## The Alan Turing Institute

# Building Open Communities of Collaboration



Malvika Sharan

Pronouns: she/her

@malvikasharan @turingway, Slides available under CC-BY 4.0, DOI: 10.5281/zenodo. 4729684



The Turing Way

An Open Source guide on Data Science. We involve and supports a diverse community to make data science reproducible, ethical, collaborative and inclusive for everyone.

https://github.com/alan-turing-institute/the-turing-way, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729684

## The Alan Turing Institute

The national institute for data science and artificial intelligence



https://www.turing.ac.uk/, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729684

### The Turing Way Book on Reproducibility



Kirstie Whitaker Lead of Tools, Practices & Systems Programme The Turing Way is a lightly opinionated guide to reproducible data science.

Our goal is to provide all the information that researchers need at the start of their projects to ensure that they are easy to reproduce at the end.

This also means making sure PhD students, postdocs, PIs, and funding teams know which parts of the "responsibility of reproducibility" they can affect, and what they should do to nudge data science to being more efficient, effective, and understandable.



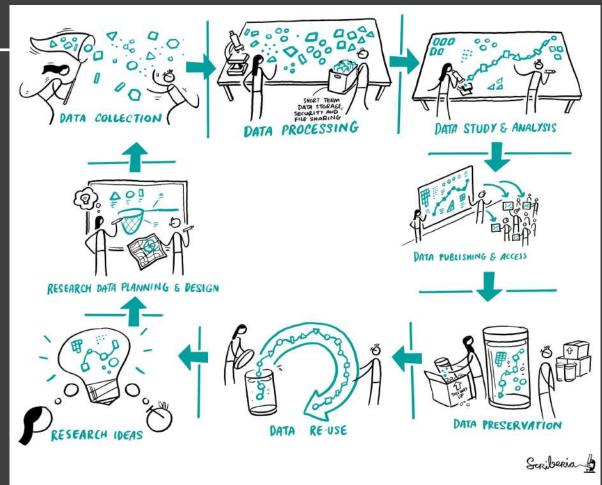
## Reproducibility

		Data							
		Same	Different						
halysis	Same	Reproducible	Replicable						
Ana	Different	Robust	Generalisable						

https://github.com/alan-turing-institute/the-turing-way, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729684

## Reproducibility

		Data							
		Same	Different						
lysis	Same	Reproducible	Replicable						
Analysi	Different	Robust	Generalisable						



## **Expansion of Scope**

Guide for Reproducible	^	Welcome
Research		The Turing Way is an open source community-driven guide to reproducible, ethical, inclusive and collaborative data sc
Overview	~	Our goal is to provide all the information that data scientists in academia, industry, government and the third sector r
Open Research	~	the start of their projects to ensure that they are easy to reproduce and reuse at the end.
Version Control	~	The book started as a guide for reproducibility, covering version control, testing, and continuous integration. However,
Licensing	~	technical skills are just one aspect of making data science research "open for all".
Research Data Management	~	In February 2020, The Turing Way expanded to a series of books covering reproducible research, project design, communication, collaboration, and ethical research.
Reproducible Environments	~	
BinderHub	~	
Code quality	~	PROJECT DESIGN REPRODUCIBILITY
Code Testing	~	COLLABORATION
Code Reviewing Process	~	Communication
Continuous Integration	~	
Reproducible Research with	~	AUT REACH
Make		
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Credit for Reproducible		
Research		
Risk Assessment	~	TOO EASY :
Case Studies	~	MOT TO DO Sectoria

Book: https://the-turing-way.netlify.app/welcome, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

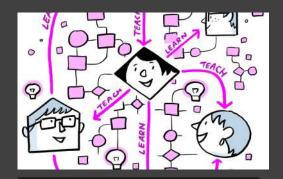
# The Turing Way Guides



Reproducibility



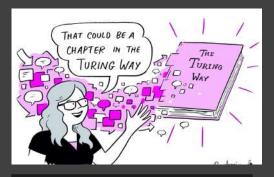
Project Design



Communication







Ethical Research Community Handbook @malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

