

WiCS – Building Inclusive Computational Skills

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About me: Cecilia Baldoni



- Postdoctoral researcher @ MPI of Animal Behavior
- Cognitive scientist
- Love visual storytelling and making research accessible
- Also teach Quarto, PKM, and Open Science



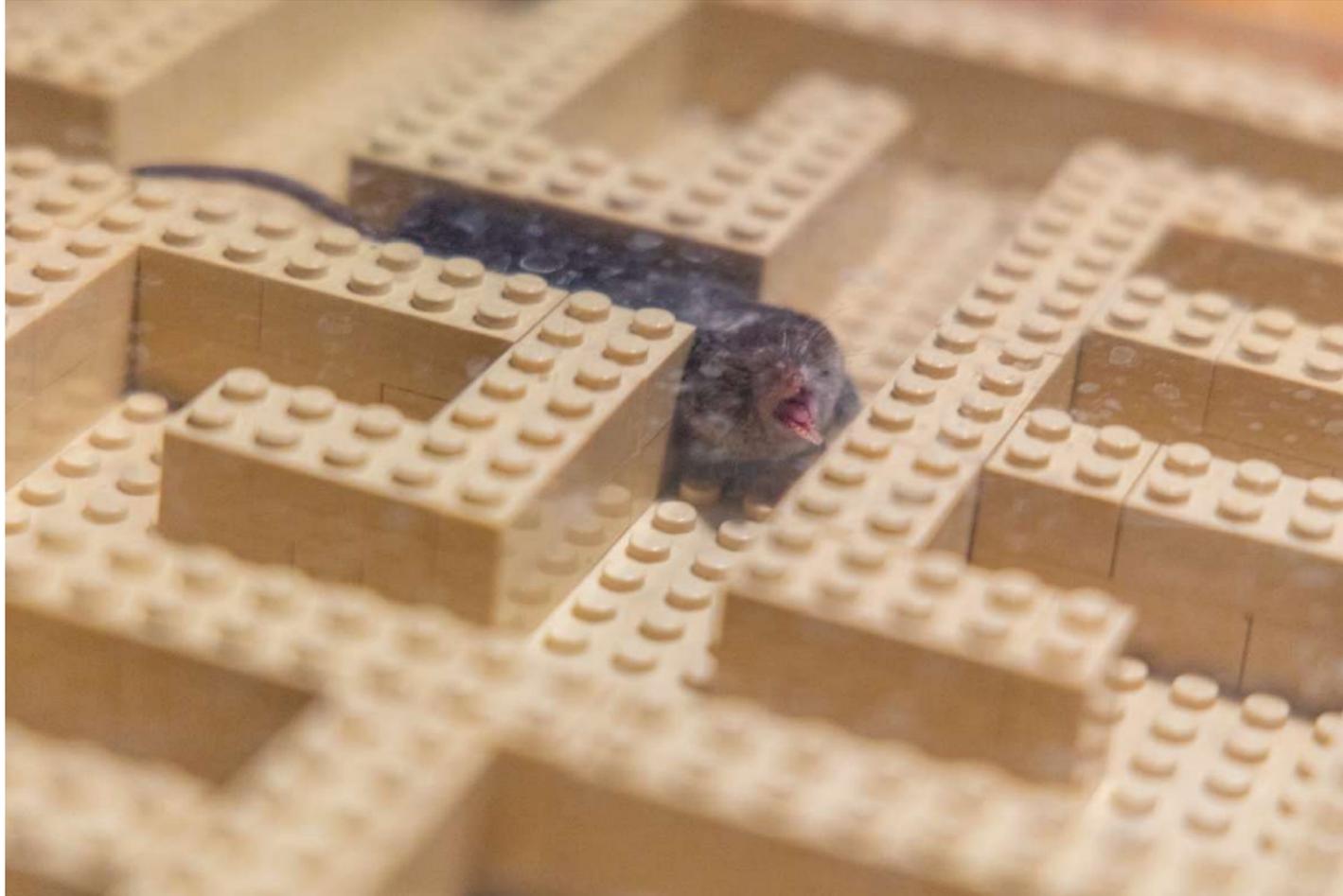
What I work on



Picture by Christian Ziegler

- Meet the **Common shrew** (*Sorex araneus*), one of the few mammals that can shrink their brain in winter to save energy
- I investigate the cognitive compromise of their brain size plasticity
- **What I do:** cognitive tasks, MRI and brain anatomy, statistical modeling

