

The Alan Turing Institute

Opening up your communications

CDT Conference: 15 November 2023

Arielle Bennett, Emma Karoune,
Sophie Arana, Hari Sood



Introductions



Arielle Bennett

Programme Manager,
Tools, Practices and
Systems



Emma Karoune

Senior Research
Community Manager,
Turing Health



Sophie Arana

Research Application
Manager,
TRIC-DT

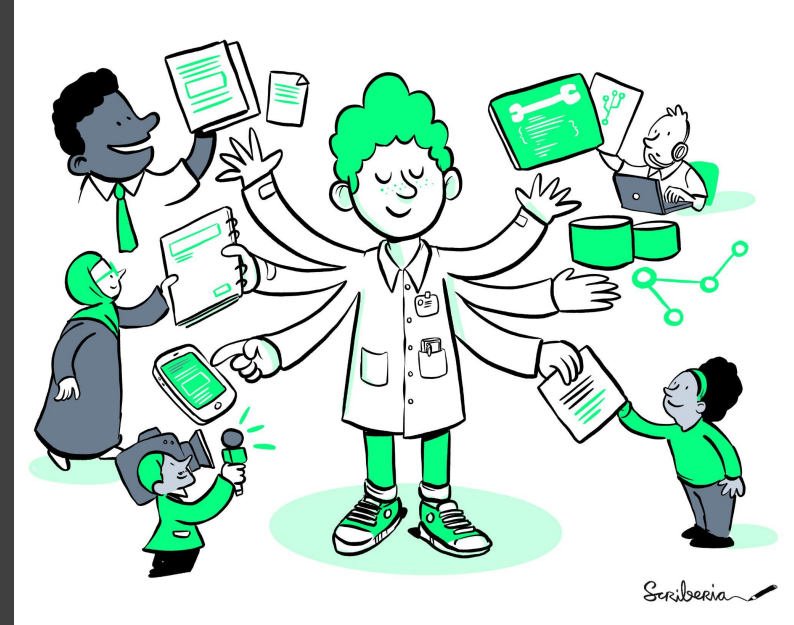


Hari Sood

Research Application
Manager,
Data Safe Haven

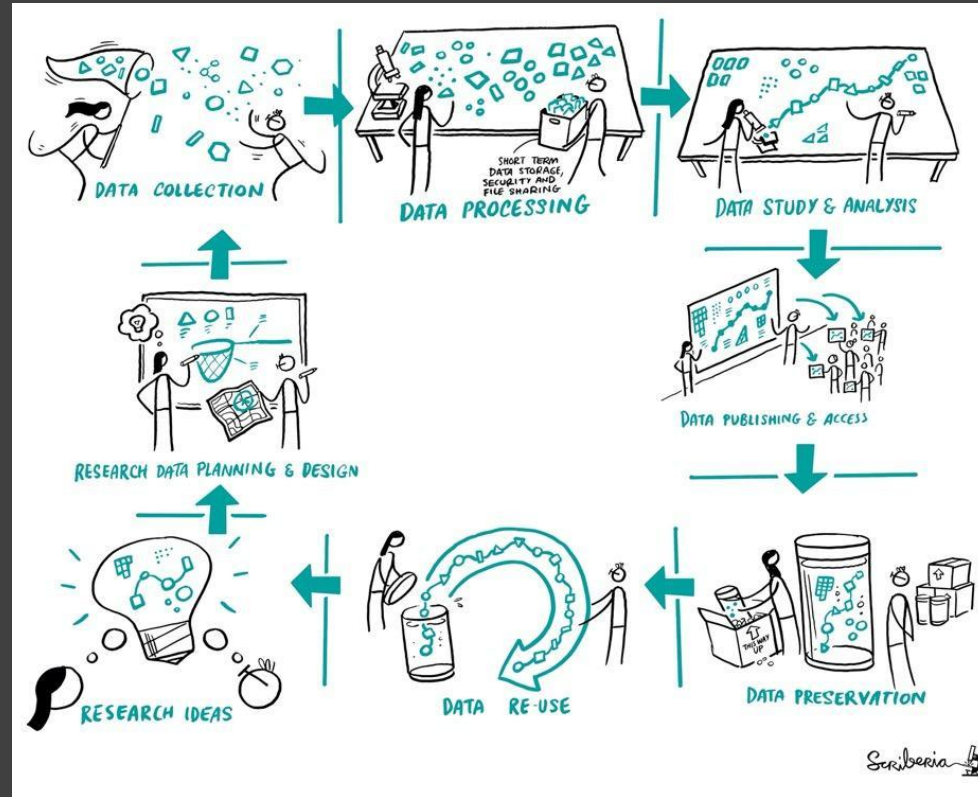
What we will be doing in this session

- **When and why** to open up research communications
- **How** to open up
 - Who's your audience
 - Lay summaries
 - Alt text
- **Intro** to The Turing Way



When to open up your research?