Collaboration

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## Notable Impacts Beyond the project

Resources are being used by learners, educators, community builders, policy makers and researchers globally

- Reproducibility of scientific results in the EU 2020 (report)
- An Emerging Technology Charter for London (policy)
- Innovation Scholars: UKRI grant 2020 (funding)
- CodeRefinary and Library Carpentries (training)
- Cited by peer-reviewed articles & open source projects

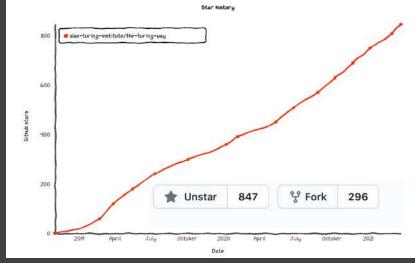
## **Project and Community Growth**

- 2 years, >150 subchapters
- Community resources, guidance, templates, training
- >250 direct GitHub contributors and thousands of users

3,659

https://zenodo.org/record/4323154

Zenodo





https://star-history.t9t.io/#alan-turing-institute/the-turing-way, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

4.717

downloads



# Terminology

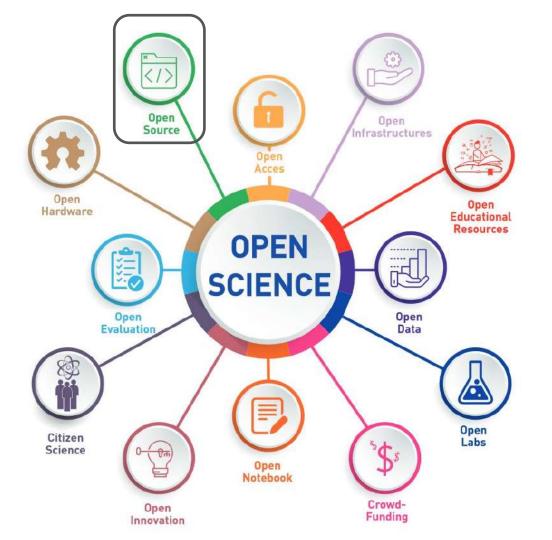
- Open Source
- Community of Practice (CoP)
- Community Building
- Building Open Community of Collaboration



# An open source project

- Everyone can freely read, reuse, distribute, modify and advance.
- Framework for collaboration, peer production and project sustainability.





Toward a UNESCO Recommendation on Open Science: Canadian Commission for UNESCO By Ella Chan, Dick Bourgeois-Doyle, Michael Donaldson, and Eleanor Haine-BennettOttawa, Canada, April 2020



# A social unit of people who share common values and mission.

Wenger, McDermott, Snyder, A Guide to Managing Knowledge: Cultivating Communities of Practice. Harvard Business School (2002)

# **Community of Practice (CoP)**

A social unit of people who share common values and mission – who want to gain knowledge and expertise through informal interaction.

Wenger, McDermott, Snyder, A Guide to Managing Knowledge: Cultivating Communities of Practice. Harvard Business School (2002)

# **Open Community of Practice**

A social unit of people who share common values and

mission – who want to gain knowledge and expertise through

informal interaction – using open source framework for

collaboration, peer production and project sustainability.

Wenger, McDermott, Snyder, A Guide to Managing Knowledge: Cultivating Communities of Practice. Harvard Business School (2002)

## **Building Open Communities of Practice**



## **Building Open Communities of Practice**

Process of granting access

to skills and support an

individual or group needs

to participate in the open

CoP -- and influence

decision-making process.