How I use computational skills

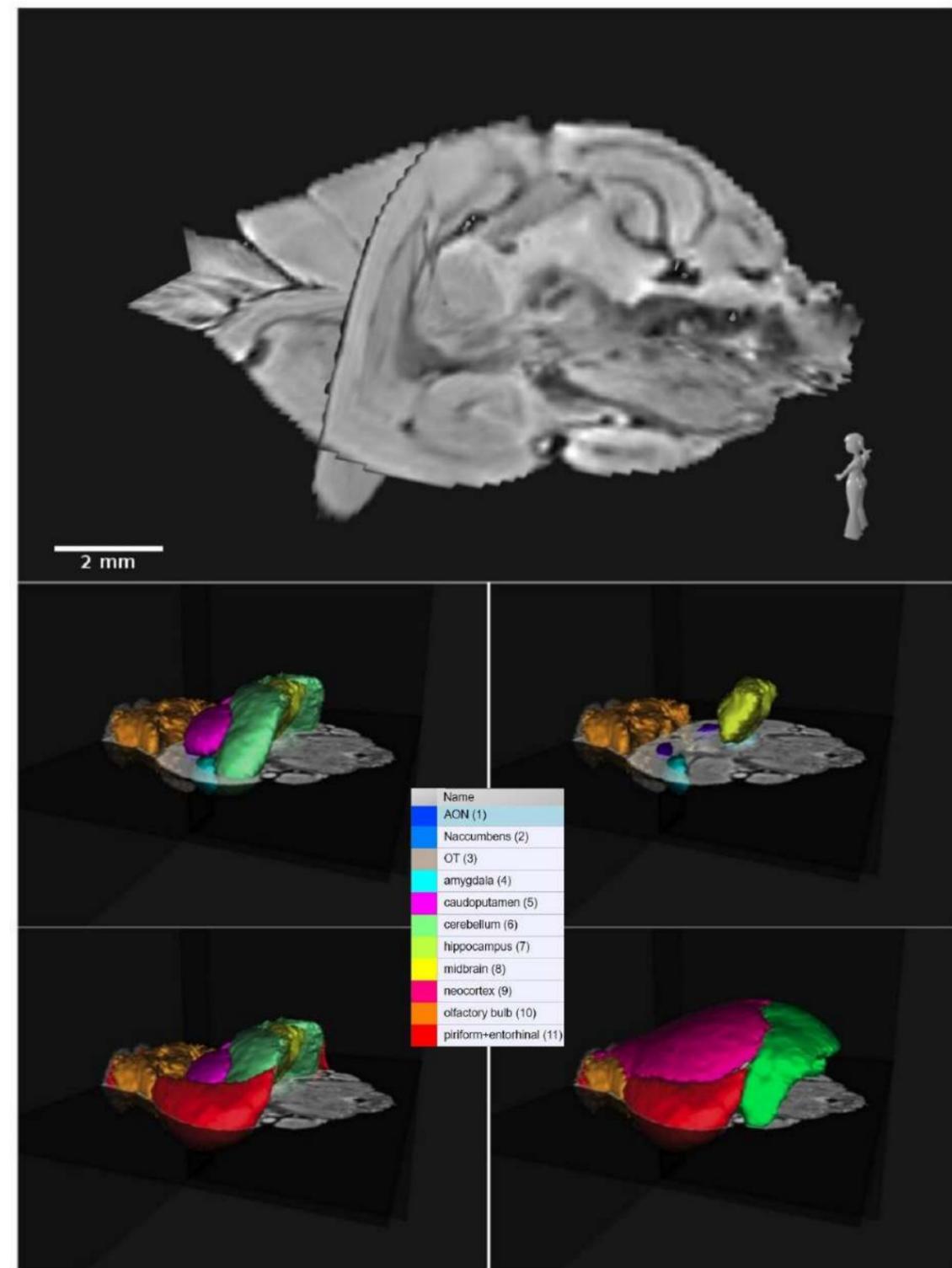


Picture by Christian Ziegler

- Design cognitive tasks
- Simulate data
- Analyze research data (R, Python)
- Build workshops, tutorial, teaching materials
- Create presentations (like this one!) in Quarto

Why learning computational skills?

