1016/j.infoandorg.2023.100451>

ARTICLE INFO

Keywords:

Data governance spaces
Horizontal dynamics
Vertical dynamics
Data handling
Data handover

Topic keywords

What & How

Results & Conclusions

ABSTRACT

This paper investigates data governance empirically by conducting a retrospective study of the ten-year evolution of a national digital service for personal health data in Norway. We show how data governance unfolds over time as data become shared and itinerant across multiple actors. Building on our findings, we introduce the concept of data governance spaces to refer to the authorized relationships among multiple actors, which specify the boundaries of decision-making authority, rights, roles, and responsibilities around data processing. We contribute to the literature on data governance by distinguishing between a) authority multiplication, where data are handed over to other actors to serve diverse purposes triggering horizontal dynamics, and b) actor subordination, where authorities delegate data handling for uniform purposes triggering vertical dynamics. Overall, the paper extends prior research by showing how data governance unfolds beyond intra-, or inter-organizational boundaries and shifts attention to data's pivotal role, and the purposes for which data are collected, shared or used across multiple actors.

Paparova, D., Aanestad, M., Vassilakopoulou, P., & Bahu, M. K. (2023). Data governance spaces: The case of a national digital service for personal health data. *Information and Organization*, 33(1), 100451. <https://doi.org/10.1016/j.infoandorg.2023.100451>

How to skim a paper

- Title
- Abstract
- (Last paragraph of) introduction
- Figures & tables with captions
- Conclusions
- Section titles
- First paragraph in each section, first sentence in each paragraph

Skim reading

THE INTRODUCTION

Where the authors set the scene (Lots of references!)

Find the place in the introduction where the **knowledge gap** is identified.

Tip: Look at the end of the introduction!

"In this paper, we ..."

"This paper aims to ..."

This papers aims to advance research on data governance by using data, and not IT, as the focal point and account for the involvement of multiple actors. The research questions we seek to answer are 1) *how to conceptualize data governance by accounting for the role of data*, and 2) *how does data governance unfold when data become itinerant across multiple actors*? To answer these research questions, we follow the data governance decision-making throughout the ten-year evolution of a citizen-facing digital health service for personal health data in Norway.

Skim reading

SECTIONS, SUBSECTIONS AND PARAGRAPHS

4. Findings: governing personal health data across multiple actors

This section presents how multiple actors engaged in decision-making around governing citizens' health data supported by HealthNorway's functionalities. Initially, HealthNorway provided quality-assured, general, and open information about illnesses and treatments where no personal data were involved. Thus, we start our account with the first login services, i.e., the services involving personal health data.

4.1. Processing data on behalf of healthcare registries

The first personal to information stored drug prescription and care actors, s

4.2. Storing data on behalf of citizens

In 2014–2015, HealthNorway started working on offering interactive services where citizens could send and receive messages with healthcare services, instead of solely accessing data stored in a central storage where citizens' data were not secure, even if the health data were used up to then was

4.3. Becoming a data controller: exchanging data with healthcare services

As of 2014, many GP offices collaborated with provided, and the securi

4.4. Shared data controlling: structured data generation by citizens

Ever since the launch of the first interactive services in 2015, HealthNorway was collaborating with the regional health authorities to map out the needs for information exchange between specialist healthcare services and citizens. Instead of exchanging messages, specialist healthcare services raised the need for collecting structured data.

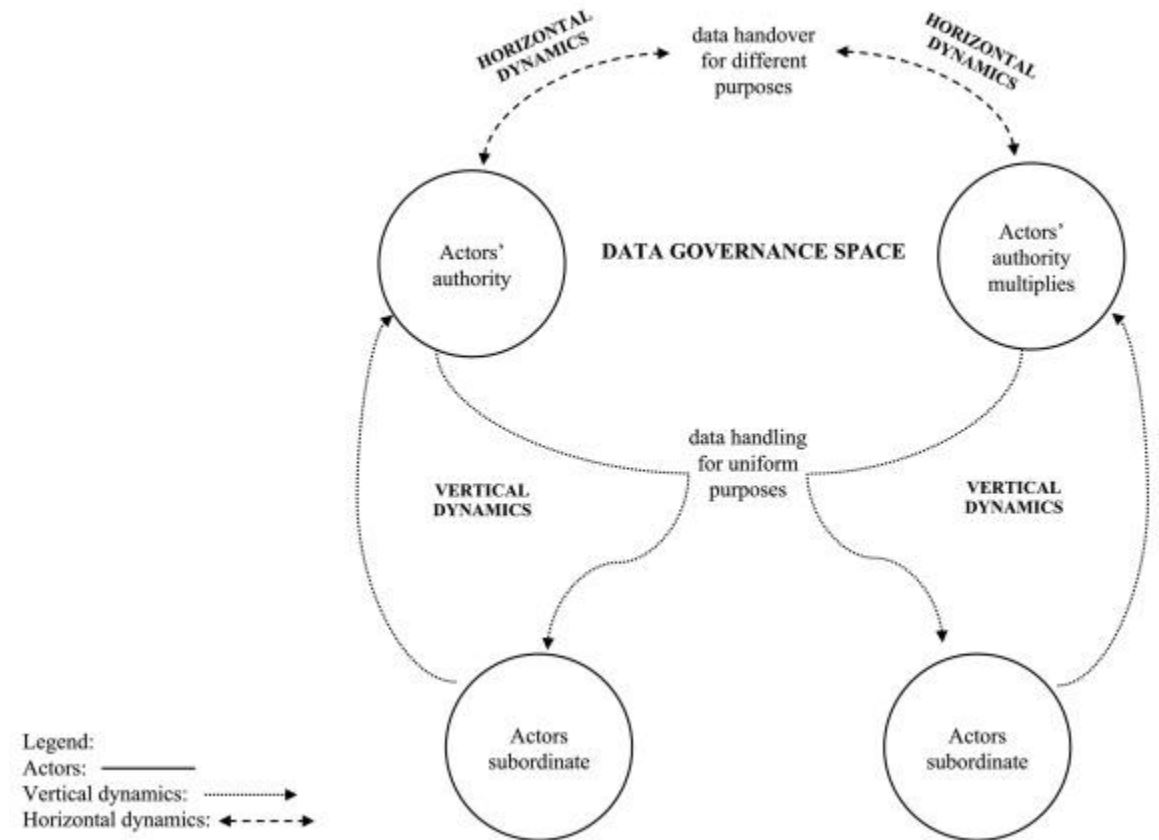
Read the titles of the subsections.

Gives you a sense of the story of the paper.

Skim reading

FIGURES AND FIGURE TEXTS

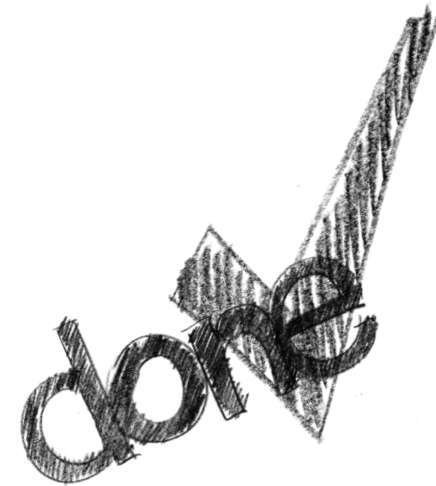
- Figures are very important elements of scientific papers.
- Figure texts should explain **what** the figure shows and **why** it is there.
- Figure texts should give key information about the plots, tables etc.



Paparova, D., Aanestad, M., Vassilakopoulou, P., & Bahus, M. K. (2023). Data governance spaces: The case of a national digital service for personal health data. *Information and Organization*, 33(1), 100451. <https://doi.org/10.1016/j.infoandorg.2023.100451>

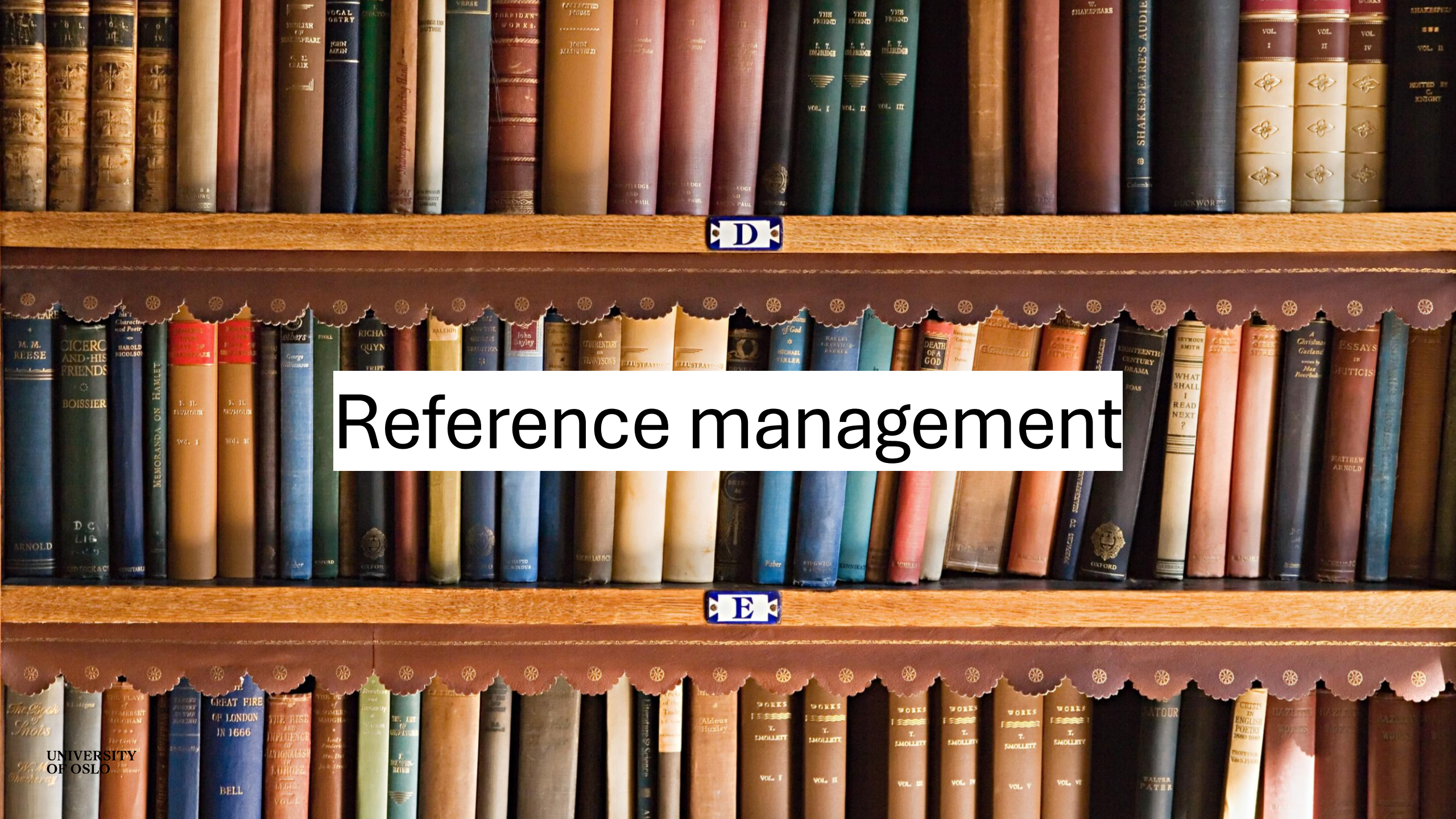
How to skim a paper

- Title
- Abstract
- (Last paragraph of) introduction
- Figures & tables with captions
- Conclusions
- Section titles
- First paragraph in each section, first sentence in each paragraph



Seems relevant? Critical reading

- **Title** and **abstract** → Is this study relevant for you: topic, question, study design
- Which **materials and methods** do they use?
 - Is it the best available method?
 - Bias and confounders, tools, statistics?
- Presentation of **results** → Is there a potential for misleading presentation?
- Do **data** and results **justify the conclusions**?
- Are there any **conflicts of interest**?