- Traditionally done at end of research lifecycle
- Presenting results of research in articles



Open communication through the research lifecycle

Data preservation & reuse

Data paper Software paper
Open/FAIR metadata
and documentation

Community review
Talks to wider audiences

Data publishing & access

OA research paper Blogs/website
Lay reports
Research compendium

Data analysis

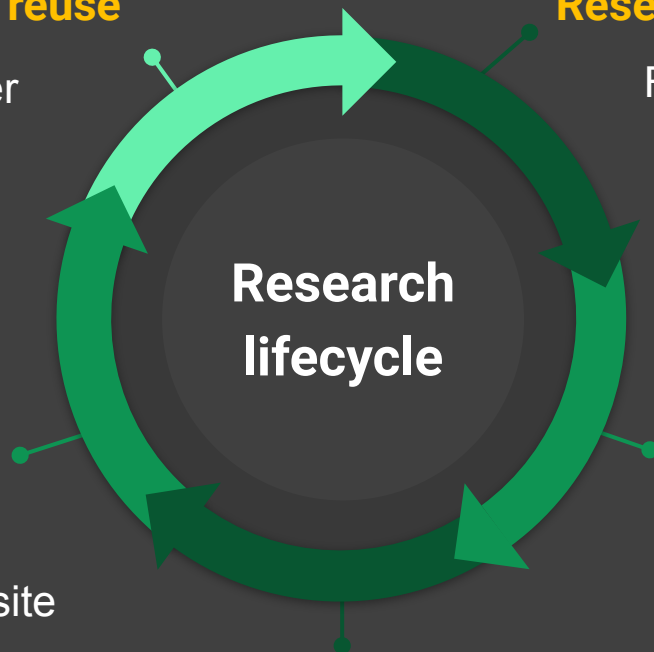
Open code Open/FAIR data
Conference talks

Research ideas, planning & design

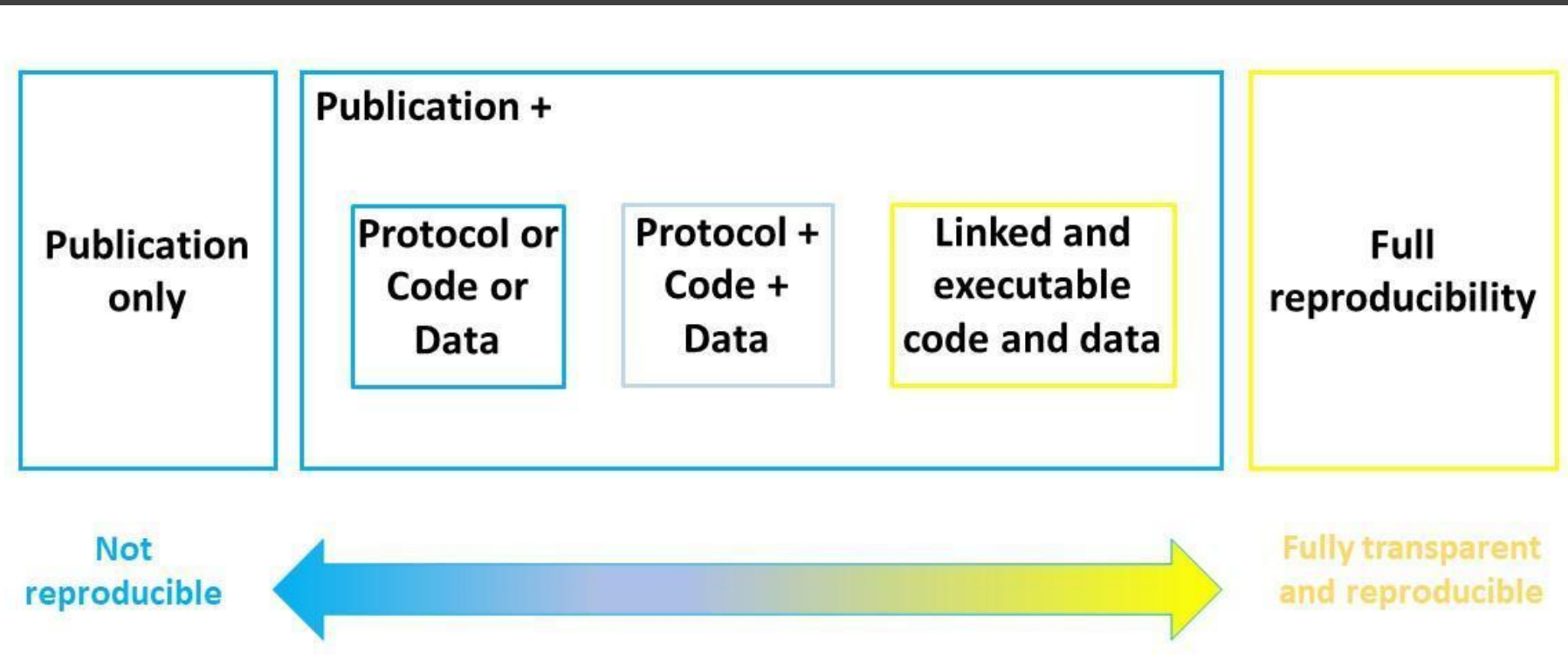
Funding application
Open-source project
Pre-registration report
Project announcement
on blog/webpage

Data collection & processing

Open lab book Open data
Open training materials
Blogs, videos, website
Talks



Reproducible, Open and Accessible research



An adapted reproducible spectrum (Peng 2011) with the addition of protocols.