- MRI scans are just folders of numbers and pixels
- Spreadsheets and calculators can't handle the multi-dimensional complexity of modern cognitive data



Baldoni et al., 2023

When I started



- MRI physics
- Coding in R and Python
- Open Science Practices
- Statistical methods of the likes I'd never seen

No clear path

- Cognitive Science demands computational skills
- Departments don't always teach it



My path

- Open Educational Resources (e.g. tutorials, books, blogposts)
- Youtube
- **Stack Overflow** (at the time, now it would be LLM chatbot!)
- **Github**

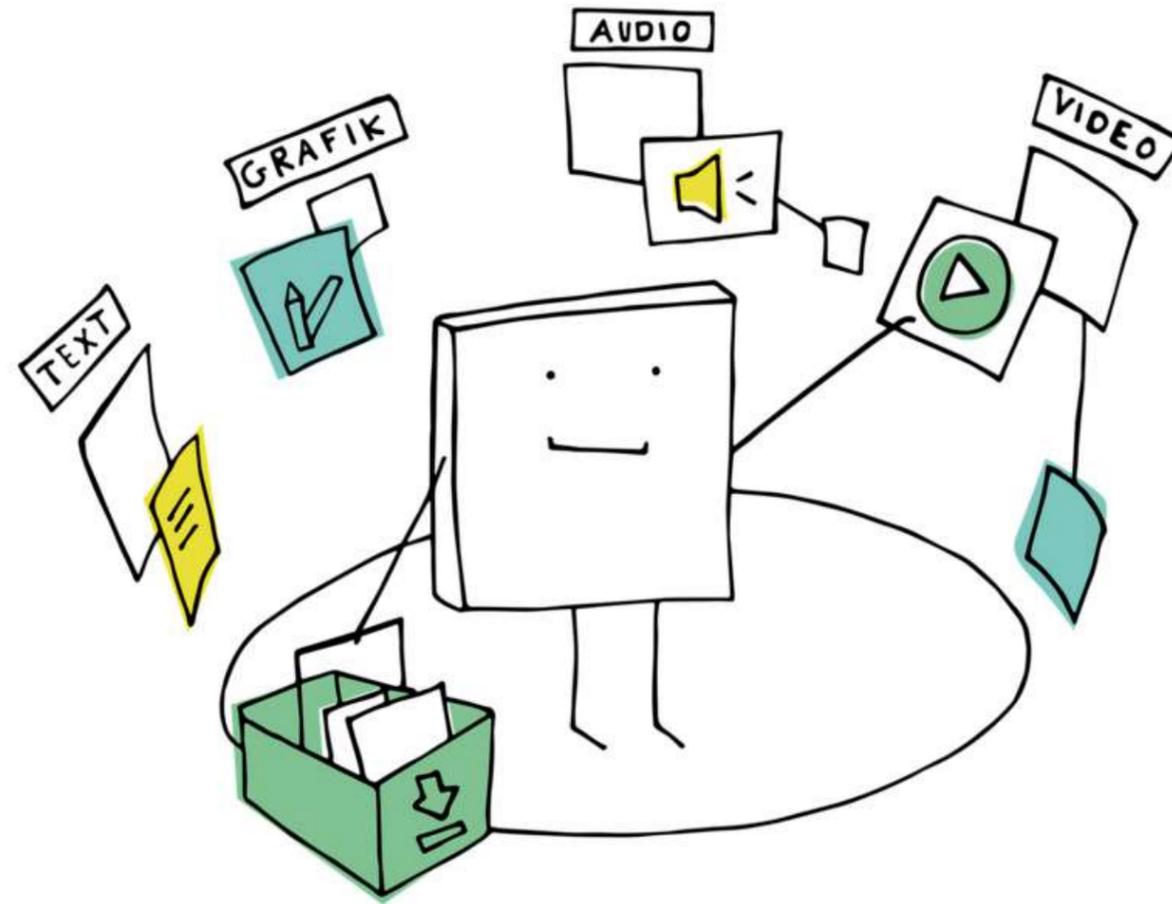


image from KIM - University of Konstanz

When learning is isolation became a problem

“My process is a mess, while everyone else’s isn’t.”