The background is a photograph of a library bookshelf. The top shelf contains several large, thick books with gold-embossed spines, including volumes of Shakespeare's works. Below this is a wooden shelf with a decorative brown leather-like divider featuring a scalloped edge and small circular patterns. The middle shelf is filled with a variety of books of different colors and sizes, including titles like 'Cicero and his friends', 'The Book of the Dead', and 'The Rise and Fall of the Third Reich'. Below this shelf is another wooden shelf with a similar decorative divider. The bottom shelf contains more books, including a set of 'The Works of T. Smollett' in multiple volumes. The overall scene is a well-stocked library with a focus on historical and literary texts.

Reference management



Organize the literature you read

The logo for Zotero, featuring a red lowercase 'z' followed by the word 'otero' in a dark grey sans-serif font.

- Free, open-source reference management tool
- Features to annotate and organize files
- Integration with Word, Overleaf, BibTeX
- Free courses at UiO library

LaTeX?

UNIVERSITY
OF OSLO

Master's thesis

UiO Master's thesis

A suitable $\text{\LaTeX}$ document class

Andri Spilker
andri.spilker@ub.uio.no

Realfagsbiblioteket
Universitetet i Oslo

22nd April 2025



← Back to all templates

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Overleaf information

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Dag Langmyhr
dag@ifi.uio.no

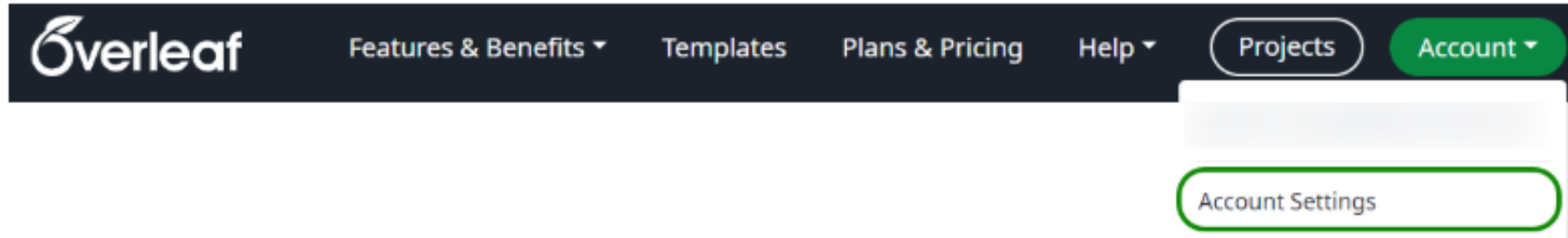
Department of Informatics
Faculty of Mathematics and Natural Sciences



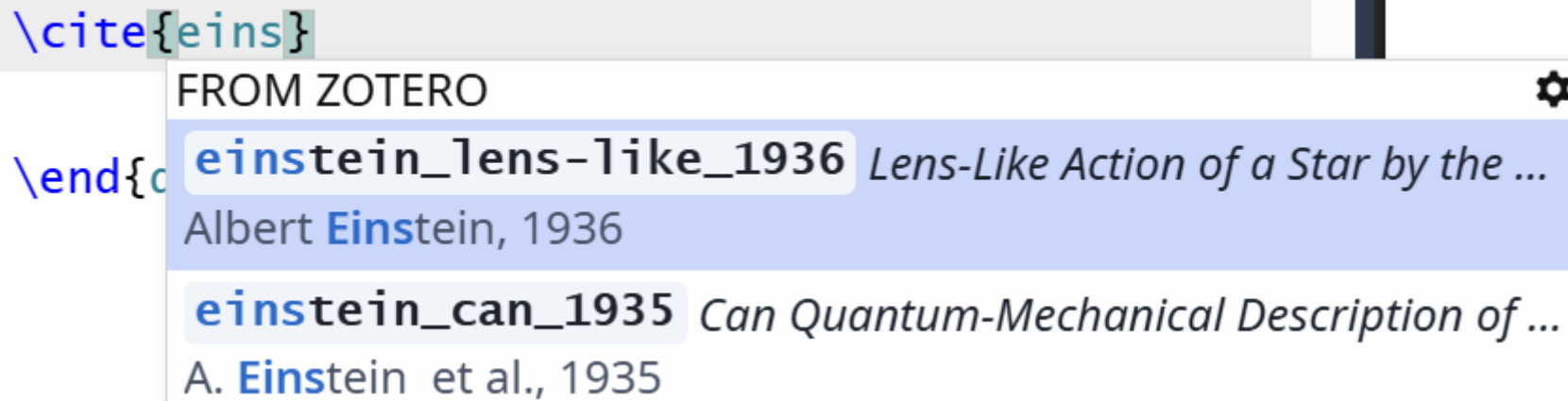
9th September 2024

How to link Zotero to your Overleaf account

1. Select **Account** then **Account Settings** from the drop-down menu:



2. Scroll down to the **Zotero Integration** Reference



select the **Link** for



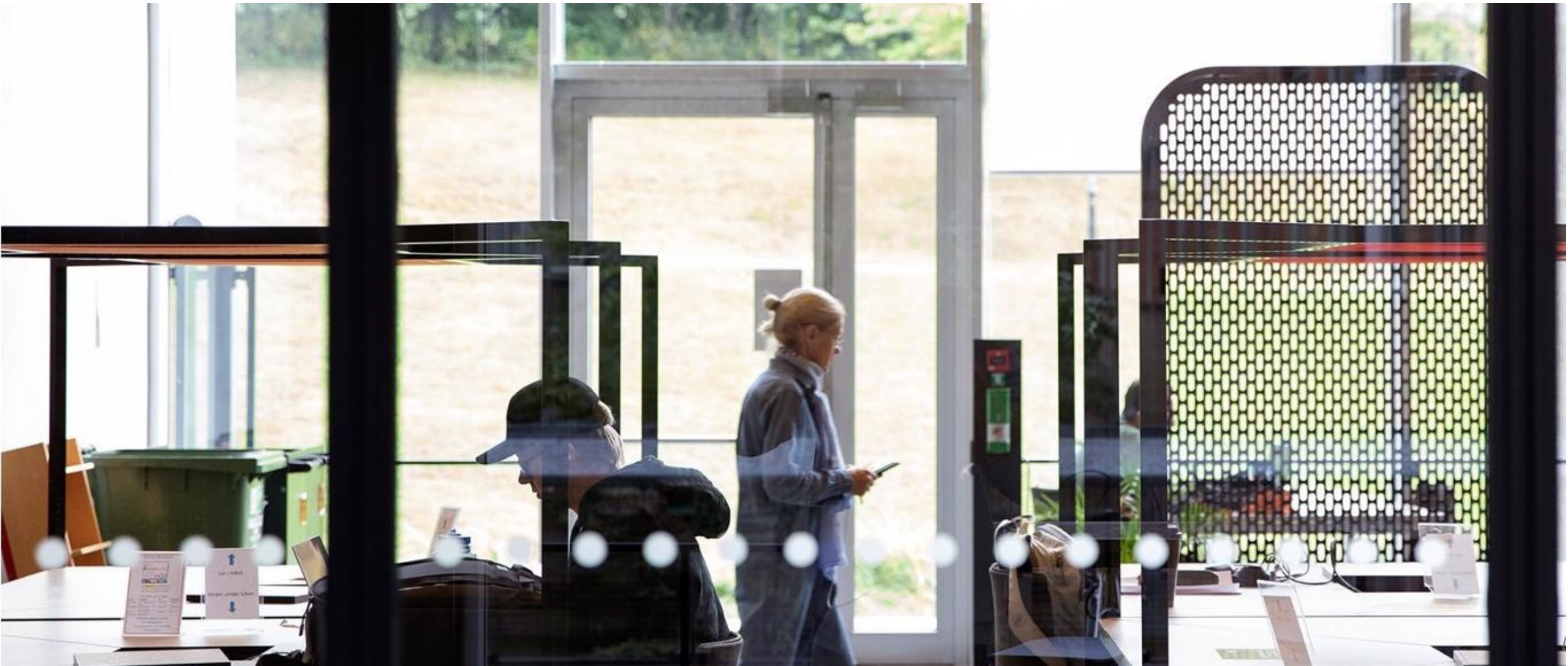
Zotero Integration

With the Zotero integration you can import your references from Zotero into your Overleaf projects. [Learn more](#)

[Link](#)

You will be prompted to log into your Zotero account, if you have not already done so.

Break



Outline for today

- Find and read scientific literature (+AI) (Matthew)
- Reference management (Andri)
- Refresh writing (+AI) (Andri)
- Data management (Matthew)
- Draft a project plan (Andri)



Recap from writing seminar (April)

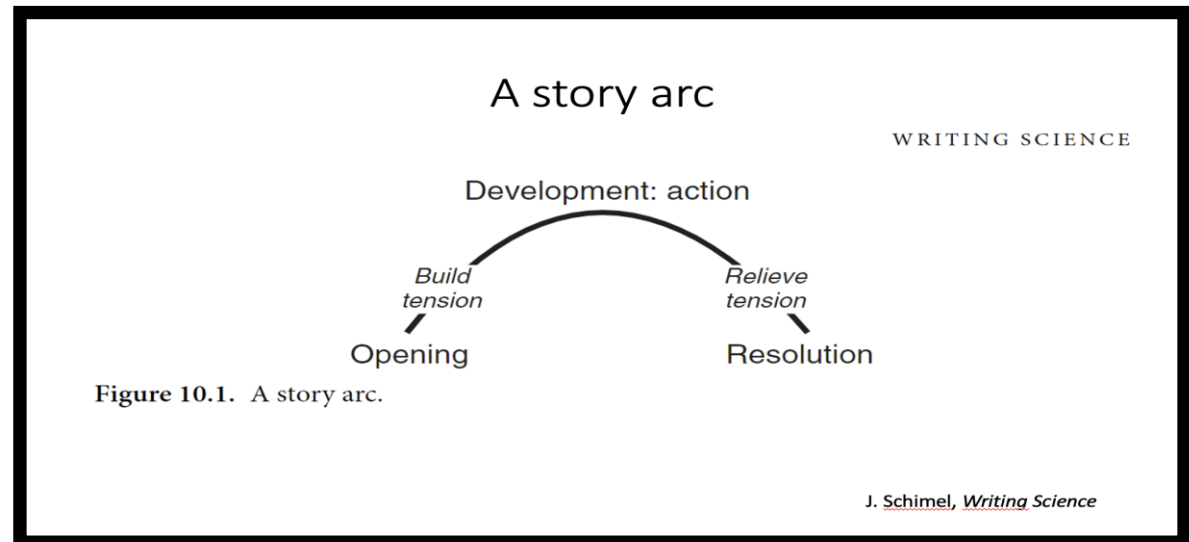
1. Academic writing
2. Structure and the reader
3. Referencing
4. Writing as a process

1. Academic writing

“As a scientist, you are a professional writer.”

Schimel, Joshua. 2012. *Writing Science: How to Write Papers That Get Cited and Proposals That Get Funded*. 1st ed. Oxford: Oxford University Press, p. 3.