Barriers to open research communication

**Lack of recognition/
not considered for
promotion or
assessment**

**Publication
bias towards
novel findings**

**Held to higher
standards
than others**

**Requires
additional
skills**

Language

**Lack of interest by
research
group/supervisor**

**Needs a change
of mindset**

**Afraid of
being
scooped**

Takes time

Money

Benefits of open research communication

To scientific community and wider society

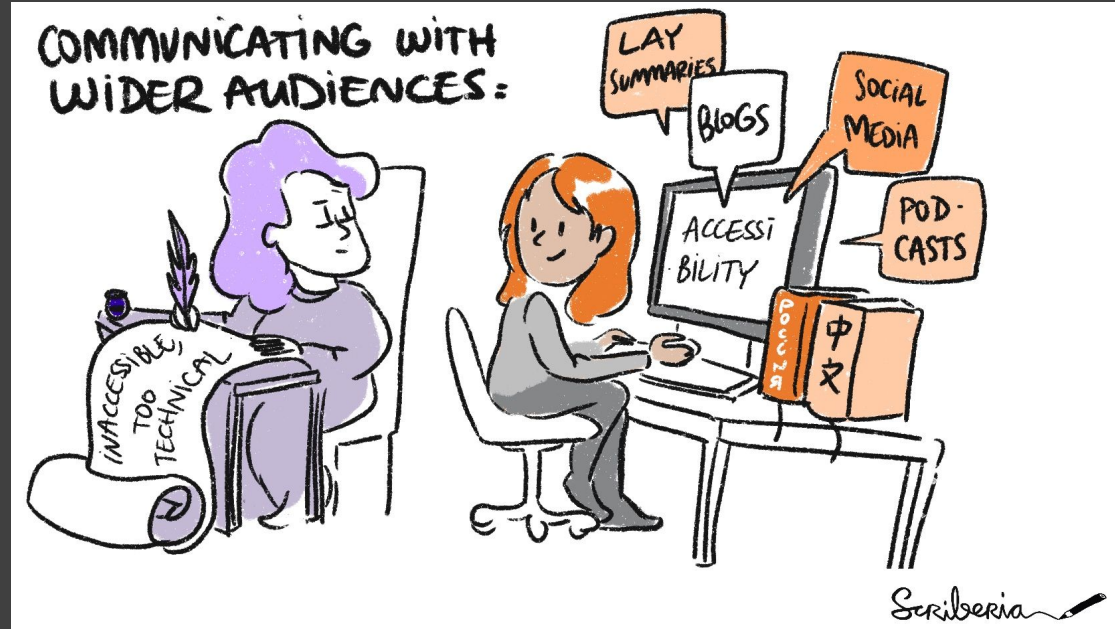
1. Increased quality of research
2. Increased collaboration
3. More sustainable research for the next generation
4. Better equity, diversity, accessibility and inclusion in research

For you

1. Increased citations of your published research articles
2. Greater discoverability and enhanced visibility of your work
3. More credit for all your work

Communicating more openly

- Identify your audience
- Change your style
- Make it accessible



Activity 1 - Who's your audience?

**Least
technical**

**Most
technical**



**Public/lay
audience**

**Specialist
domain audience**

Activity 1 - Who's your audience?

**Least
technical**

**Most
technical**



**Public/lay
audience**

**Where would these audiences fit
on the scale of technical writing?**

**Specialist
domain audience**

General data
science
conference

Your lab
group

Domain
magazine

University
website

Newspaper

Group of
secondary
school students

Policymakers

Activity 1 - Who's your audience?

Least
technical

Most
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Public/lay
audience

Where would these audiences fit
on the scale of technical writing?

Specialist
domain audience

General data
science
conference **D**

Your lab
group **G**

Domain
magazine **E**

University
website **A/B**

Newspaper **A**

Group of
secondary
school students **A**

Policymakers **A**

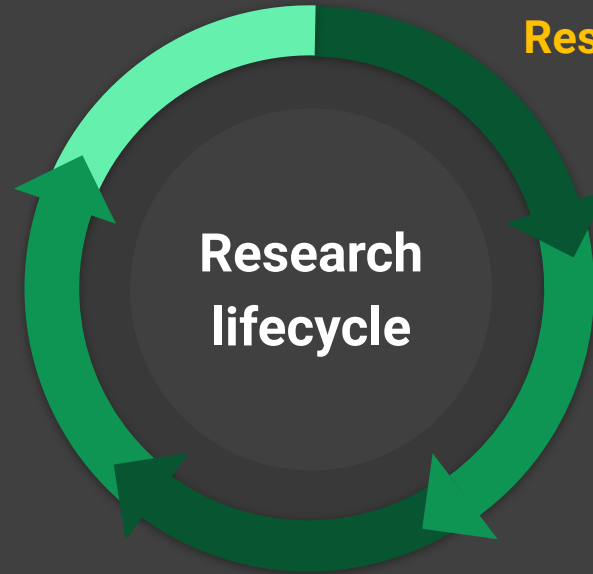
Lay Summaries - What is it?

A lay summary is **a summary of a research project** or a research proposal that is usually written **for members of the public**, rather than researchers or professionals. It should be written **in plain English**, avoid jargon and explain any technical terms that have to be included.

Lay Summaries - When to write it?



Lay Summaries - When to write it?

