The Alan Turing Institute

Open science for enabling reproducible, ethical and collaborative research

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Pronouns: she/her/hers

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The Turing Way

An open science project and community-driven handbook on data science and research practices.



The Turing Way

An open science project and community-driven handbook on data science and research practices. We involve and support a diverse community to make data science and research reproducible, ethical, and collaborative for everyone.

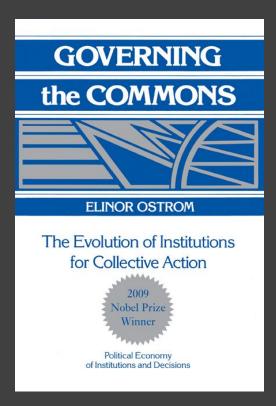


What are we trying to address as a community?

The goal of open science is NOT openness itself, it's about enhancing knowledge equity for diverse actors who can access, produce and set the direction of knowledge.



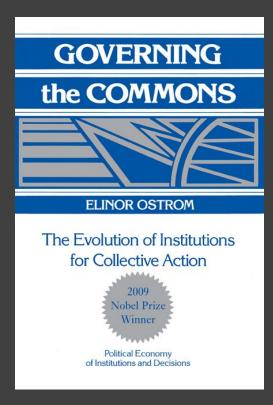
Aligned with Knowledge Commons



Knowledge commons: Information, data, and content that is collectively owned and managed by a community of users - without depleting their quantity or quality.

Ostrom, E. (2015). Governing the Commons: The Evolution of Institutions for Collective Action. Cambridge University Press. doi: 10.1017/CBO9781316423936, Hess, C., Ostrom, E. (Eds) Understanding Knowledge as a Commons: From Theory to Practice. The MIT Press.

Aligned with Knowledge Commons



Knowledge commons: Information, data, and content that is collectively owned and managed by a community of users - without depleting their quantity or quality.

Digital commons: Global digital resources produced and maintained collectively and in a decentralized manner.

Promotes licensing, authorship, peer production, governance and participatory ways to fostering equitable access to resources. (Open Science)

de Rosnay, M. D., & Stalder, F. (2020). Digital commons. Internet Policy Review, 9(4). https://policyreview.info/concepts/digital-commons, Frion, L., [POLICY BRIEF] Digital Commons as Alternative Systems of Value. https://www.sciencespo.fr/public/chaire-numerique/en/2023/06/15/

No Commons without Commoning!

A resource



A community

Governance: rules to care for resources & community

Bauwens, M., Kostakis, V., & Pazaitis, A. (2019). Peer to Peer. University of Westminster Press. doi: 10.16997/book33

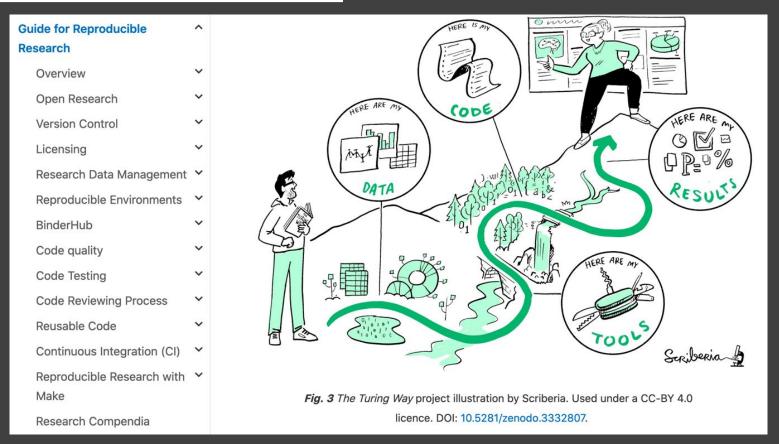


An open and community-driven guide on Data Science.

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



Started as a book on reproducible research



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The Turing Way Guides



Reproducibility



Project Design



Communication



Collaboration



Ethical Research

THAT COULD BE A CHAPTER IN THE TURING WAY

Community Handbook

The Turing Way: Guides on Data Science



Director: Tools, Practices & Systems <u>Prog</u>ramme (TPS)



Anne Lee Steele

Community Manager, The Turing Way



Malvika Sharan

TPS Senior Researcher: Open Research & Community



Alexandra Araujo Alvarez Project Manager 4+ years

>300 Chapters

Numerous training and community resources.