- Write to communicate research! Worthless if nobody knows.
- Communicate with a story



Zooming in

The problem, broad terms

What others have done

What you will do
and how

The bulk of the thesis

Preliminaries, notation

Methodology

Results

Your main results

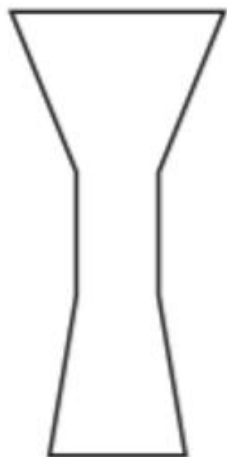
Summary of
your work

Zooming out

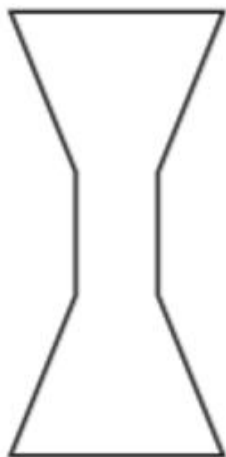
Limitations, weaknesses, future work

Your work in context, significance, overall picture

Kent Andre Mardal



A. Opening wider than resolution: overpromising.
Your readers will feel cheated.



B. On target.
Your readers will be satisfied.



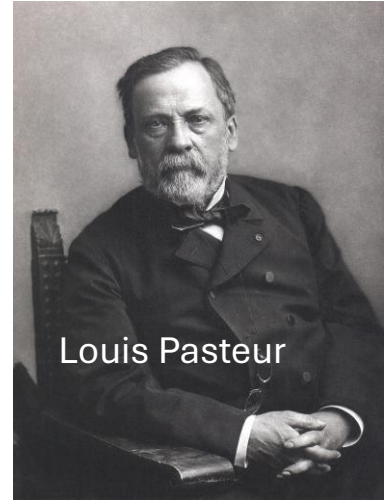
C. Resolution wider than opening: underpromising.
Your readers won't ever see that you are telling a story that would interest them.

Introduction
Methods
Results
Discussion

Figure 5.1. Matching the opening to the resolution.

2. Structure and the reader

IMRaD



Introduction, **M**ethods, **R**esults *a*nd **D**iscussion

+Conclusion

Start with a skeleton

Introduction

Methods

Results

Discussion

Conclusion



Look at master thesis examples! <https://nva.sikt.no/>



🔍 SEARCH



Advanced search

Search among all published results



Filter



Reports



Advanced search

Search for title



Search for title

Publication period

From year



To year



Category

Master thesis



Select category

Language

CH

Norwegian Science Index (NVI)



Reported

Reporting year



Files

Show all



Contributor



Search for name

Institution

University of Oslo



Department for Informatics



Exclude subunits

Anatomy of a thesis

- Abstract (half a page to a page)
 - Summary of whole thesis! We will write one soon 😊
- Foreword/Acknowledgement
- Introduction
 - Background – create interest and put in a broader context
 - Scope and outline – tell the reader what's in the thesis
- (Theory)
 - Give all the necessary theory to understand what you have done and your results
 - Start broad and narrow it down
- Methods
 - Describe exactly what you have done

Anatomy of a thesis (cont.)

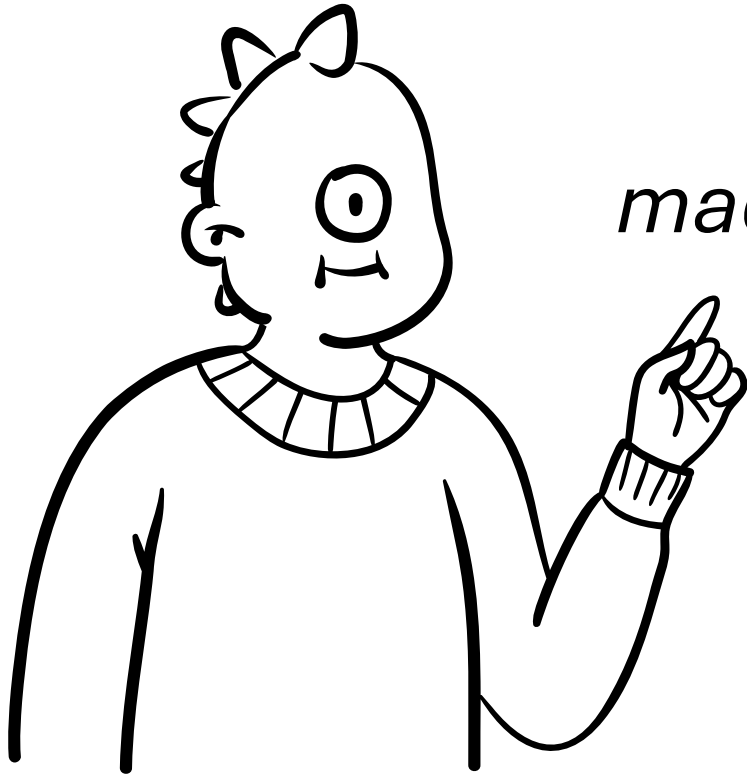
- Results
 - Show the results you got
 - Stick to the indisputable facts, save discussion
- Discussion
 - Most important section
 - Go back to the big picture from the introduction
 - Analyze your results, what could they mean?
 - How do the results fit in with other researchers' findings?
 - Discuss, compare, ask and answer questions
 - What are the problems and limitations
 - Possibilities for future research
- Conclusion (half a page to a page)
 - A quick summary of your main questions and findings

Guide the reader through the text!

3. Referencing

The Academic Interaction

*is a conversation...
made visible by reference.*



Avoid plagiarism: cite correctly!

All claims in scientific writing must be **substantiated**

- ...by the authors' own work (experiment, simulations) OR:
- ...by *citing* others.

Cite in text, list at end

Numbers in text

Recently, interest has been growing in an area called *quantum computation*, which involves computers that use the ability of quantum systems to be in a superposition of many states. These computations can be modeled formally by defining a quantum Turing machine [1,5], which is able to be in the superposition of many states. Instead of considering the computer itself to be in a superposition of states, it is sufficient to assume that the contents of the memory cells are in a superposition of different states and that the computer performs deterministic unitary transformations on the quantum states of these memory cells [2]. This model resembles a quantum circuit [3] more than a quantum Turing machine. After Schumacher [4], we will call a two-state memory cell

List the references you cite,
cite the references you list

[Shor, P. W. \(1995\). Scheme for reducing decoherence in quantum computer memory. *Physical review A*, 52\(4\), R2493.](#)

Numerical reference list in the end

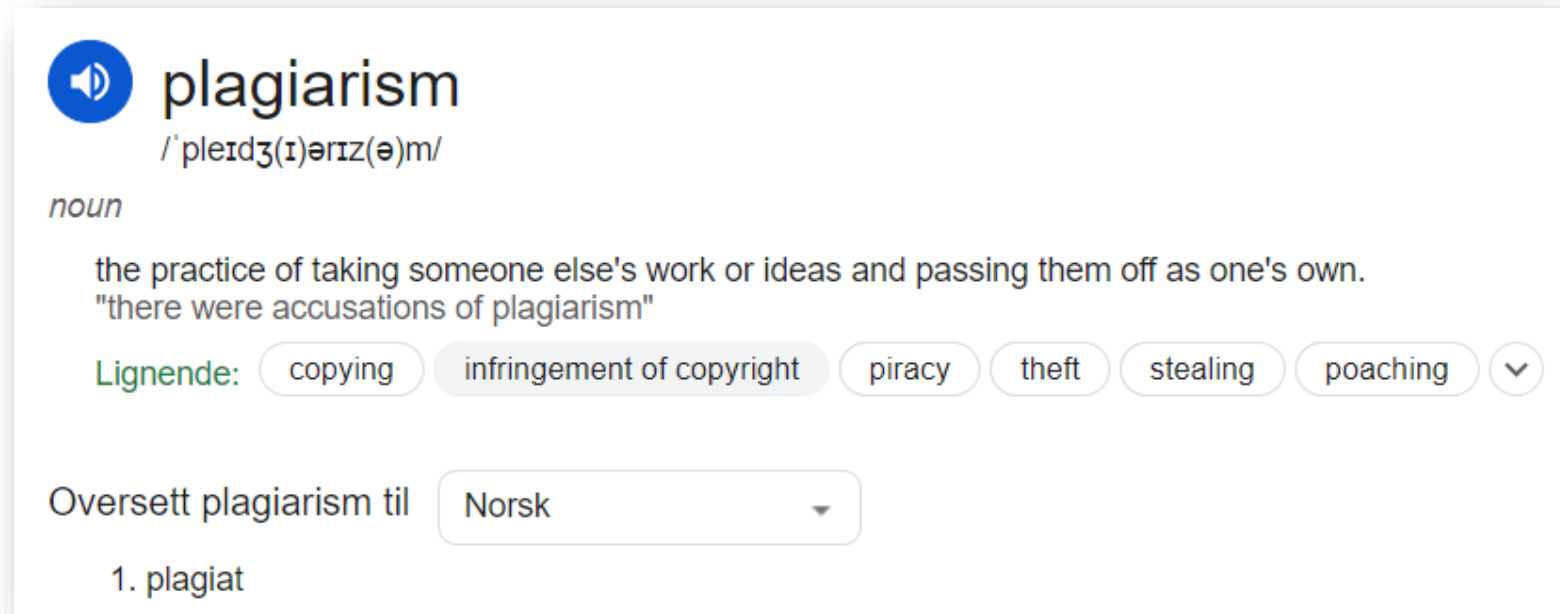
- [1] D. Deutsch, Proc. R. Soc. London Ser. A **400**, 96 (1985).
- [2] A. Yao, in *Proceedings of the 34th Annual Symposium on Foundations of Computer Science* (IEEE Computer Society, Los Alamitos, CA, 1993), p. 352.
- [3] D. Deutsch, Proc. R. Soc. London Ser. A **425**, 73 (1989).
- [4] B. Schumacher, Phys. Rev. A **51**, 2738 (1995).
- [5] E. Bernstein and U. Vazirani, in *Proceedings of the 25th Annual ACM Symposium on the Theory of Computing* (Association for Computing Machinery, New York, 1993), p. 11.
- [6] D. Simon, in *Proceedings of the 35th Annual Symposium on Foundations of Computer Science*, edited by S. Goldwasser (IEEE Computer Society, Los Alamitos, CA, 1994), p. 116.
- [7] P. W. Shor, in *Proceedings of the 35th Annual Symposium on Foundations of Computer Science* (Ref. [6]), p. 124.
- [8] R. Landauer (unpublished).

Citations must unambiguously
identify the source!

Citing

- Read UiO web pages on sources and citations and cheating
- Cite (and read!) the *original* source
- Different sources are cited in different ways (e.g. web pages must include *when* you accessed them)
- Use Søk og skriv (Search and write) *and read through* your reference list (but don't wait until the last day)
- Make it clear what your contribution is!

Develop a good reference practice



The screenshot shows the Cambridge Dictionary entry for the word 'plagiarism'. It includes a speaker icon for pronunciation, the word 'plagiarism' in a large font, its phonetic transcription /'pleɪdʒ(ɪ)ərɪz(ə)m/, and the part of speech 'noun'. The definition is 'the practice of taking someone else's work or ideas and passing them off as one's own.' An example sentence is '"there were accusations of plagiarism"'. Below the definition, there is a section labeled 'Lignende:' (Synonyms) with buttons for 'copying', 'infringement of copyright', 'piracy', 'theft', 'stealing', and 'poaching'. At the bottom, there is a section 'Oversett plagiarism til' (Translate plagiarism to) with a dropdown menu set to 'Norsk' and a result '1. plagiat'.