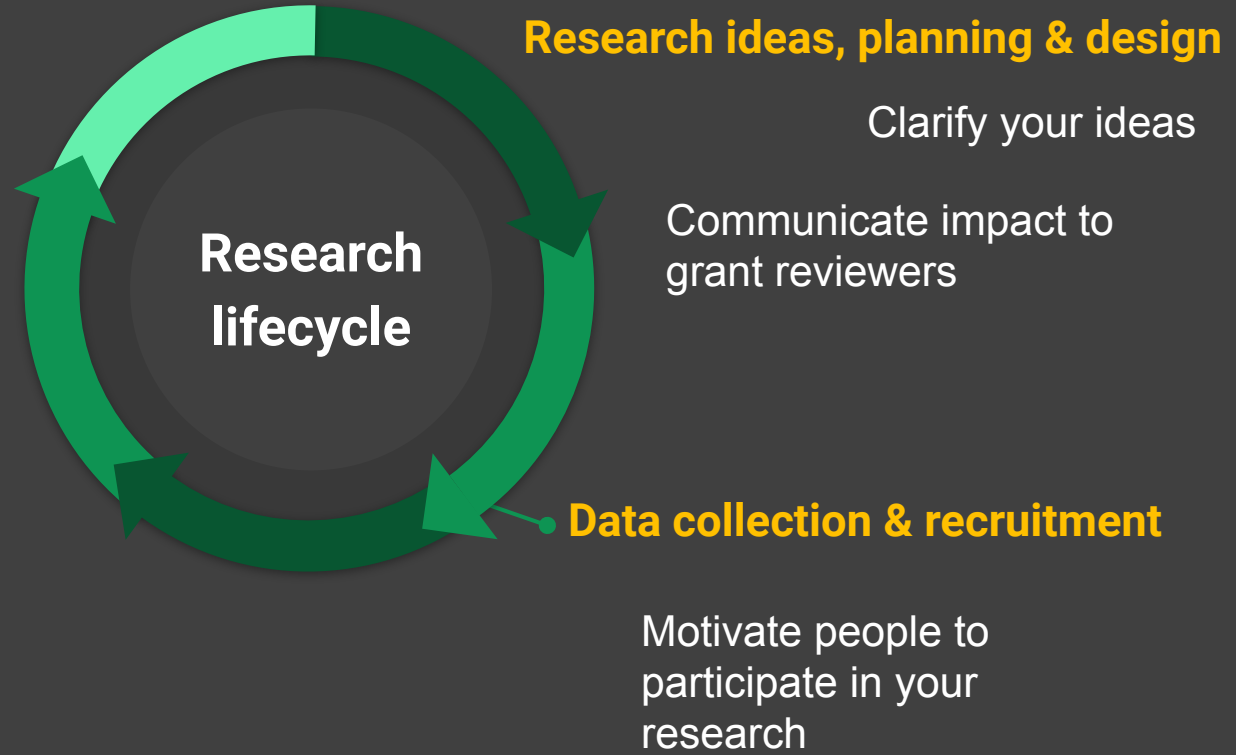


Research ideas, planning & design

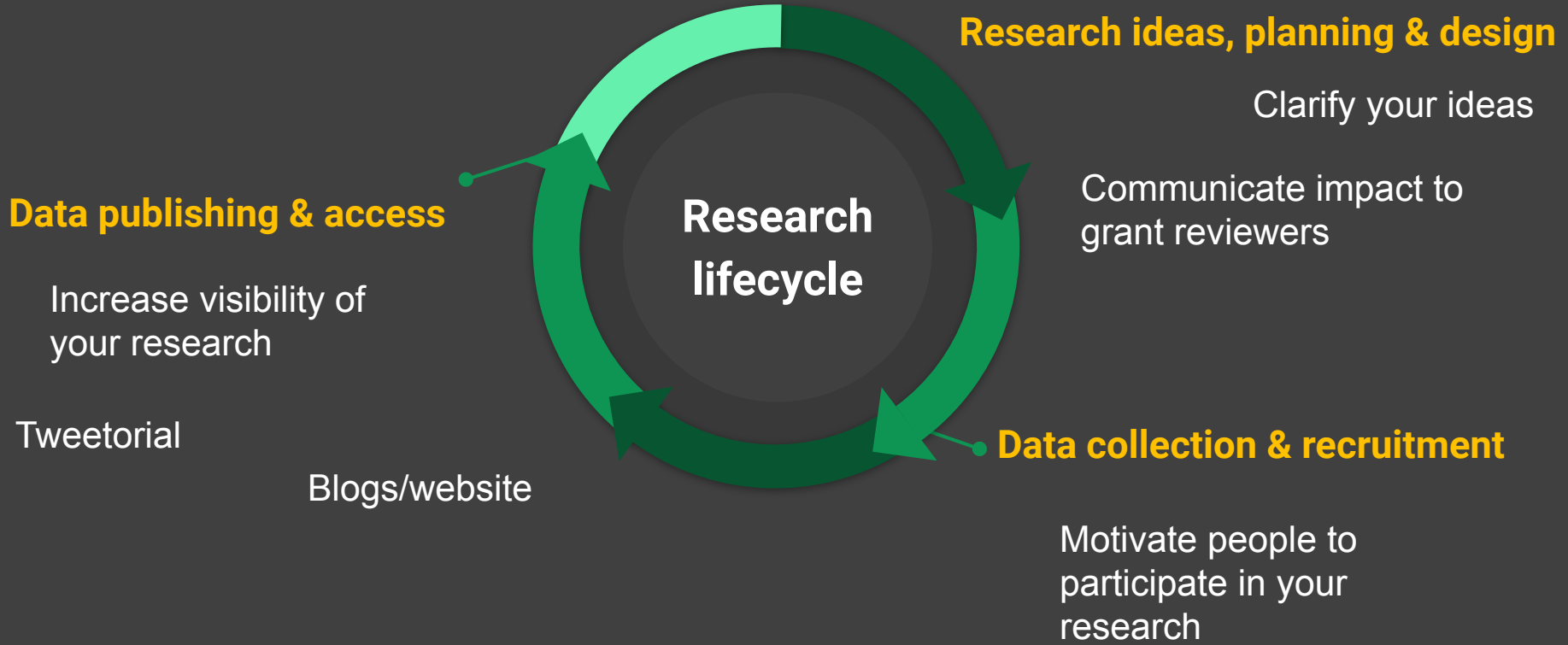
Clarify your ideas

Communicate impact to
grant reviewers

Lay Summaries - When to write it?



Lay Summaries - When to write it?



Lay Summaries - Write a good hook!