Kelly, Anthony, "With Head, Heart and Hand: Dimensions of Community Building" (Boolarong Press) ISBN 978-0-86439-076-9, @malvikasharan

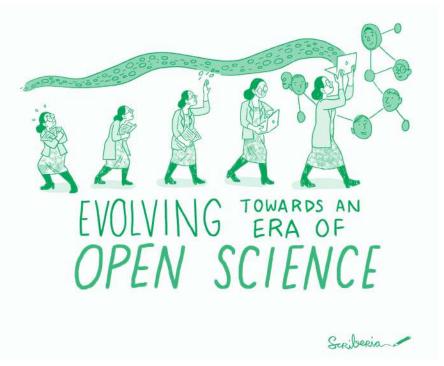
## **Building Open Communities of Collaboration**

## **Open is by default not:**

 $\circ$  Inclusive

- Accessible
- Community-led

## **Intentional collaboration**





**Book:** the- turing-way.netlify.app/

#### A Book

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THAT COULD BE A CHAPTER IN THE

TURING WAY





#### GitHub:

github.com/alan-turinginstitute/the- turing-way

Twitter: twitter.com/turingwa

Email: theturingway@gmail.com

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#### An Open Source Project



#### A Culture of Collaboration



## **Building Open Communities of Collaboration**



# 1. Design for Collaboration

Image on Unsplash by @kellysikkema, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

Open leadership is a set of practices and skills people can use and build projects that allows them to collaborate within inclusive communities.

moz://a Open Leadership Program

**Design for Collaboration** 



#### Understanding

Your work is clear, authentic and widely accessible

moz://a Open Leadership Program

## Design for Collaboration





Understanding

#### Sharing

Your work can be adapted, reproduced, and built upon



## **Design for Collaboration**







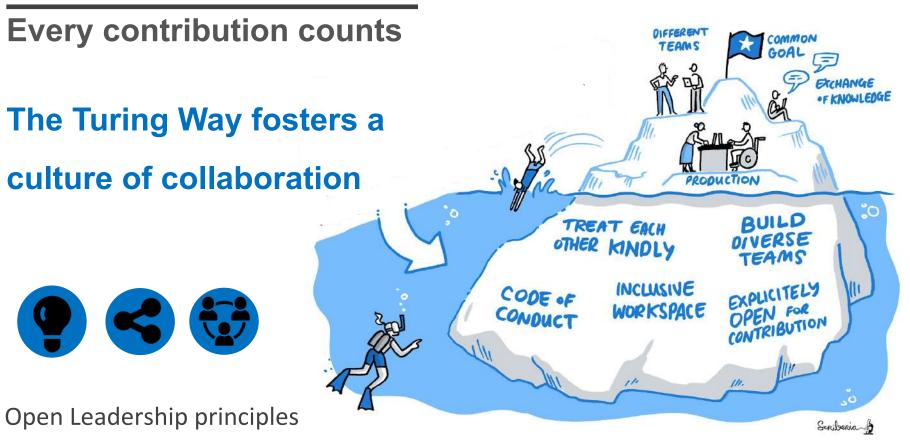
Understanding

Sharing

#### **Participation & Inclusion**

Creates a shared ownership that inspires contributions





# Pathways for Collaboration



Develop & share



Maintain & improve



Share resources



Review and update





Make it globalShare best practices@malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

## 2. Document Processes



Image on Unsplash by <u>@markuswinkler</u>, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

Social norms drive behaviour and affect community culture. To avoid detrimental impact of unwritten rules, we transparently communicate them with the community.

# **Community Resources**

- README, online repository
- Contribution guideline, norms
- Recommended practices, access
- Technical needs, learning & mentoring
- Roles & rewards, support, policies
- Transparent reporting, feedback pathway

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i book	minor update	Mil'H
communications	Fix typos	
conferences	Add KW formatting pedantry	(1)
project_management	Update online-collaboration-cafe.md	
im templates	Updating Github templates	R B-
in tests	Add "et cetera" as a deprecated Latinism	
workshops	Remove mis-pasted text	
all-contributorsrc	Merge pull request #991 from alan-turing-institute/all-contributors/a	5 days ago
.gitignore	ignore pptx in workshop folder	9 months ago
.travis.yml	add html-proof file again	last month
CODE_OF_CONDUCT.md	her -> their	6 months ago
CONTRIBUTING.md	Update CONTRIBUTING.md	2 months ago
GOVERNANCE.md	Read through months later	5 months ago
LICENSE.md	Fix typo in licence	2 months ago
README.md	Merge pull request #991 from alan-turing-institute/all-contributors/a	5 days ago
book_skeleton.md	Update book_skeleton.md	13 months ago
contributors.md	Add myself to contributors.md	11 months ago
tips_and_tricks_survey.md	Update tips_and_tricks_survey.md	14 months ago
ways_of_working.md	Adjust team contact section	5 months ago