 **plagiarism**
/'pleɪdʒ(ɪ)ərɪz(ə)m/
noun

the practice of taking someone else's work or ideas and passing them off as one's own.
"there were accusations of plagiarism"

Lignende: copying infringement of copyright piracy theft stealing poaching ▼

Oversett plagiarism til Norsk ▼

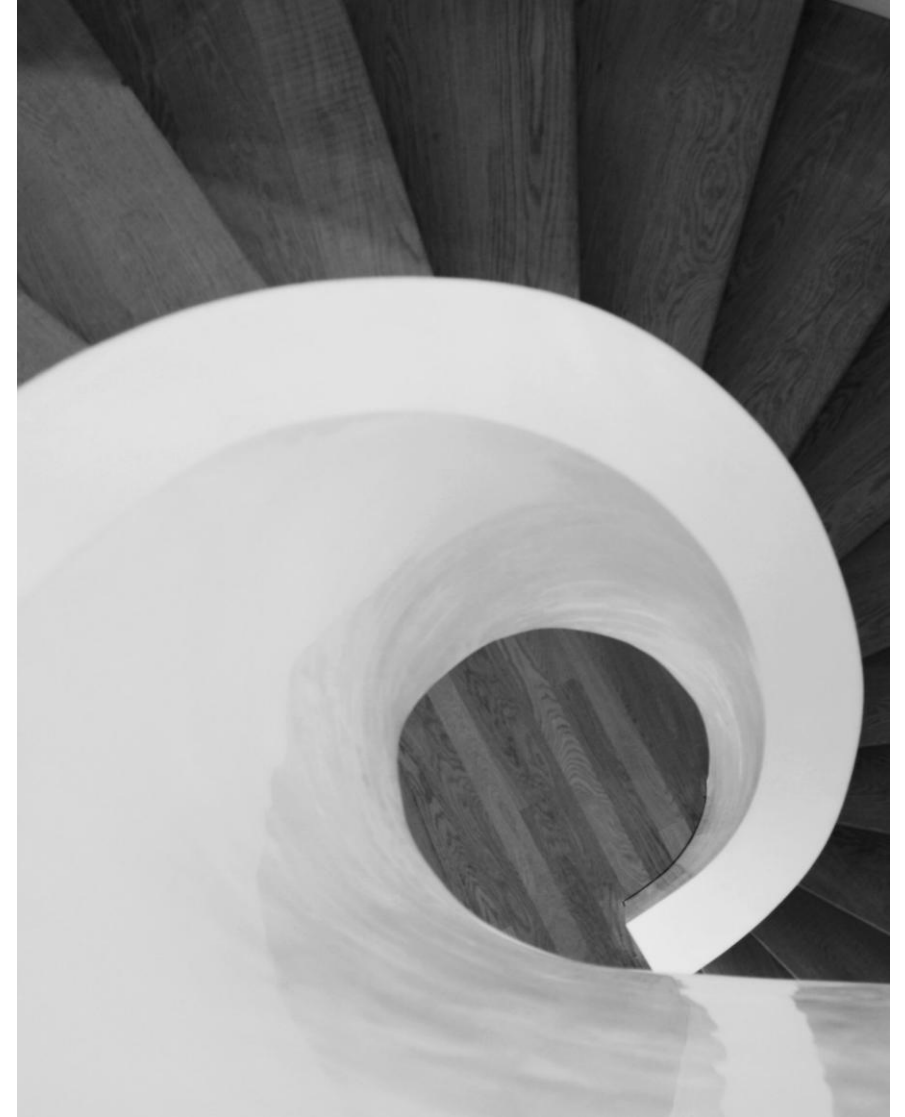
1. plagiat

Avoid plagiarism by:

- writing references when you first begin to engage with them
- including references when taking notes
- Rule of thumb: if the idea or information came from somewhere, cite it

Illustrations and software

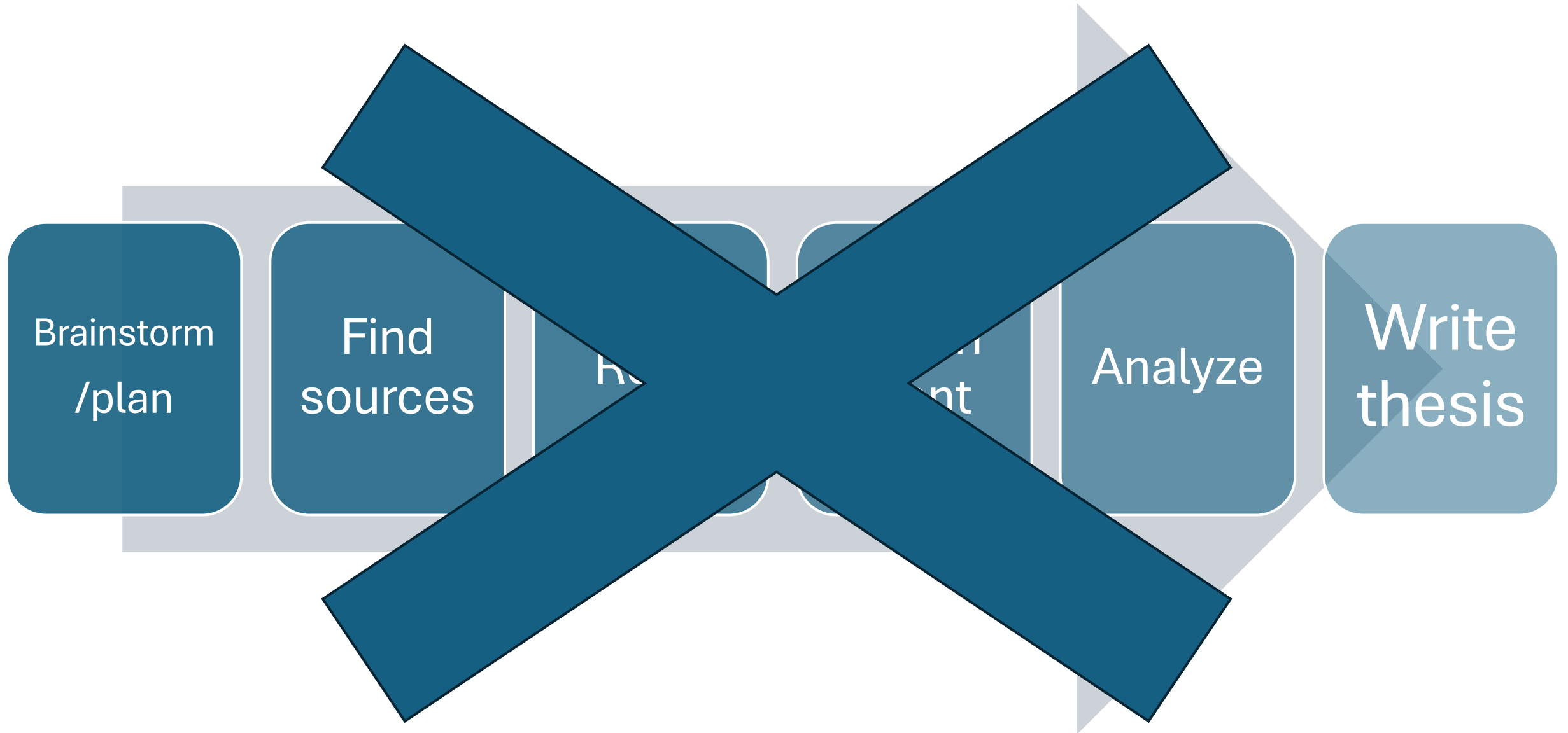
- Pictures, figures, graphs, tables, drawings and software belong to someone
- Copyright protected
- Check licence (CC-BY, Public domain etc.)
 - different licenses give different levels of flexibility
- No licence? Ask for permission
- Cite them correctly



Office 365

What am I allowed to use premium creative content for?
(microsoft.com)

4. Writing as a process



Writing is thinking!

Writing = learning, reflecting, discussing with yourself

Writing = gathering, sorting, categorizing information

Common mistakes:

- “I don’t have enough knowledge to write about this yet”
- “What if my project changes and I can’t use this anymore?”
- “I need to focus on analyzing/coding/debugging first”

Last minute writing = less time for reflection

More pain, less gain :(

Credit: Aline Brunvoll, PhD student at ITA

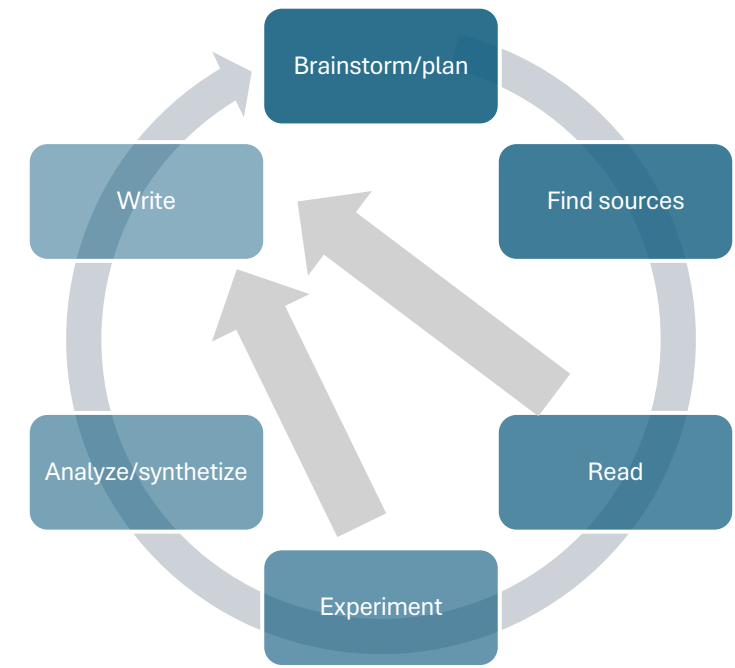
Start with FBW (fast, bad & wrong)

Don't worry about writing well in the beginning!

You will change what you write later, it's a long process

Don't worry about spelling or good sentences or correctness in the beginning

Much easier to write when there is something there!



Credit: Nori Parelus, PosDoc at ITS

A top-down view of a red vintage typewriter. The typewriter has a white carriage and a white keyboard. The text "Let's write" is centered in a white rectangular box over the carriage area. The background is a mix of brown, red, and grey textured surfaces.

Let's write

Exercise: write about your project

- You will be writing approximately 4-8 sentences in total
- Step-by-step instructions on next slide.
- You will be reading it aloud to another person.
- Get ready to write!

Your master project

- Write 1-2 sentences about your project. What is it about? What is the question you want to answer? (2 min)
- Write 1-2 sentences about your method (2 min).
- Write 1-2 sentences about your results. State your (preliminary) results (2 min).
- Write 1-2 sentences about what your results mean (2 min).

Well done!

Now you have a first draft of the summary/abstract of your master thesis!

Exercise: Editing

- Writing is *re-writing*!
- Find a partner and read your sentences out loud to the other person.
- The other person can comment if you like, but YOU will also probably notice things you want to change *as you read your own text*.
- Make edits to your text.
- We will be using ~10 minutes on this exercise.

Well done!

Now you have an even **better** first draft of your abstract/summary.

Save it and come back to it to edit it later!

Writing is...

- Hard.
- But also FUN (when you get into the steam).
- Fluid and always changing (you will never be 100% satisfied).
- But it is a wonderful feeling to look back on a chapter and see what you have accomplished! (I promise, you will feel good about it for a LONG time!)



Ideas to get started

- Bulletpoints of ideas & open questions
 - What is needed in each section? Use previous slides!
 - Copy & paste from relevant articles (remember citations! And colour text to remember to rewrite)
-
- Much easier to start once there is something there!

Resources to use

<https://www.phdontrack.net/>



& <https://sokogskriv.no/>



Academic Writing Centre

The writing centre is open for students and researchers who wish to improve their writing. Come and discuss your ideas, drafts and questions with one of our writing consultants.

UiOs official guidelines on AI use

The rules for using AI will vary between courses and assignments. Always ask your lecturer if you are uncertain about what is permitted.

Guidelines for using AI

- Use AI **as a support**, not as a replacement for your own work.
- Clearly indicate **when and how** you have utilised AI.
- AI can be a supplement for understanding topics, curriculum, and terminology, but always **verify the information** against reliable sources.
- **Avoid sharing sensitive information and copyrighted material** in AI tools without approval.

You (and your advisor) are responsible for making your own assessment on what is sensible AI-use!

Take the Canvas course HMS0508!

← Studies ← Courses

HMS0508 – Good Use of Artificial Intelligence

Teaching

The course is offered as digital self-study in Canvas.