A hook is ...

- The first thing you see
- Why you continue reading
- Vital for your research to be heard

Lay Summaries - Write a good hook!

A hook is ...

- The first thing you see
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A hook is not clickbait!!

Lay Summaries - Write a good hook!

A hook is ...

- The first thing you see
- Why you continue reading
- Vital for your research to be heard

Activity 2



5 minutes

Can you remember the last piece that you read?

What made it compelling?

Lay Summaries - Write a good hook!

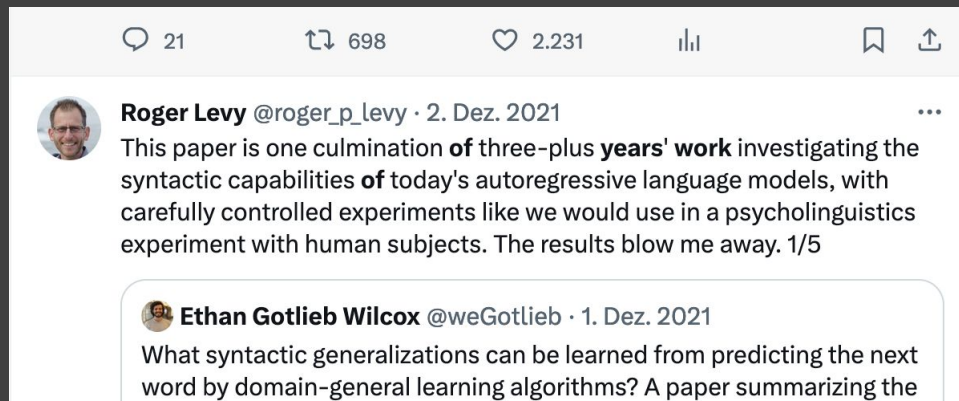
4 Hook themes

For your research summary:

- Credibility
- Curiosity / Surprise
- Counter-Narrative
- Identity


Credibility Hook:

- Establish trust through authority
- Lead with expertise (e.g. PhD title)
- Emphasize amount of effort spent




A screenshot of a tweet from Roger Levy (@roger_p_levy) dated December 2, 2021. The tweet has 21 replies, 698 retweets, and 2,231 likes. The text of the tweet reads: "This paper is one culmination of three-plus years' work investigating the syntactic capabilities of today's autoregressive language models, with carefully controlled experiments like we would use in a psycholinguistics experiment with human subjects. The results blow me away. 1/5". Below the tweet is a reply from Ethan Gotlieb Wilcox (@weGotlieb) dated December 1, 2021, which begins with "What syntactic generalizations can be learned from predicting the next word by domain-general learning algorithms? A paper summarizing the".

21 698 2.231

 **Roger Levy** @roger_p_levy · 2. Dez. 2021

This paper is one culmination of three-plus **years' work** investigating the syntactic capabilities of today's autoregressive language models, with carefully controlled experiments like we would use in a psycholinguistics experiment with human subjects. The results blow me away. 1/5

 **Ethan Gotlieb Wilcox** @weGotlieb · 1. Dez. 2021

What syntactic generalizations can be learned from predicting the next word by domain-general learning algorithms? A paper summarizing the

Lay Summaries - Write a good hook!

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Curiosity Hook:

- Spark the reader's interest
- Share an unexpected or astonishing fact



Lay Summaries - Write a good hook!


4 Hook themes

For your research summary:

- Credibility
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Counter-Narrative Hook:

- Challenge commonly held beliefs
- Present ideas in conflict with the reader's intuition



Tests that diagnose diseases are less reliable than you'd expect. Here's why

Published: September 19, 2023 6.03am AEST

CDC / Unsplash

Email You feel unwell, and visit your doctor. They ask some questions and take some blood for testing; a few days later they call to say you have been diagnosed with a disease.

Twitter

Facebook 58

Lay Summaries - Write a good hook!

4 Hook themes

For your research summary:

- Credibility
- Curiosity / Surprise
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- Identity

Identity Hook:

- Identify as member of a group or community
- Address shared experiences and challenges



Sarah Zhang @sarahzhang · 22. Sep. ...

I had a newborn last year, and my #1 worry was RSV, which was really, really bad last fall.

This year is looking totally different! I wrote about the breakthrough that suddenly gave us three new shots against RSV.



Lay Summaries

| | Academic Writing | | Lay Summary | |
|------|------------------|--|----------------|--|
| Goal | Precision | <ul style="list-style-type: none">- Avoiding ambiguity- Give a nuanced presentation | Clarity | <ul style="list-style-type: none">- Short sentences- Short paragraphs- State your Impact- Logical structure |

Lay Summaries

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| Vocabulary | Specialised | <ul style="list-style-type: none">- Jargon- Domain-specific terminology | Accessible | <ul style="list-style-type: none">- Use everyday words- Secondary school level text difficulty |

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Lay Summaries

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| Tone | Neutral | Passive voice, neutrality | Personal | Active voice, emotions |
| Structure | Academic | <ul style="list-style-type: none">- Introduction- Methods- Results- Discussion | Journalistic | Lead with results/findings Address the 5 Ws: who, what, where when, and how + Why now? |

Activity 3 - Let get non-technical!



15 minutes

- **Work in pairs**
- **Swap** abstracts with your partner **& Read**
- **Underline** jargon, long sentences, passive voice
- **Cross-out** unnecessarily ~~detailed~~ words
- **Discuss** what you found, how technical you think the abstract is, etc.