#### GitHub:

Seriberia 1

https://github.com/ alan-turing-institute/ the-turing-way

## The Turing Way Community Handbook

#### **Community Handbook**

Code of Conduct Ways to Enter the Project Style Guide Maintaining Consistency Chapter Templates and **Contribution Workflow** Acknowledging Contributors Monthly Newsletters **Book Dash Events Community Coworking Calls Template Collection** 



Online book: https://the-turing-way.netlify.app/community-handbook, @malvikasharan @turingway, 10.5281/zenodo.4729686

# 3. Create Shared Ownership



Image on Unsplash by *@jentheodore*, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

We avoid individual authorship in favour of establishing shared ownership and agency in this project. The project belongs to the community and is always a 'work in progress'.

the-turing-way.netlify.app/community-handbook/acknowledgement.html, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

#### alan-turing-institute / the-turing-way

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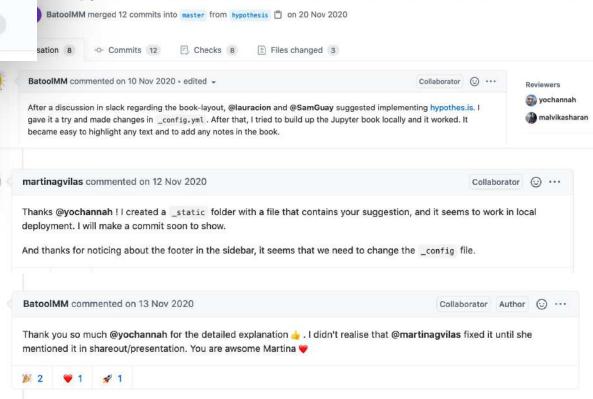
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#### All Contributors Recognize All Contributors

Including those that don't push code

de Jupyter Book / Enable collaborative annotation in the book #1561



@malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

### **Supporting Development**



#### Important

Please note that these requirements are not exhaustive or definitive, and neither are their classifications rigid. Moreover, no items are inherently more important than the other.

If you identify more consistency issues that need to be addressed, join the conversation here.

Scriberia

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## **Opportunities for Connections**



Co-working Calls & Collaboration Cafés



#### Four Book Dash Events

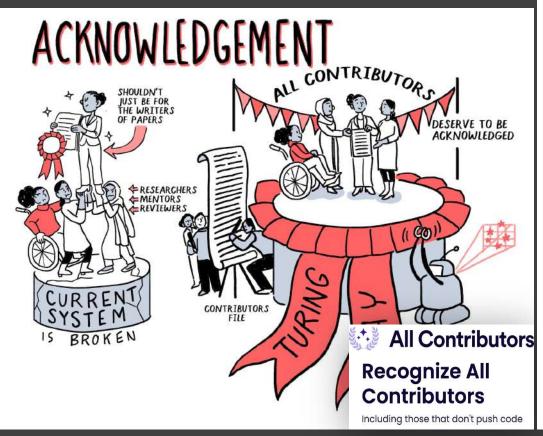
@malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

## 4. Recognise All Contributions

Image on Unsplash by <u>@wilhelmgunkel</u>, @malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

DANKE!

## **Recognise All Contributions**



#### **Esther Plomp**

- Role: Book Dash February 2020 Attendee, semi regular co-working call crasher
- GitHub id: EstherPlomp
- ORCID: 0000-0003-3625-1357
- Twitter: @PhDToothFAIRy
- Short bio:

I'm a Data Steward at Delft University of Technology in the Netherlands, where I support researchers with their data management and open science practices. For my PhD research I analysed human teeth for their isotopic/chemical composition in order to say something about human mobility patterns (fields of forensics, archaeology, osteology).