<https://www.uio.no/studier/emner/matnat/mn/HMS0508/index-eng.html>

You must declare & document AI use in detail

Declaration of the use of generative artificial intelligence

In this scientific work, generative artificial intelligence (AI) has been used. All data and personal information have been processed in accordance with the University of Oslo's regulations, and I, as the author of the document, take full responsibility for its content, claims, and references. An overview of the use of generative AI is provided below.

(Bullet point list of AI usage descriptions)

Recommended elements to include:

- That AI has been used
- What specific tools were used, and what they are used for
- Reflection of the risks & consequences
- Take full responsibility for the content

(Tone C. Gadmar)

For concrete examples of AI declarations, see:
[Suggestion for declaration of AI usage in assignments](#)

AI tools with UiO data agreements

GPT UiO – UiOs privacy friendly GPT chat
IT in research. IT in education

   Up to red data*

Autotekst – speech to text with Whisper from OpenAI
Audio and video recording. IT in education. Web publishing and search

   Up to red data*

TSD-Autotekst – Speech-to-text in secure environments
Audio and video recording. IT in research. IT in education

    Up to black data*

Microsoft Copilot Chat
IT in research. IT in education. Administrative IT services

 Green data

Gemini – AI chat from Google
IT in research. IT in education. Administrative IT services

  Yellow and green data

NotebookLM
IT in research. IT in education. Administrative IT services

  Yellow and green data

UiO Local LLM on Educloud OnDemand
IT in research. IT in education

  Yellow and green data

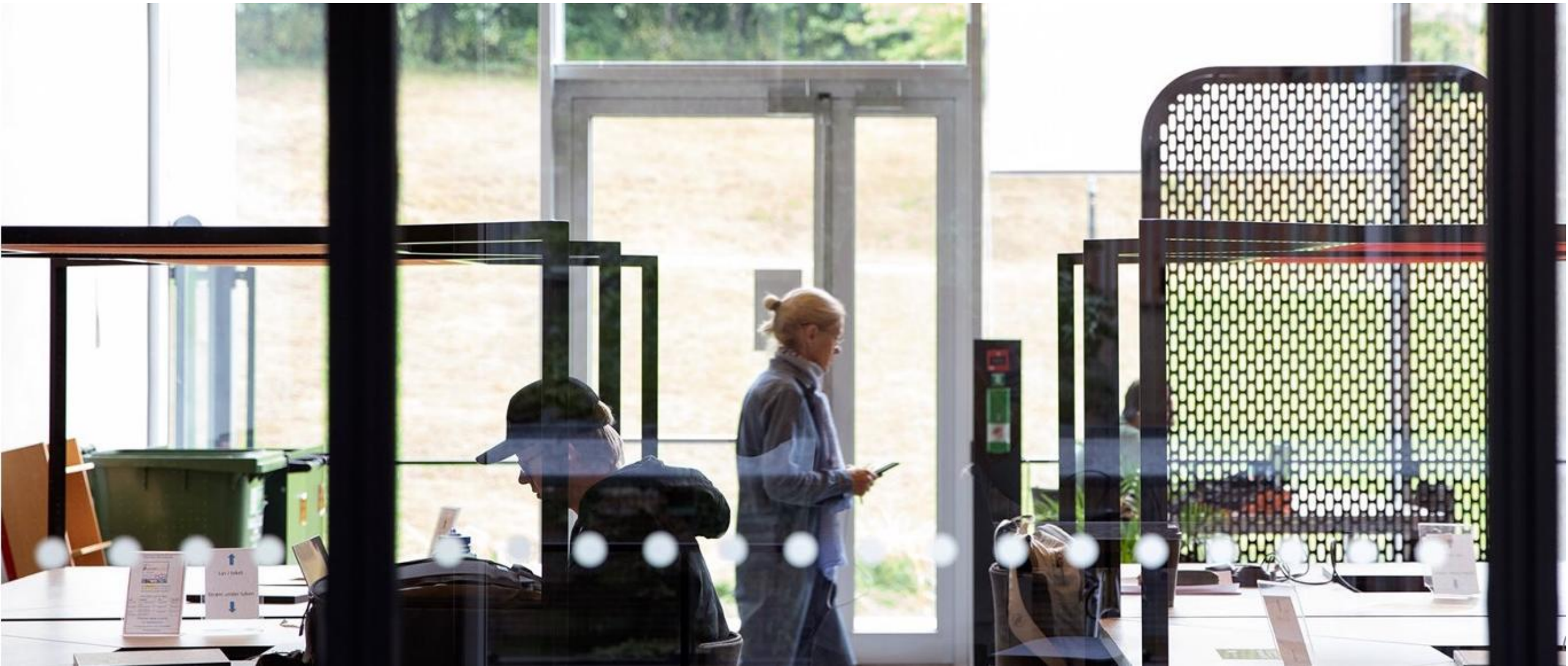
Google Cloud Platform
Programs, computer and mobile. IT in research

  Yellow and green data

Outline for today

- Find and read scientific literature (+AI) (Matthew)
- Reference management (Andri)
- Refresh writing (+AI) (Andri)
- Data management (Matthew)
- Draft a project plan (Andri)

Break





Planning for data collection

The Data Management Plan (DMP)

- Is a **living** document that accompanies the research project
- Specifies the **types** of data that will be generated
- Describes how you plan to **manage** your data (organize, document, classify, store, license)
- Conveys whether and how the data can be **shared**
- **Agreement** between project members
- A **tool** to keep overview over data



What is research data?

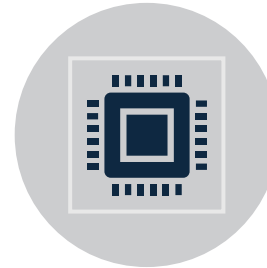
Research data are representations of observations, objects, or other entities used as evidence of phenomena for the purposes of research or scholarship.

Ref: Borgman, Christine L. 2015. *Big Data, Little Data, No Data : Scholarship in the Networked World*. Cambridge, MA: MIT Press.



Observational data

results from recognising, noting, or recording facts or occurrences of phenomena



Computational data

products of executing computer models, simulations, or workflows



Experimental data

results of procedures in controlled conditions to test or establish hypotheses or to discover or test new laws



Records

records of almost any phenomenon or human activity, can be treated as data for research

Describing your data

Origin of Data

- Existing data or new data?
- If data is reused: What is the scope, volume, format?
- How are different data sources integrated?

Types of Data

- What type(s) of data will be collected?
- What is the scope, quantity and format of the material?
- What is the total amount of data collected (MB/GB/TB/PT)?

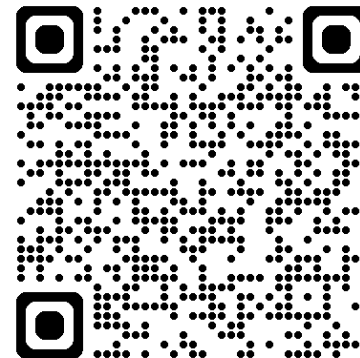
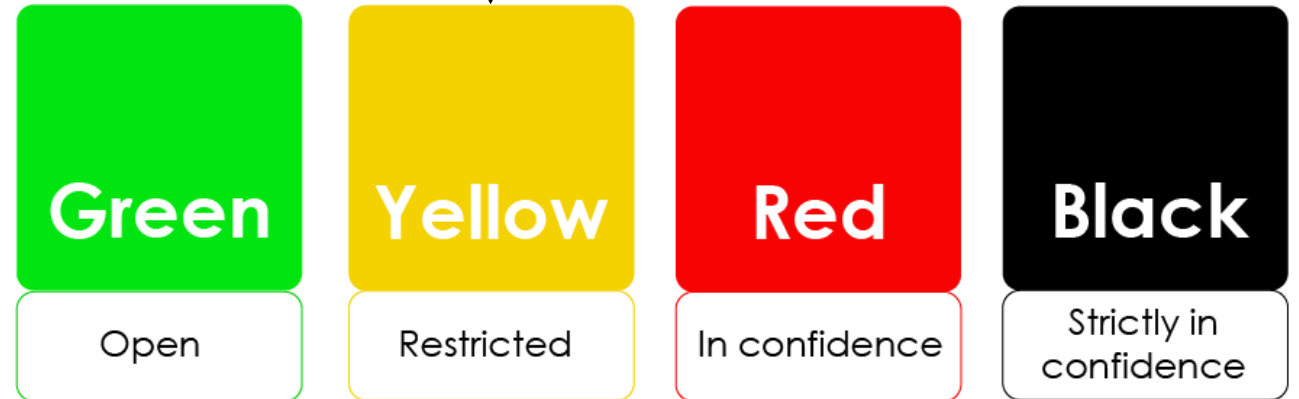
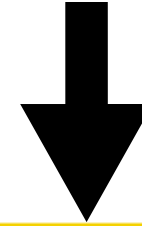
Data Collection

- How will data be collected?
- Specific software, hardware, or staff required?
- Who is responsible for data collection?
- During which period will data be collected?
- Where will data be collected?

Classify and protect your data!

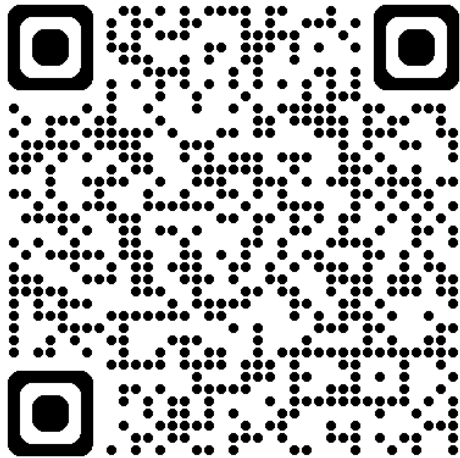
- Don't store your research data on a personal laptop!
- Don't send your research data via personal email
- Have a backup
- Working with personal information?
Read: [Privacy Protection and Research Papers - University of Oslo](https://www.uio.no/english/services/it/security/lis/data-classes.html)

Unpublished
research data



<https://www.uio.no/english/services/it/security/lis/data-classes.html>

Storage Guide



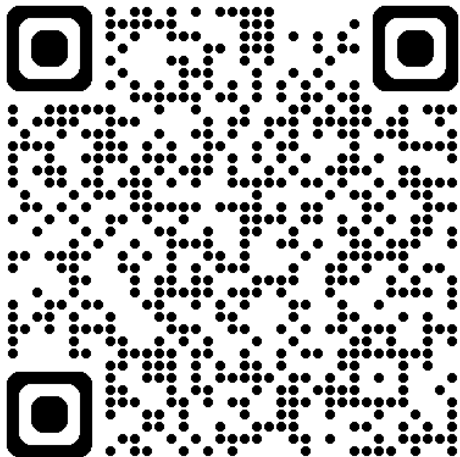
Storage on physical devices +

E-mail +

Storage services —

	Open (green)	Restricted (yellow)	In confidence (red)	Strictly in confidence (black)
Personal cloud service (Dropbox, Google Drive etc.)	Yes	No	No	No
UiO Home directory («M:-drive»)	Yes	<u>9</u>	Yes, <u>14</u>	No
UiO shared drive for your unit or research group	Yes	Yes	Ja, <u>6</u>	No
UiO Dropbox	Yes, <u>9</u>	Yes, <u>9</u>	No	No
UiO Google Suite for Education	Yes, <u>9</u>	Yes, <u>9</u>	No	No