Lay Summaries - Helpful tools

For readability testing:

<https://thefirstword.co.uk/readabilitytest/>

<https://hemingwayapp.com/>

<https://chat.openai.com/>

The screenshot displays the Hemingway Editor interface. At the top, there is a toolbar with options: Bold, Italic, H1, H2, H3, Quote, Bullets, Numbers, and Link. On the right side, there are buttons for 'Write' and 'Edit', and the 'Hemingway Editor' logo. Below the toolbar, the main text area contains the following content:

Hemingway App makes your writing bold and clear.

The app highlights lengthy, complex sentences and common errors; if you see a yellow sentence, shorten or split it. If you see a red highlight, your sentence is so dense and complicated that your readers will get lost trying to follow its meandering, splitting logic — try editing this sentence to remove the red.

You can utilize a shorter word in place of a purple one. Mouse over them for hints.

Adverbs and weakening phrases in blue. Get rid of them and pick words with force, perhaps.

Phrases in green have been marked to show passive voice.

You can format your text with the toolbar.

Paste in something you're working on and edit away. Or, click the Write button and compose something new.

On the right side, there is a 'Readability' section showing 'Grade 6' and 'Good'. Below this, it says 'Words: 133' and 'Show More'. There are four colored boxes with readability tips:

- 2 adverbs, meeting the goal of 2 or fewer.
- 1 use of passive voice, meeting the goal of 2 or fewer.
- 1 phrase has a simpler alternative.
- 1 of 11 sentences is hard to read.
- 1 of 11 sentences is very hard to read.

Activity 4 - Alt text

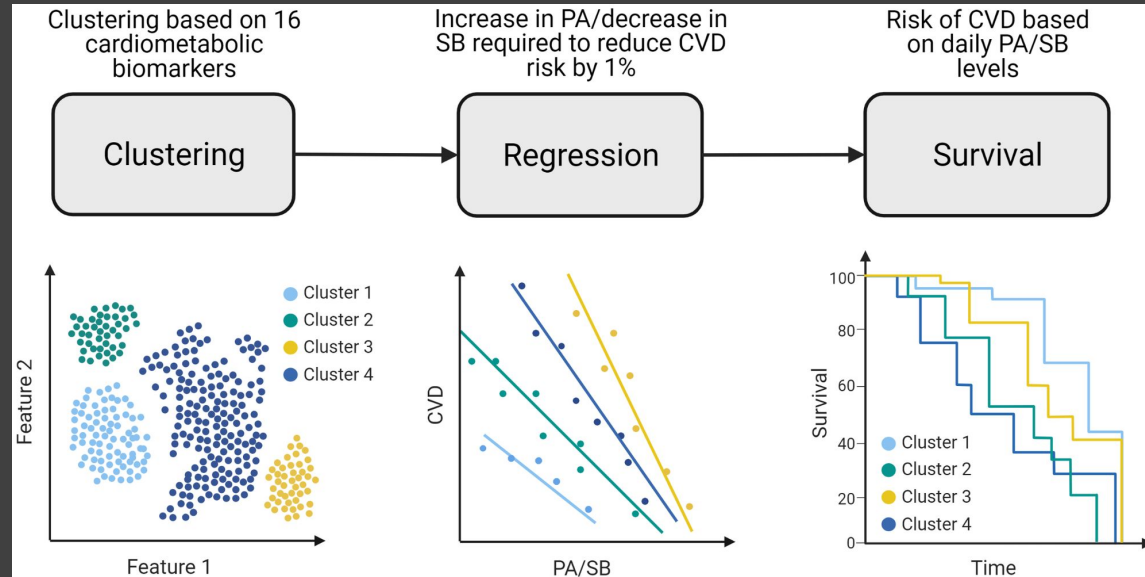
Fig 2. Flow diagrams illustrating the simulations performed on the UK Biobank dataset.

The graphs do not depict real data, but are for visualisation only.

Activity 3 - Alt text

Fig 2. Flow diagrams illustrating the simulations performed on the UK Biobank dataset.

The graphs do not depict real data, but are for visualisation only.



Activity 3 - Alt text tips

- Alt text should **be specific** and not overly descriptive
- Good descriptions are **concise, but accurate**
- **Stay clear of repetition**
- Don't use 'image of' (this will be obvious)
- **Include any essential text or data** that's part of the visual
- Consider the caption and alt text together
- **Screen readers will pause and stop** but might not announce exclamation or question marks.

Communicating Accessibly

On the left, a giant hole in the ground at the top of the Nyiragongo volcano (Democratic Republic of Congo) containing a black lava lake that is approximately 200 metres in diameter. There are whitish gas plumes rising from holes in the semi-solid surface of the lake. The holes are glowing orange. There are six tents only a few hundreds of metres away from the lava lake.

On the right, Vero CCL-81 cells used in a fluorescence-based assay designed to measure neutralisation of a reporter SARS-CoV-2 by antibodies from patient specimens. After reporter viral infection, the cells turned green in the absence of serum (top panel). In contrast, incubation of the reporter virus with COVID-19 patient serum decreased the number of fluorescent cells (bottom panel)¹⁴. Scale bar, 100 μm .

On the bottom, selfie taken by the NASA's Curiosity rover on the 11th October 2019 in the Glen Etive location (Gale Crater, Mars) showing the rover and two holes "Glen Etive 1" and "Glen Etive 2" drilled alongside it (Credits: NASA/JPL-Caltech).