The Turing Way

Q Search this book...

Welcome

Guide for Reproducible Research	~
Guide for Project Design	~
Guide for Communication	~
Guide for Collaboration	~
Guide for Ethical Research	~
Community Handbook	~
Afterword	~

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The Alan Turing Institute

The national institute for data science and artificial intelligence



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Ali Seyhun Saral	Andrea Pierré	Antree Stewart	/æn/ Andrian Nobelia	Angelo Variotta	Asra Haditon	Anna Krystalli	Dan Hobley	Danbee Kins	Daniel Lintoff	Daniel Mistches	Dursiel Nost	Danny Garaide	David Fester	Gantavo Becelli do Nacimento O	Held Selbold	Heu Hoang	Lan Hinder	Isil Bilgin	Invad KG	Changes PT an Fa Torrage L JKaumice	Brek Alan 🗎 🖾	Tess Gough	Thomas Sandhaarn	Tix Head
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Open science enables the development, maintenance and sustainability of digital commons, while sharing benefits with all involved.



Project growth & recognitions

- 450+ contributors, 5000+ monthly users supported by 25+ core members (governance)
- 2 awards and engagement with 45+ orgs
- References in 40+ peer reviewed articles and 100s of publications, reports, policy documents
- Replication/extension by 3 Turing & 7+ external projects







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book	minor update	1 ANY
communications	Fix typos	
conferences	Add KW formatting pedantry	
project_management	Update online-collaboration-cafe.md	NUGO
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
	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:
https://github.com/
alan-turing-institute/
the-turing-way

An open source project

- Everyone can freely read, reuse, distribute, modify and help develop.
- The project belongs to *The Turing Way* community.
- Built on open source infrastructure:

@malvikash

- Git, Jupyter Book, Binder, project bots etc.
- Netlify: the-turing-way.netlify.app/welcome

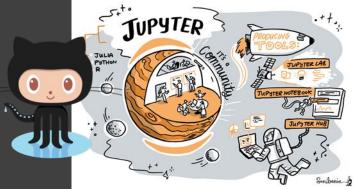
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zenodo The Turing Way Recent uploads Search The Turing Way Q, The Turing Way territor 2, 2028 (x2) Presentation Open Access Challenges in Assessing Contributions to Reproducible Research and Open Science scientific work can be trusted. Funders and publishers are beginning to require that publica Charan Malvika include access to the underlying data and the DORA Panel Addressing Roadblocks in Research Assessment Reform Panel organiser and moderator. Helen Sita analysis code. The goal is to ensure that all result Speakers: Malvika Sharan (presentation in this Zenodo deposit) with Elena Simukovic, David Carr, Ulrich Drinag), Anne non he independently verified and hull upon in Letho, Serhi Nazarovets About the panel. Research evaluati 1 more sersionfal exist for this record techniques, skills that are not widely taught of expected of academic researchers and data scientists. The Turing Way is a handbook to sup students, their supervisors, funders and journal FSCI2020 Lightening Talk: The Turing Way editors in ensuring that reproducible data science i 'too easy not to do'. It will include training materia C Esther Plomo: C Kirstie Whitake on version control, analysis testing, and open and Ightening talk presented by Esther Plomp on the 3rd of August 2020 for the Force11 Scholarly Communication institute ransparent communication with future users, any FSCI2020). Reproducible research is necessary to ensure that scientific work can be trusted. By sharing data, analysis huld on Turing Institute case studies and code and the computational environment used to generate the r workshops. This project is openly developed an recommendations are welcome at our github repository https://github.com/alan-turinginstitute/the turing way The Turing Way workshop onBoost your reproducibility with Binde Curated by: Charan, Malvika The Turino We This workshop was organized with the UKDRI team. Title: The Turing Way workshop on Boost your reproducibility with Curation policy Binder Date: 11 June 2020 13:00 - 17:00 (GMT) instructors: Kinste Whitaker: Sarah Gibson, Malvika Sharan Shared notes Not specified https://hackmd.io/@malvikasharan/BinderJune2020 Agenda Created:

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The Turing Way Guides



Тор Тір

The Turing Way is not meant to be read from start to finish. Start with a concept, tool or method that you need now, in your current work. Browse the different guides that make up the book, or use the search box to search for whatever you would like to learn about first.