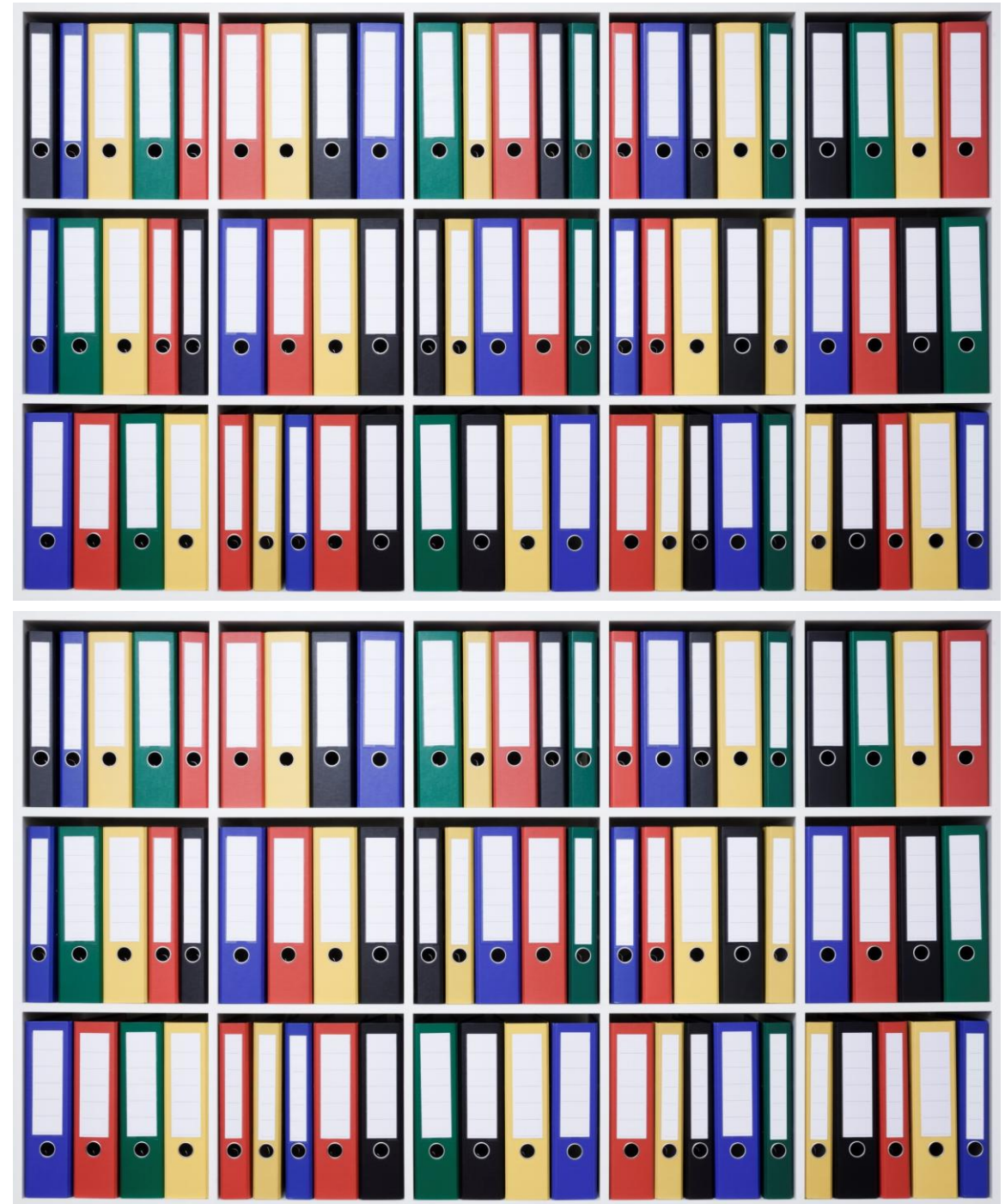
Data sharing guide



	Open (green)	Restricted (yellow)	Confidential (red)	Strictly confidential (black)
Intern e-post	Yes	Yes	See below	No
Ekstern e-post	Yes	See below	No	No
"Del"-knapp i Office 365	Yes	Yes	No	No
Teams, OneDrive, SharePoint, Mattermost	Yes	Yes	No	No
FileSender	Yes	Yes	No	No
FileSender + 7-Zip-kryptering	Yes	Yes	Yes	No
Zoom	Yes	Yes	Yes	No
EduCloud Share	Yes	Yes	Yes	No
UiO SafeShare	Yes	Yes	Yes	No
TSD	Yes	Yes	Yes	Yes

Get organized!

- Make a folder hierarchy
- Give folders descriptive and informative names
- Avoid folders that become too broad or general, create more subfolders instead
- Keep active and finished parts of your project separate
- Set aside some time to tidy regularly

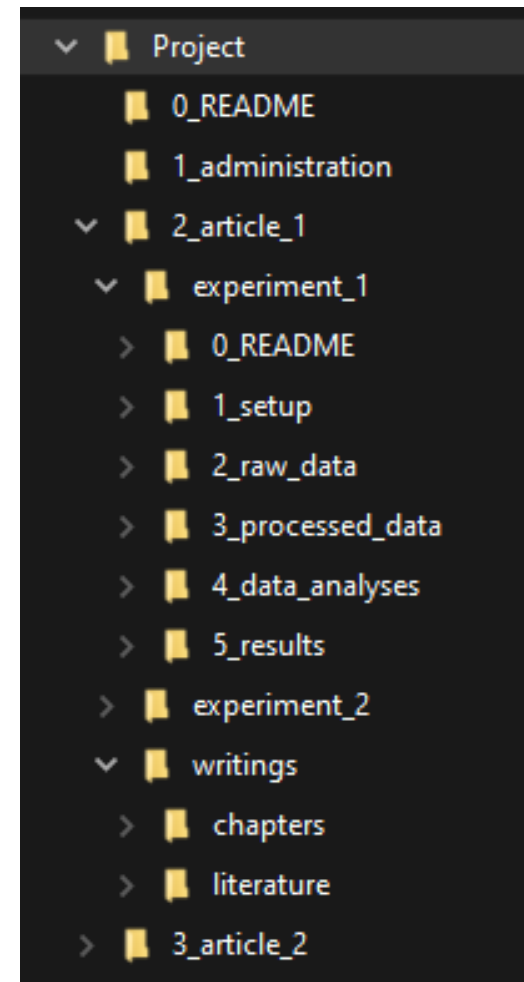


```

project_name/
├── README.md           # overview of the project
├── data/               # data files used in the project
│   ├── README.md      # describes where data came from
│   └── sub-folder/    # may contain subdirectories
├── processed_data/    # intermediate files from the analysis
├── manuscript/        # manuscript describing the results
├── results/           # results of the analysis (data, tables, figures)
├── src/               # contains all code in the project
│   ├── LICENSE        # license for your code
│   ├── requirements.txt # software requirements and dependencies
│   └── ...
└── doc/               # documentation for your project
    ├── index.rst
    └── ...

```

Research project with a proper data file structure. Image taken from CodeRefinery,
 Lesson on Reproducible Research. Shared under CC-BY 4.0
<https://coderefinery.github.io/reproducible-research/organizing-projects/>



File naming conventions (FNC)

Short names (but long enough that they still make sense)

The most general information first, then add details to the name

Underscore to separate words, DO NOT use space in file names!

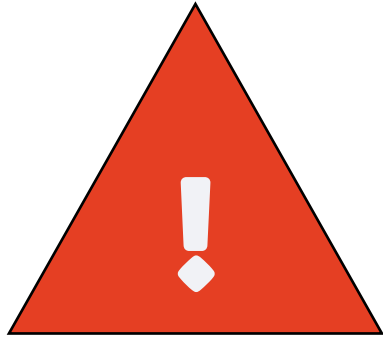
Dates backwards (YYYYMMDD)

Numbers (e.g. version number) should have the same number of digits, use e.g. 01, not just 1

Version number at the end

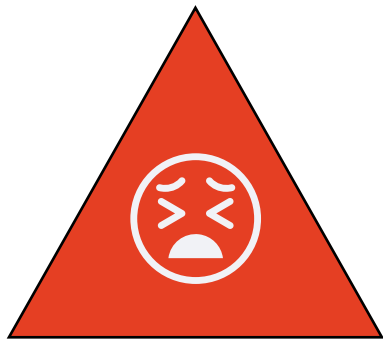
Do not use \ / ~ ! @ # \$ % ^ & * () ` ; : < > ? . , [] { } ' " |

20220503_DOEProject_DesignDocument_Smith_v2-01.docx



The data file structure has a significant impact on the possible ways your files can be processed and analysed

Your initial decision about the structure of your data files should be considered thoroughly.



Once your structure has been filled with data, any changes to it are usually laborious and time-consuming.

Documenting your work

Project-level – aims, hypotheses, methods, collaborators, etc.

Data- and object-level

- Field or lab journals
- Protocols
- Scripts or code (+comments)
- Syntax and output files
- Methodology
- Instrument settings and calibration
- Metadata

How to create documentation?

- **More information** is better than less
- **Structured information** is better than unstructured information
- **Re-use templates** for good documentation
- It's become a convention to **create multiple README-files**, both for project-level documentation and for data-level documentation

How to create documentation?

README.txt-files:

- **Simple text files** that provide information about any elements (or any workflows or processes these elements have been used for) in the same directory
- **The first files to open**
- **Provide a map** for exploring your files
- Create **one** README.txt file **per folder**
- Content should **help navigation** through digital files and folders
- A **project-level** README.txt should give the **general project information** and a very coarse overview of file contents and locations
- A **data- (object-) level** README.txt would be **more specific** as to what each file contains

REPRODUCIBLE RESEARCH



6 helpful steps

- 1 Get your files + folders in order



- 2 Use good names for files, folders, functions, ...

6-steps-reproducibility.pdf



clean.data <- function(...) {...}

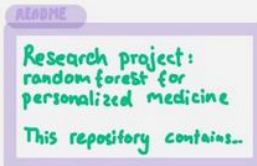
- 4 Version control code, text, ...



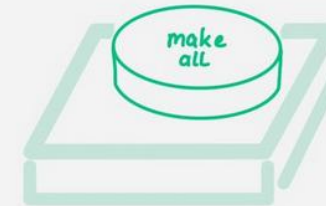
- 5 Stabilize computing environment and software



- 3 Document with care:
README, Metadata, code comments, ...



- 6 Automate computations



TEN YEARS REPRODUCIBILITY CHALLENGE

RESCIENCE SPECIAL ISSUE

FREE TO READ - FREE TO PUBLISH



**Would you dare to run the
code from your past self ?**

(the one that does not answer mail)

SUBMISSION DEADLINE 01/04/2020

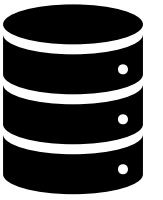
<http://rescience.github.io/ten-years>

In association with Inria, CNRS, Software Heritage, ReScience, Comité pour la Science Ouverte,
URFIST Bordeaux & Mission de la pédagogie et du numérique pour l'enseignement supérieur.

Contact: nicolas.rougier@inria.fr

Source: Courtesy of Nicolas P Rougier

Open data - archive where?



- General purpose repositories (Zenodo, OSF, Figshare)
- National or institutional repositories (DataverseNO, Sikt/NSD)
- Discipline-specific repositories
- Data papers
- Supplementary materials to an article



Western Norway
University of
Applied Sciences
HVL Open Research Data



Inland Norway
University of
Applied Sciences
INN Open Research Data



NORWEGIAN SCHOOL
OF THEOLOGY, RELIGION AND SOCIETY
MF Norwegian School of
Theology, Religion and Society



NMBU Open Research Data
Norwegian University of Life Sciences



Search this dataverse...