Communicating "Accessibly"

- Consider disabilities
- Language translation
- FAIRness

Resources

<https://accessibility.huit.harvard.edu/describe-content-images>

<https://accessibility.huit.harvard.edu/>

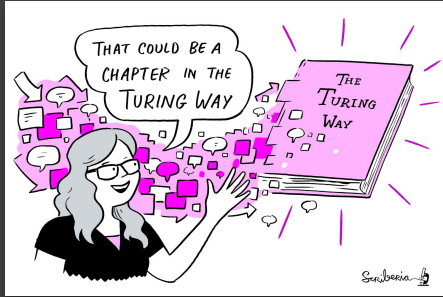
<https://design102.blog.gov.uk/2022/01/14/whats-the-alternative-how-to-write-good-alt-text/>

<https://www.go-fair.org/fair-principles/>

The Turing Way

An Open Source guide on Data Science

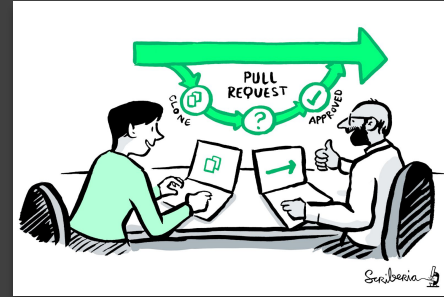
We involve and support a diverse community to make data science reproducible, ethical, collaborative and inclusive for everyone.



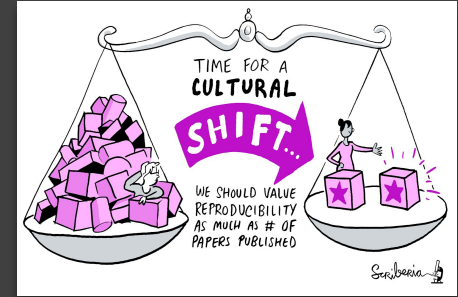
A book



**A global
community**



**An open-source
project**



**A culture of
collaboration**

Guide for Reproducible Research

Guide for Reproducible Research

Overview

Open Research

Version Control

Licensing

Research Data Management

Reproducible Environments

BinderHub

Code quality

Code Testing

Code Reviewing Process

Continuous Integration

Reproducible Research with Make

Research Compendia

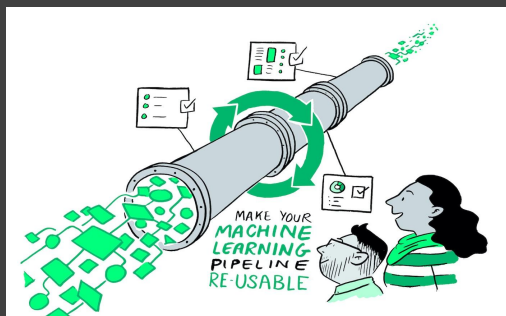
Credit for Reproducible Research

Risk Assessment

Case Studies



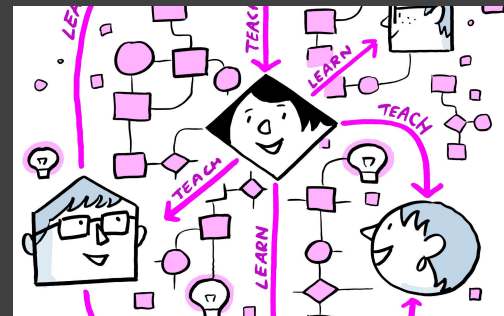
The Turing Way Guides



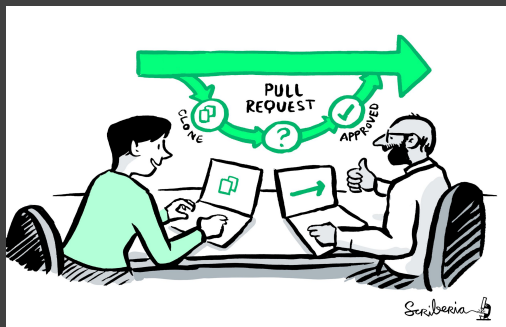
Reproducibility



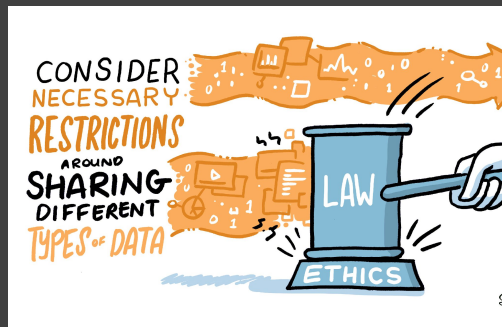
Project design



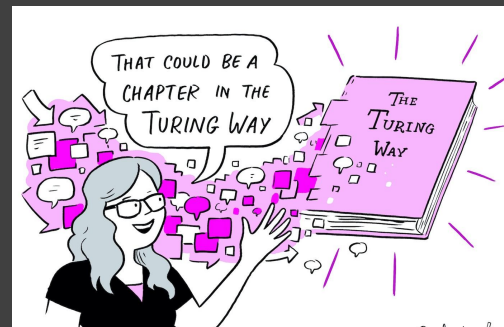
Communication



Collaboration



Ethical research



Community handbook

Project and Community Growth



Kirstie Whitaker

Director: Tools,
Practices & Systems
Programme (TPS)



Malvika Sharan

TPS Senior
Researcher: Open
Research & Community



Anne Lee Steele

Community Manager,
The Turing Way



Alexandra
Araujo Alvarez
Project Manager

- ~4 years
- >313 chapters
- Community resources, events, guidance, templates, training
- 457+ direct GitHub contributors and thousands of users