#### Personal highlights:

Thanks to the Turing Way I really learned how to work collaboratively using GitHub. The book dash was a great kick start to actually practise and directly apply these skills, which now allows me to contribute more confidently to other projects as well! I primarily contributed to the Reproducible Research Chapter, to the Research Data Management section. I reviewed existing content and I'm working on adding a section on Data Management Plans and how to handle personal data. I also made a The Turing Way poster that I presented during a conference. I hope to pay it forward and facilitate others in learning how to work with GitHub through The Turing Way or The Carpentries workshops. I'm very grateful to be part of this great and inclusive community!

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### **Collaborating Projects**

#### Afterword

Glossary

Bibliography

**Contributors Record** 

#### Collaborating Organisations

When members participate in The Turing Way community with the in-kind support of their funders and organisation, we acknowledge each member individually and list their organisations as "Collaborating organisations". Such organisational supports are applicable when one or multiple members from a project or community collaborate to build resources in The Turing Way. netherlands



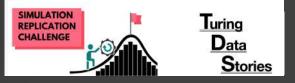
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## 

#CS4RL Citizen Science 4 Research Libraries



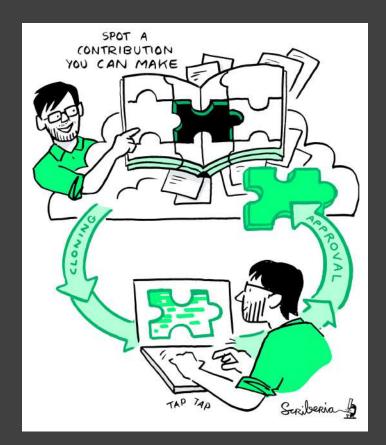


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Meeting you where you are!

- i. Join the community
- ii. Learn a new skill
- iii. Share your skills
- iv. Collaborate with others
- v. Mentor others' contributions
- vi. Represent this community

We value your participation!



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## **Communities of Collaboration**

- 1. Design for collaboration
- 2. Document processes
- 3. Create shared ownership
- 4. Recognise all contributions



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# Join a community event

- Contributor Celebration: 21 May
  - 10:00 & 16:00 UTC
- Collaboration Cafes
  - 1<sup>st</sup> & 3<sup>rd</sup> Wednesdays (14:00 UTC)
- Community coworking
  - Mondays (10:00 UTC)
- Onboarding & Catch-up
  - Fridays (17:00 UTC)

https://hackmd.io/@turingway/demo-intro

Email Malvika: msharan@turing.ac.uk



@malvikasharan @turingway, DOI: 10.5281/zenodo.4729686

#### The Alan Turing Institute

#### Acknowledgements:

- Kirstie Whitaker, Whitaker Team Members
- The Turing Way community, friends & collaborators
- Book: the-turing-way.netlify.com
- Twitter: twitter.com/turingway
- Newsletter: <u>tinyletter.com/TuringWay</u>
- Chat: gitter.im/alan-turing-institute/the-turing-way
- GitHub: github.com/alan-turing-institute/the-turing-way
- Original artwork by Scriberia: https://doi.org/10.5281/zenodo.3332808





#### A mentoring & training program for Open Science Ambassadors in Life Science

**Project leads:** Bérénice Batut Emmy Tsang Malvika Sharan Yo Yehudi

About:

16-week program volunteer-driven application-based

Email: team@ Openlifesci.org

Cohort update: groups.google.com /g/ols-news

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Sharing

Connecting

Empowering

Join the program

openlifesci

Training calls on Open Science Talks from experts Break out discussions



**Training for mentors** 

1:1 mentoring

**OLS-3 Graduation in May, OLS-4 Starts in Sept** Apply individually or in team to join the cohort

Visit our website: openlifesci.org