Advanced Search

☒  Dataverses (24)☒  Datasets (1,257)☐  Files (91,804)**Dataverse Category**

Organization or Institution (13)

Research Project (5)

Research Group (3)

Department (1)

1 to 10 of 1,281 Results

↑↓ Sort ▾

TGO Ramfjordmoen Ionosonde Data August 2022

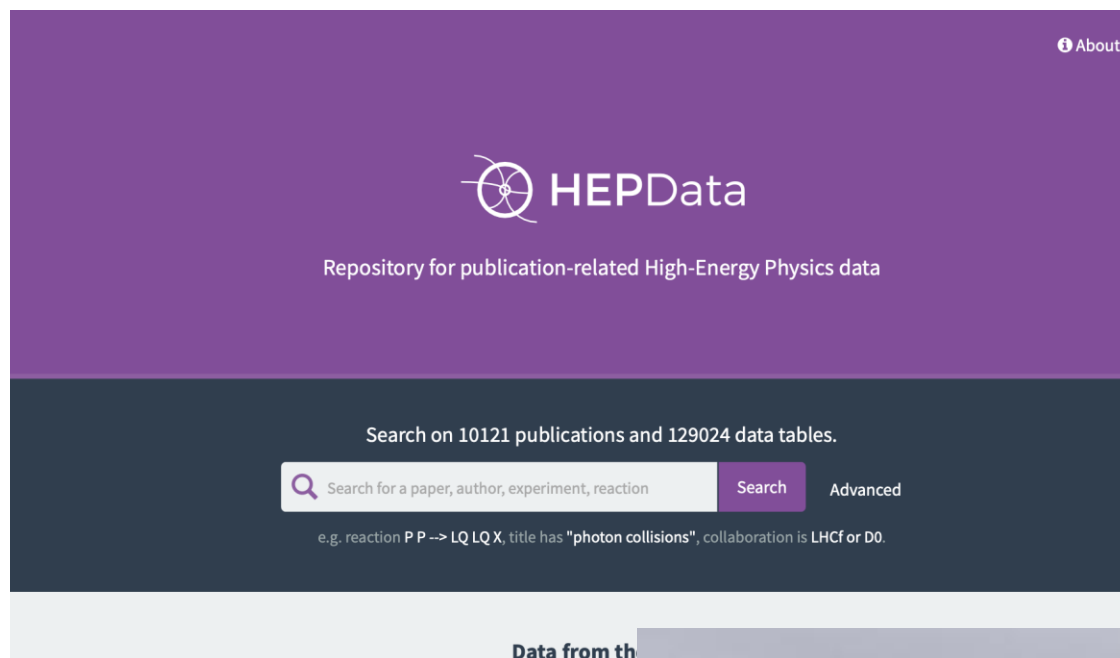


Sep 1, 2022 - Tromsø Geophysical Observatory

Tromsø Geophysical Observatory, 2022, "TGO Ramfjordmoen Ionosonde Data August 2022", <https://doi.org/10.18710/LFYOXW>, DataverseNO, V1

About this dataset: This dataset contains ionosonde data in SAO format and ionograms in PNG format, and covers data from August 01-31, 2022.
About the Tromsø Ionosonde (1993-present): Since 1980, the ionosonde was situated at 69° 35' N, 19° 13' E at Ramfjordmoen near Tromsø, Norw...

Example of disciplinary repositories



The screenshot shows the HEPData website with a purple header. The logo features a particle detector icon and the text "HEPData". Below the logo, it states "Repository for publication-related High-Energy Physics data". A search bar is present with the text "Search on 10121 publications and 129024 data tables." and a search button. An example search query is provided: "e.g. reaction P P -> LQ LQ X, title has 'photon collisions', collaboration is LHCf or D0.".

HEPData

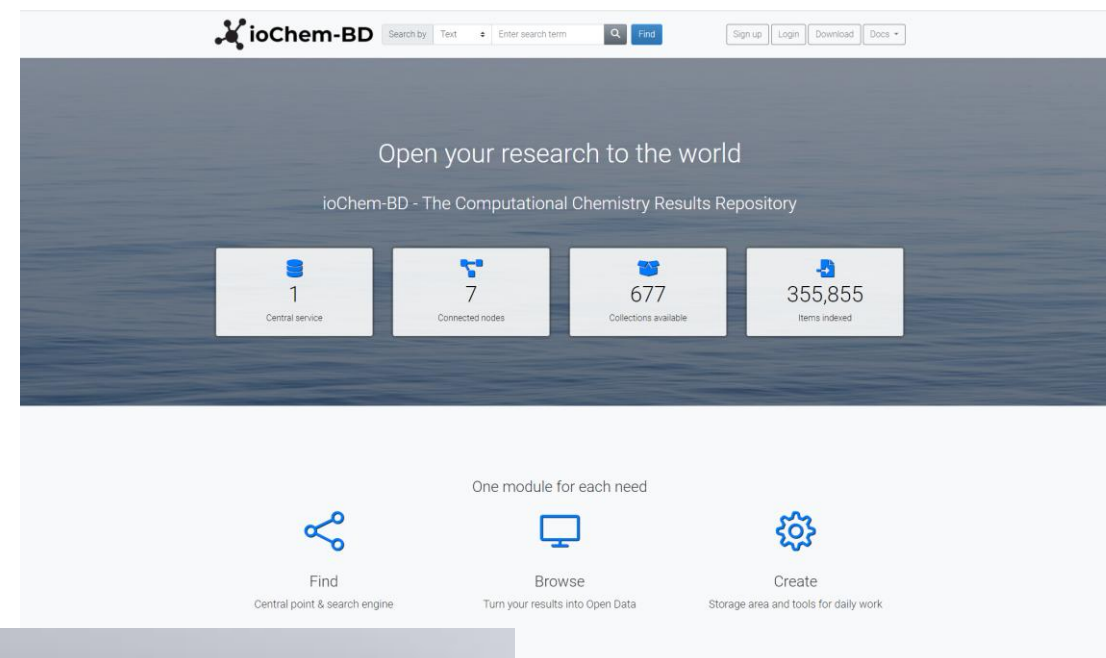
Repository for publication-related High-Energy Physics data

Search on 10121 publications and 129024 data tables.

Search for a paper, author, experiment, reaction

Search Advanced

e.g. reaction P P -> LQ LQ X, title has "photon collisions", collaboration is LHCf or D0.



The screenshot shows the ioChem-BD website with a blue header. The logo features a molecular structure icon and the text "ioChem-BD". Below the logo, it states "Open your research to the world" and "ioChem-BD - The Computational Chemistry Results Repository". A statistics section shows: 1 Central service, 7 Connected nodes, 677 Collections available, and 355,855 Items indexed. A section titled "One module for each need" includes icons for Find, Browse, and Create.

ioChem-BD

Open your research to the world

ioChem-BD - The Computational Chemistry Results Repository

1 Central service

7 Connected nodes

677 Collections available

355,855 Items indexed

One module for each need

Find

Browse

Create



The screenshot shows the re3data.org website with a blue header. The logo features the text "re3data.org" and "REGISTRY OF RESEARCH DATA REPOSITORIES". A search bar is present with the text "Search..." and a search button.

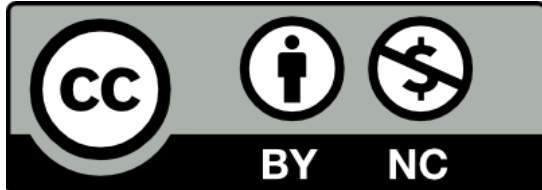
re3data.org

REGISTRY OF RESEARCH DATA REPOSITORIES

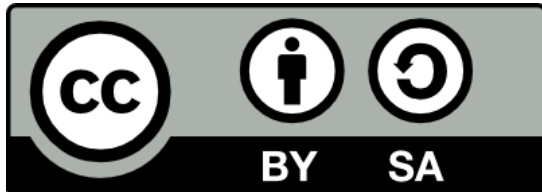
Search...

Search

Licenses for data



- Credit must be given to the creator
- Only noncommercial uses of the work are permitted



- Credit must be given to the creator
- Adaptations must be shared under the same terms



- Credit must be given to the creator



- is a public dedication tool, which allows creators to give up their copyright and put their works into the worldwide public domain

Licenses for code

MIT (Expat)

Apache 2.0

GNU (L)GPL 3.0+

choosealicense.com



Making Your Code Citable

<https://guides.github.com/activities/citable-code/>

Social coding and open software

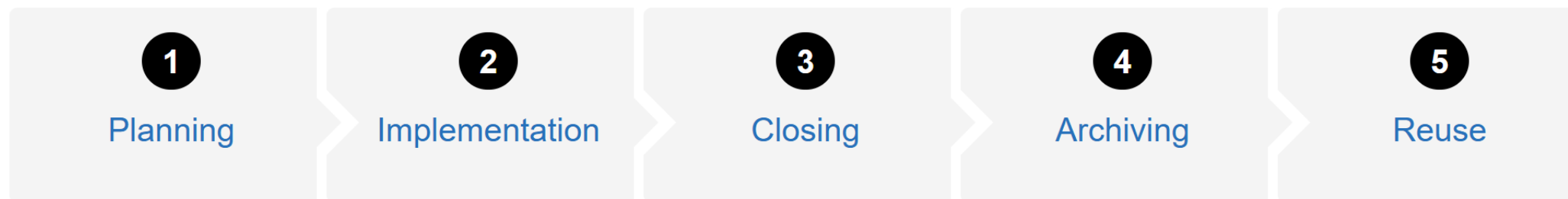
<https://github.com/coderefinery/social-coding/>

Research data

Norwegian

Research data management includes documentation, organising, licensing, sharing, archiving and reuse.

Data throughout the research project

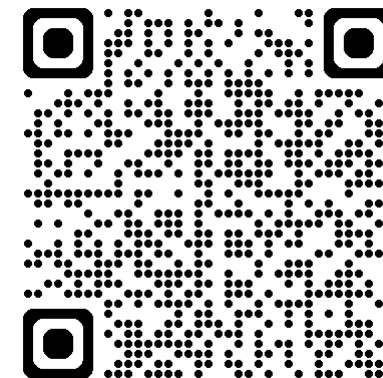


Topics

- Citations of research data
- Data management plan
- Documentation of research data
- Metadata
- Open sharing
- Organisation of research data
- Research data (definition)
- Storing research data

Principles

- FAIR principles
- CARE principles



An aerial photograph of a winding asphalt road on a lush green mountain slope. The road features several sharp, hairpin turns. In the upper left, a small cluster of houses with red and grey roofs is visible near a river that flows through the landscape. The terrain is covered in vibrant green grass and some rocky patches.

Summary and way forward

32 weeks left!

39 Masterseminar	40 Read, analysis, notes	41 Write method as you go	42 Notes for background as you read, w ref	43	44
45 Finish analysis!	46	47	48 Send first draft to classmate	49	50 Send first draft to supervisor
51	52-53 HOLIDAY	1	2	3	4
5	6	7	8	9	10
11	12	13 Copyright figures	14	15 Send draft to classmate	16 Check refs
17 Send final draft to supervisor	18 Print?	19 HAND IN!!!	20	21 PRESENT!!!	22

Review each other



How to be a good reviewer?



Comment according to where person is in the writing process!



Listen to feedback, don't defend

Keep track of progress

- Paper notebook?
- Digital / Online notebook?
- Obsidian?
- 10 000 post-its?
- Communicate with supervisor
- Write



It should be possible to reproduce your research!

Make a plan

- 3 minutes shut up & write: What do you need to do for your project? Bulletpoints are good.
- When should you do it? Make a plan, 3 minutes.



Make a routine

- Read with your morning coffee?
- Write 30 minutes in the afternoon?

Time	
9-10	Read with morning coffee + take notes
10-12	Work on data analysis / coding / figures
12-13	Lunch
13-13:30	Write thoughts of the day
13:30-16	Work on data analysis / coding / figures (insert breaks!)
16-	Do something fun

[← Courses and events](#)

Courses and workshops for students, staff and PhD students

Join one of our free and open courses or workshops! They are tailored to students, staff and PhD students at UiO and OUS, but are open to all interested parties.

What would you like to learn?

Tick the boxes to find courses that suit you.