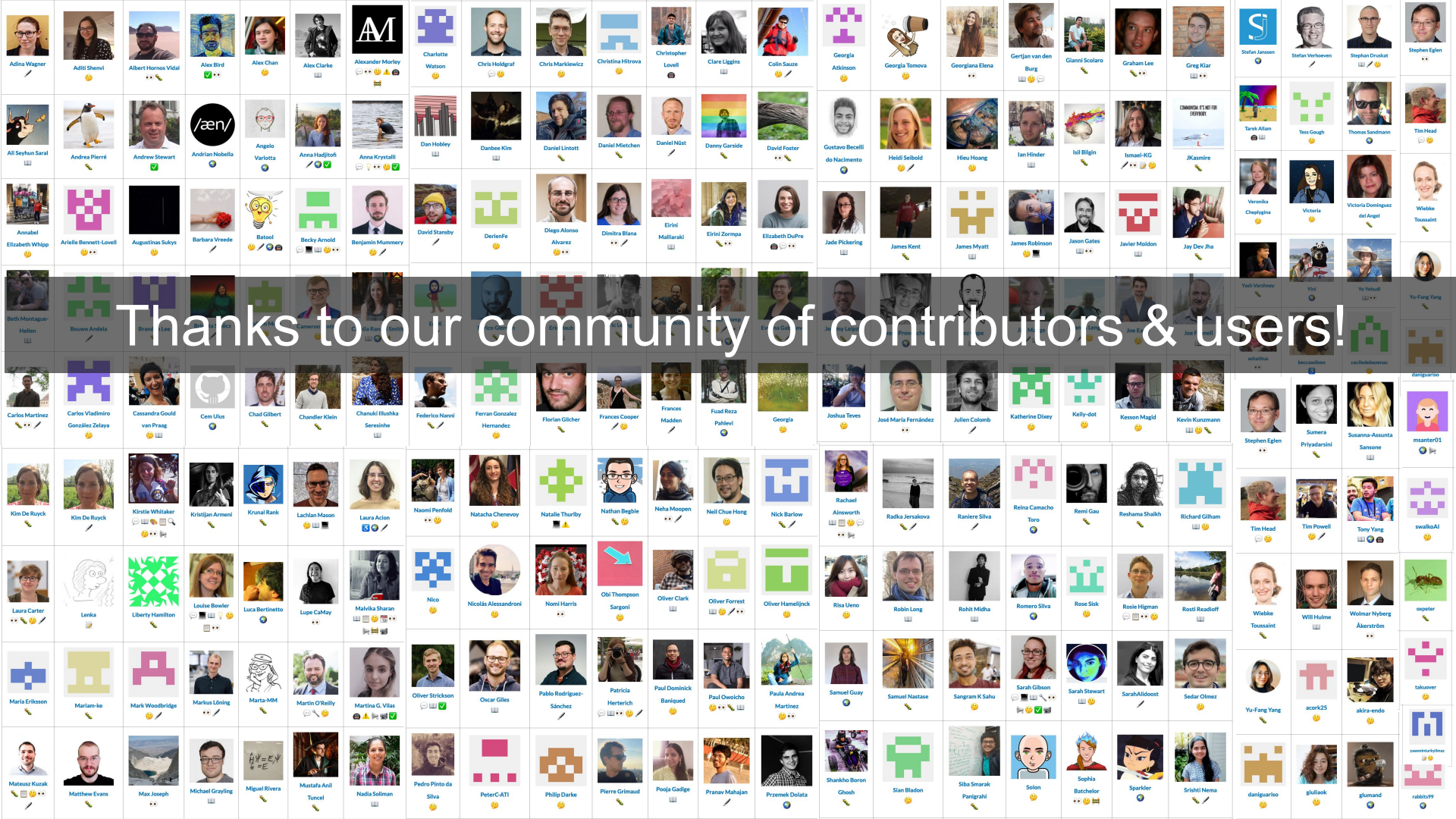


23K
VIEWS

12K
DOWNLOADS

<https://zenodo.org/record/3332807>

@turingway, CC-BY 4.0, DOI: <https://doi.org/10.5281/zenodo.10050030>



Thanks to our community of contributors & users!

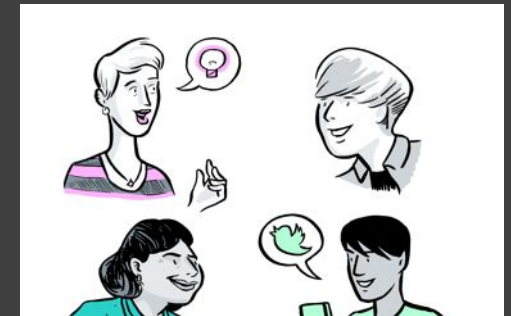
Pathways for Collaboration



Develop & share



Maintain & improve



Share resources



Review and update



Make it global



Share best practices

Connecting with *The Turing Way* Project

- *Collaboration Cafes*
 - 1st & 3rd Wednesdays (15:00 UTC)
- *Fireside Chats*
 - Monthly
- *More ways to connect*
 - Join our slack workspace
 - Sign up to our newsletter



bit.ly/turingway

The Alan Turing Institute

Acknowledgements:

- The Turing Way team, Kirstie Whitaker, Malvika Sharan, Anne Lee Steele, Alexandra Araujo Alvarez
- *The Turing Way* community, contributors & collaborators
- Book: the-turing-way.netlify.com
- Twitter: twitter.com/turingway / Mastodon: <https://fosstodon.org/@turingway>
- Newsletter: tinyletter.com/TuringWay
- Slack: tinyurl.com/jointuringwayslack
- GitHub: github.com/alan-turing-institute/the-turing-way
- Original artwork by Scriberia: <https://doi.org/10.5281/zenodo.3332807>