Belongs to the community

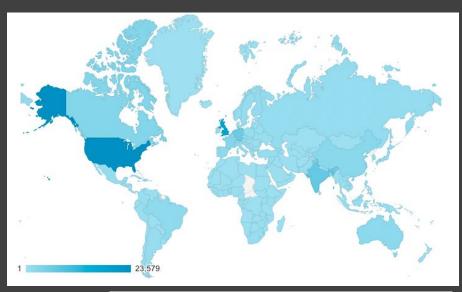
This is **not** a Turing project - although it has great support from the Institute.

This is always a work in progress - evolving with the needs in the community.

We are creating community resources together -- it's about the way, the journey, not a set of rules.

Resources:

Image 1: The Turing Way book visitors as of Dec' 22, Image 2: Localisation and translation of resources in multiple languages





Many pathways for contributions



Develop



Maintain & improve



Share resources



Review and update



Make it global



Share best practices

Localisation & Translation

Batool Almarzouq, Andrea Tapia Sanchez, Melissa Black

Research Infrastructure Roles

Arielle Bennett, Esther Plomp, Emma Karoune (Skills Policy Award)

Training and outreach

Regular volunteer and experts from the community

Accessibility

Liz Hare, Alexandra Araujo Alvarez, Laurel



Different PathWAYs in *The Turing Way*

Infrastructure Maintainers

Sarah Gibson, Jim Madge, Danny Garside, Brigitta Sipőcz

Practitioners Hub

Cross-sector engagement

Environmental Data Science

Alejandro Coca, Anne Fouilloux

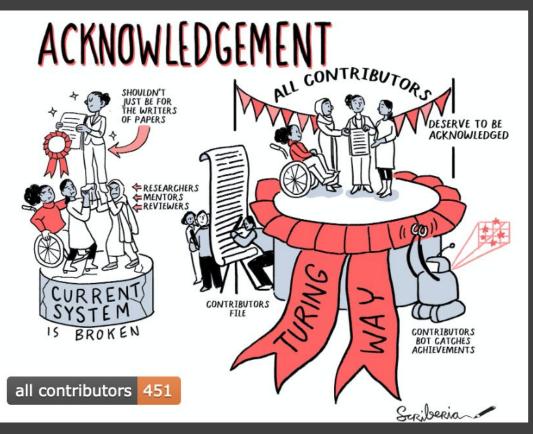
Book Dash and Community Events

Team and term-based roles.

INCREASING IMPACT ON T	HE DECISION			
INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER

Spectrum of Public Participation – Organizing Engagement. https://organizingengagement.org/models/spectrum-of-public-participation

Recognition for all contributors



Afterword

Glossary

Bibliography

Contributors Record

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Recognize All Contributors

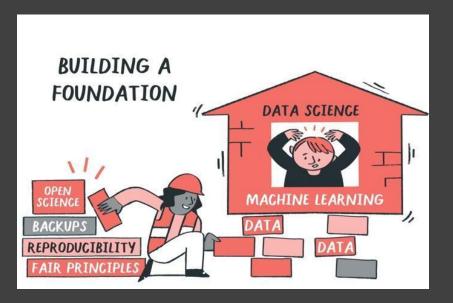
Including those that don't push code

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Foundational skill-set

Purpose of open science is to ensure scientific integrity and quality outcomes, achieved by applying reproducible, ethical, collaborative and inclusive research practices.



The OLS (formerly Open Life Science) is an open science training & capacity building organisation.

7 Cohorts, 237 projects. Fellowship for leadership development.

members involved in research

infrastructure and communities.











As a community, we should constantly reimagine openness

Open Science is not a radical approach, but a tool to learn, unlearn, challenge, dismantle and reimagine infrastructure that enables reproducible, ethical and collaborative research.



Acknowledgements & Links

The Turing Way Community

- Jupyter Book Team, Infrastructure Maintenance Working Group
- Arya A. Johanna Bayer, Ian Stenson, Lydia France, May Yong
- Kirstie Whitaker, Anne Lee Steele, Alexandra Araujo Alvarez + many Turing Way Core Team and Turing's TPS team members

Links and resources

- Book: the-turing-way.netlify.com, Start Page: the-turing-way.start.page
- GitHub: github.com/alan-turing-institute/the-turing-way
- Useful links & opportunities are listed here: <u>https://bit.ly/turingway</u>

Images used in this talk have been co-developed by Scriberia and The Turing Way community, shared under CC-BY 4.0. https://zenodo.org/record/7587336



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