- ☒ All courses ☐ Start of studies ☐ Writing and citing ☐ Literature searching ☐ Source evaluation
- ☐ Research data ☐ Open science ☐ Analysis Tools ☐ Coding ☐ Artificial intelligence ☐ Text mining
- ☐ Science Visualization ☐ Digital Tools ☐ More options

Antall treff: 25



Academic writing

Target audience: Students, PhD students and Postdocs

Tags: Writing and citing

[Upcoming courses](#)



Carpentry: Training on foundational coding and data science skills

Target audience: Students, researchers and programmers

Tags: Coding

[Upcoming courses](#)



Critical appraisal of articles

Target audience: PhD students, master students and other interested in the topic

Tags: Source evaluation

[Upcoming courses](#)



EndNote reference management tool

Target audience: International researchers, staff and students

Tags: Writing and citing

[Upcoming courses](#)



Finn oppsummert kunnskap som gir deg raske svar i klinisk praksis

Target audience: Students, healthcare professionals and staff

Tags: Literature searching

[Upcoming courses \(in Norwegian\)](#)



GPT UiO AI Tool

Target audience: Administrative staff, educators, and researchers

Tags: Artificial intelligence, Digital Tools

[Upcoming courses](#)



How to find research literature: Methods and search techniques

Target audience: PhD students, master students and staff

Tags: Literature searching

[Upcoming courses](#)



Time and place: Oct. 5, 2026 12:00 PM–3:00 PM, NHA: Realfagsbibliotekets undervisningsrom 209

Shut up & Write for Natural Sciences

Do you have a deadline coming up? Is it hard to get started, or stay focused, on writing? Join us at the Science Library for a structured writing session to help you put your words on paper. No distractions, no excuses!



Time and place: Oct. 5, 2026 10:00 AM–12:00 PM, DSC-Oasen, Georg Sverdrups hus

Introduction to Zotero

This course gives a short introduction to the reference management software Zotero.



Time and place: Oct. 27, 2026 12:30 PM–3:30 PM, LINKEN, Georg Sverdrups hus

Getting started with LaTeX and Overleaf

In this interactive course you will learn the basic functions of LaTeX and Overleaf and take the first steps to create beautifully formatted documents.



Time and place: Nov. 16, 2026 8:55 AM–Nov. 20, 2026 4:00 PM, UiO, Blindern, Georg Sverdrups Hus, DSC Oasen

Data Management Week 2026 Autumn Edition

Join us for a series of sessions focused on managing research data throughout the research lifecycle. We will explore practical approaches to organizing, documenting, storing, sharing, and preserving research data, with the aim of improving data quality, supporting collaboration, and making research more reproducible.



Tid og sted: 25. sep. 2026 09:03–10:00, Scene Realfagsbiblioteket, Vilhelm Bjerknes' hus

Abels tårn

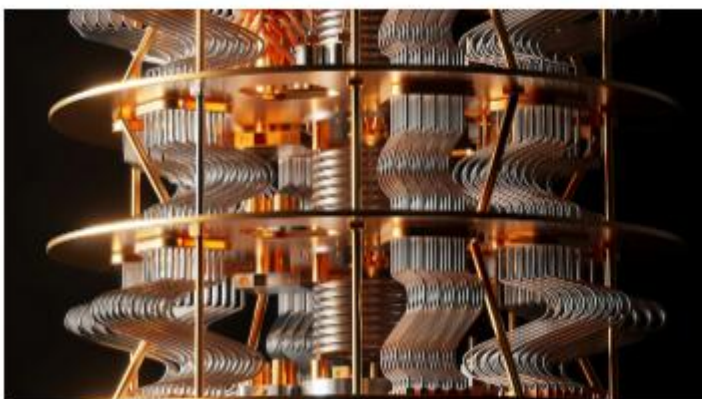
Endelig er det fredag - og det betyr at Abels tårn har direktesending fra Scene Realfagsbiblioteket. Bli med på å nerde over de små og store spørsmålene innen vitenskap hos oss.



Tid og sted: 6. okt. 2026 11:00–12:30, Scene Realfagsbiblioteket, Vilhelm Bjerknes' hus

Nobelprisen i fysikk på storskjerm

Kungliga Vetenskapsakademien i Stockholm kunngjør årets vinner av nobelprisen i fysikk! Få med deg spenningen, reaksjonene og sendingen på storskjerm i Realfagsbiblioteket!



Tid og sted: 28. okt. 2026 12:15–13:00, Scene Realfagsbiblioteket, Vilhelm Bjerknes' hus

Kvante: fremtidsteknologi med hundre år gammel teori

Mens hele verden har vært opptatt av kunstig intelligens, har en annen potensiell teknologisk revolusjon stille sneket seg inn fra sidelinja: kvanteteknologien. Velkommen til Fysikk på biblioteket med postdoktor Gunnar Felix Lange.

I would like some tips on how to record the process (decisions made, turning points, important insights) along the way, so it is easier to write about it in the final thesis.

How to do PRISMA reading and if it is recommended, how to find and choose the correct papers and how to structure the findings/mapping in your text

- Generating dummy data for a proof of concept (HR, Product, Sales) - Correct use of Zotero. - Proposals on work methodology when working alone on bigger projects.

Documenting use of AI - I've heard that we are supposed to write a declaration, but how exactly is it supposed to look like?

How to write up different types of sources, things like articles and books are easy, but .org sites and similar sources are harder to do correctly.

Grammarly and how to use such language improvement tools.

What is allowed and what is not.

RESEARCH

Open Access

The PRISMA 2020 statement: an updated guideline for reporting systematic reviews



Matthew J. Page^{1*} , Joanne E. McKenzie¹, Patrick M. Bossuyt², Isabelle Boutron³, Tammy C. Hoffmann⁴, Cynthia D. Mulrow⁵, Larissa Shamseer⁶, Jennifer M. Tetzlaff⁷, Elie A. Akl⁸, Sue E. Brennan¹, Roger Chou⁹, Julie Glanville¹⁰, Jeremy M. Grimshaw¹¹, Asbjørn Hróbjartsson¹², Manoj M. Lalu¹³, Tianjing Li¹⁴, Elizabeth W. Loder¹⁵, Evan Mayo-Wilson¹⁶, Steve McDonald¹, Luke A. McGuinness¹⁷, Lesley A. Stewart¹⁸, James Thomas¹⁹, Andrea C. Tricco²⁰, Vivian A. Welch²¹, Penny Whiting¹⁷ and David Moher²²

The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement, published in 2009, was designed to help systematic reviewers transparently report why the review was done, what the authors did, and what they found. Over the past decade, advances in systematic review methodology and terminology have necessitated an update to the guideline. The PRISMA 2020 statement replaces the 2009 statement and includes new reporting guidance

as patients, healthcare providers, researchers, and policy makers) [1, 2]. To ensure a systematic review is valuable to users, authors should prepare a transparent, complete, and accurate account of why the review was done, what they did (such as how studies were identified and selected) and what they found (such as characteristics of contributing studies and results of meta-analyses). Up-to-date reporting guidance facilitates authors achieving this [2]

<https://www.prisma-statement.org/>

Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Systematic Reviews* 2021;10:89. doi: [10.1186/s13643-021-01626-4](https://doi.org/10.1186/s13643-021-01626-4)

APA 7th Chicago footnote Chicago author-date Harvard MLA Vancouver Reference tools

Harvard

Rules

Book

eBook

Chapter in an edited work

Journal article

Newspaper article

Webpage

Report

Conference paper

Newspaper article

Issue number

If an issue number is available, include this before the date (1123; 6 April)

In reference list

Petridis, A. (2015) 'Rocking the casbah: the gig of a lifetime back on stage', *The Guardian*, 16 March. Available at: <http://www.theguardian.com/music/2015/mar/16/no-lands-songs-sara-najafi-iranwomen-concert> (Accessed: 16 March 2024).

← Skrive og publisere

Open Access

Doktoravhandlinger

Masteroppgaver

Referere

DataverseNO

Perma.cc

Ph.d.-podden

Perma.cc - varige lenker i litteraturlisten

Perma.cc er en tjeneste som hjelper forskere, studenter og andre faglige forfattere med å lage permanente lenker som aldri blir brutt. Tjenesten forhindrer råtne lenker.

Slik virker Perma.cc

Du fyller inn en URL på Perma.cc og får en ny permanent URL tilbake, som kan settes inn i litteraturlisten.

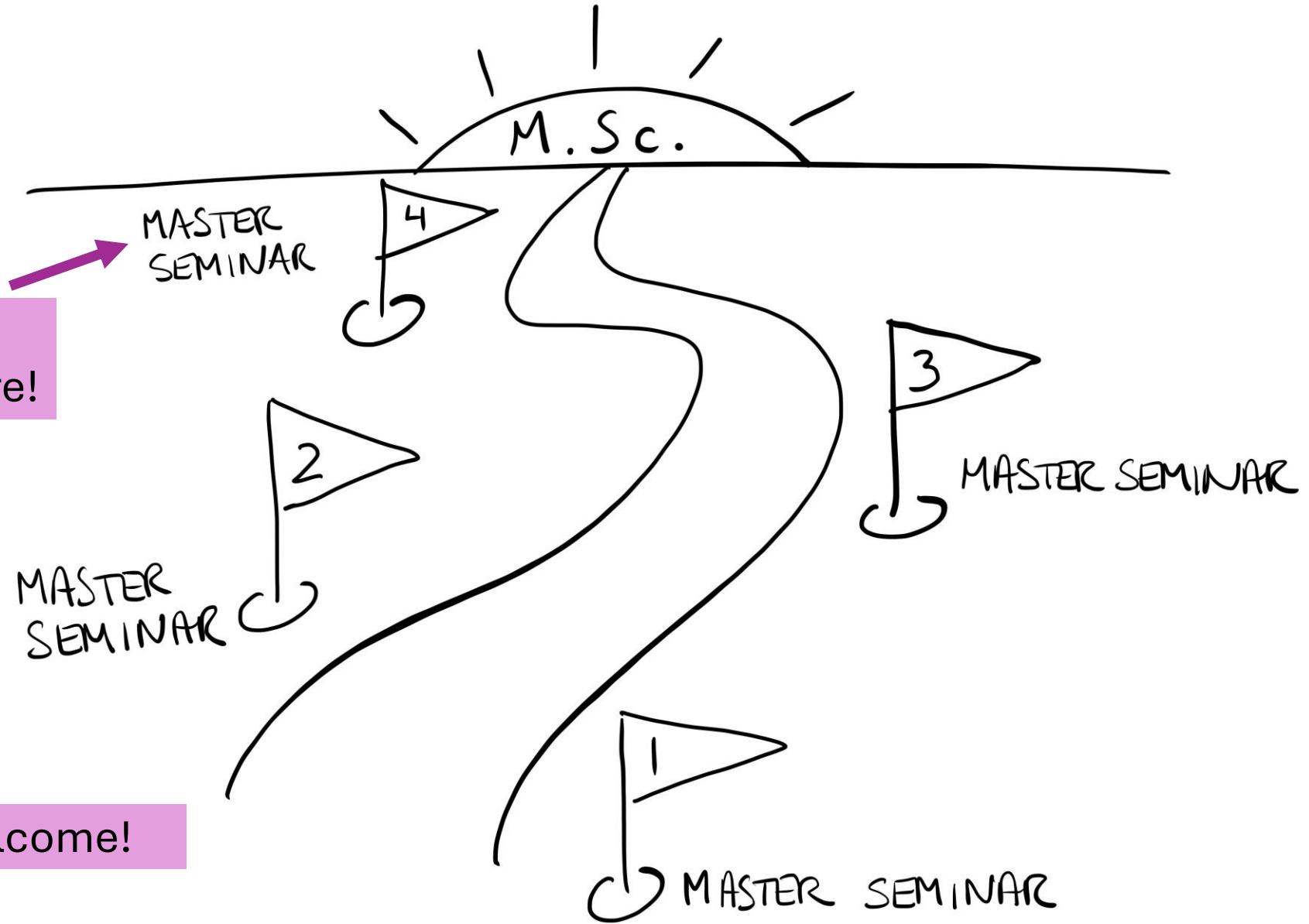
Perma.cc 

TAKE AWAY

Writing is thinking

Get started writing now!

Write regularly until hand in 😊



You can influence what happens here!

Feedback welcome!

Feedback & master seminar wishes



<https://nettskjema.no/a/653837>



Let us know if you have questions or comments 😊

andri.spilker@ub.uio.no