My code



Everyone else's



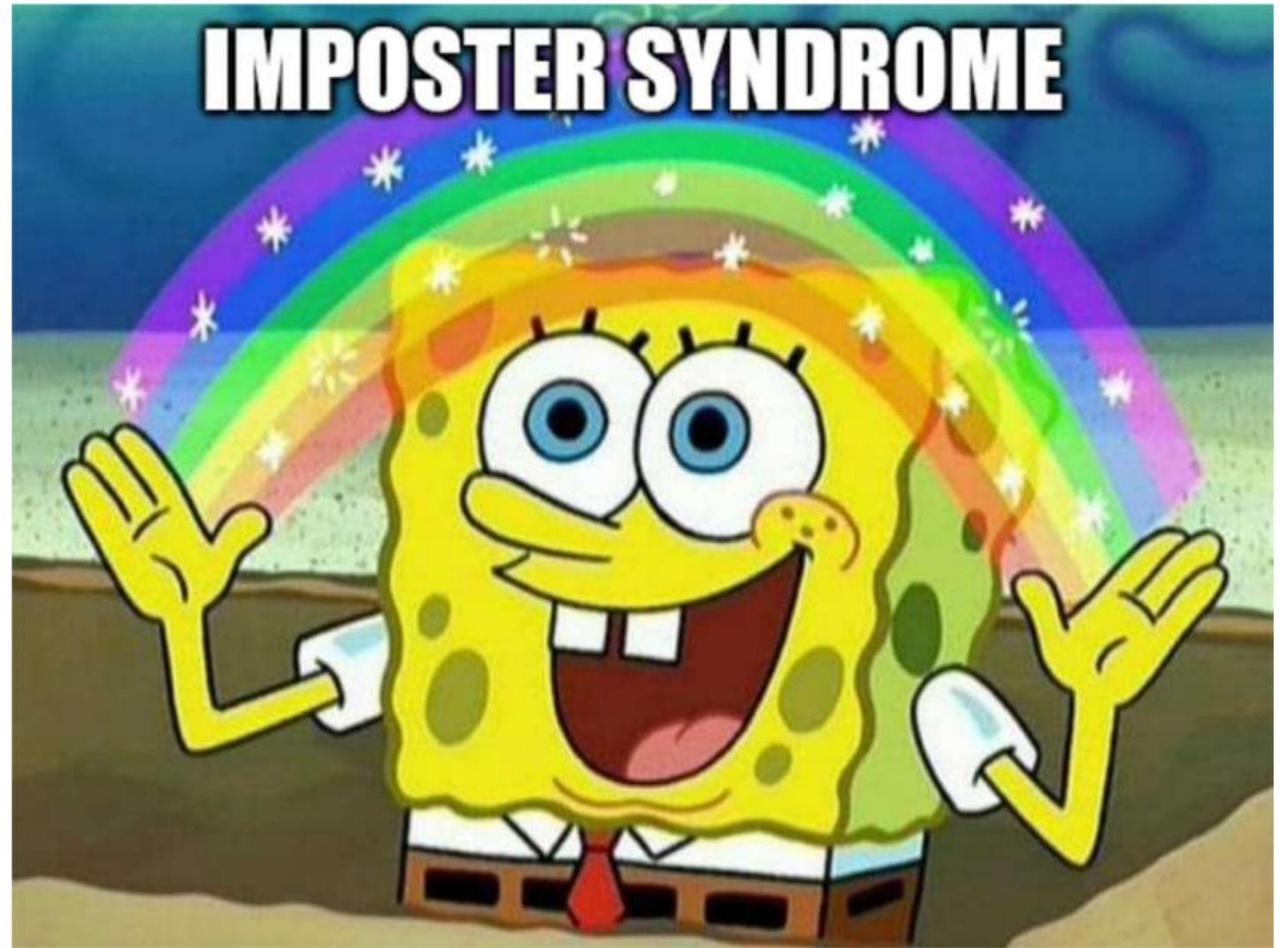
What I thought it meant:



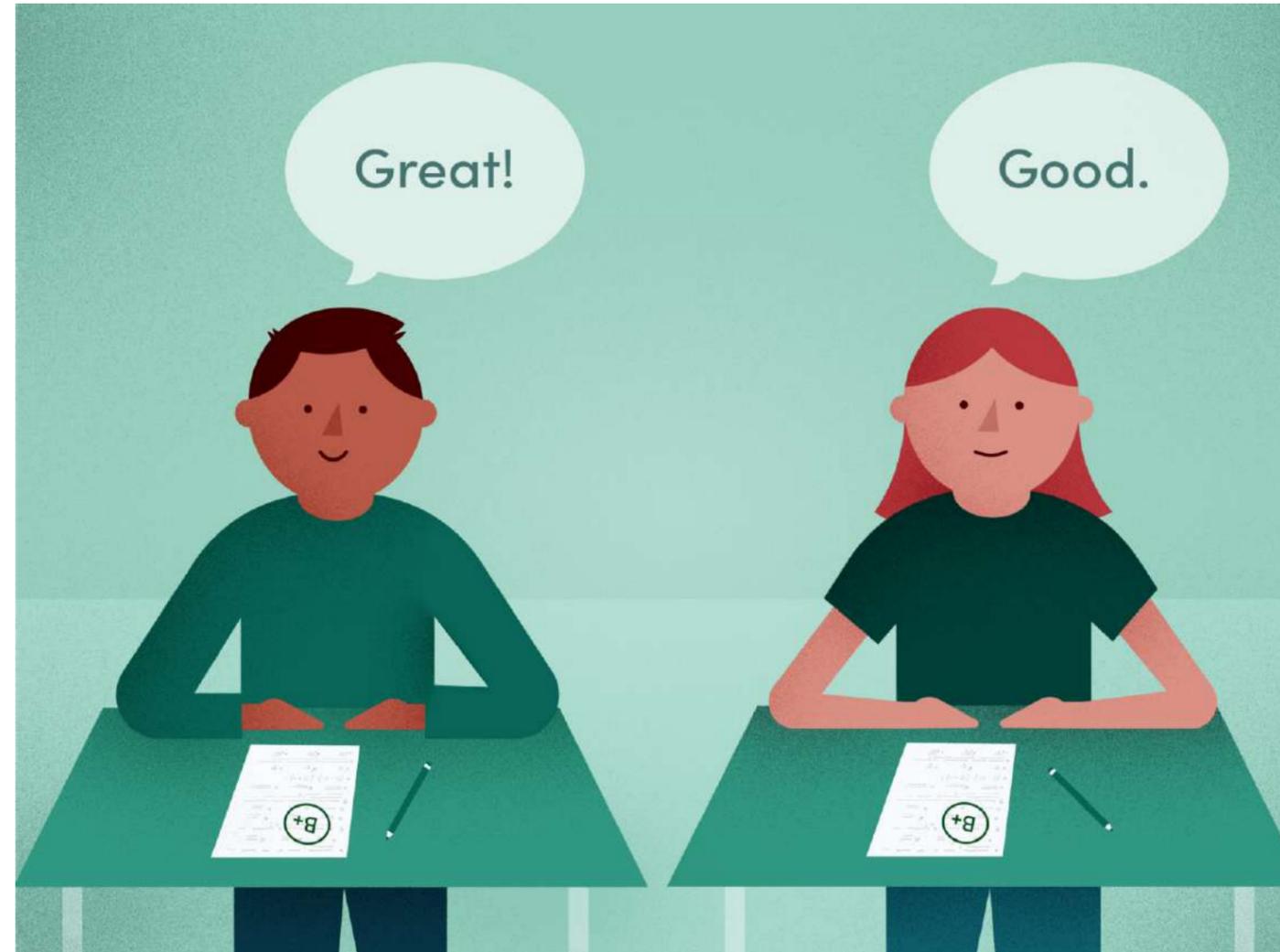
“My struggle is a sign of incompetence”

What it really meant:

- *Brain Assumption:* I need to reach “Expert Status” before I can contribute.
- *Actually...* The skills only click when you use them in the open.
- *But...* **Learning in public** is too scary!



The self-evaluation gap



<https://characterlab.org/tips-of-the-week/how-did-you-do/>

Exley, C.L. & Kessler, J.B. (2022). "Gender gaps in self-promotion"

Price, P.C., et al., (2024). "Gender differences in impostor phenomenon: A meta-analytic review"

What worked for me: participating anyway!

I started participating, despite not feeling ready

- Join online communities
- Contribute in Open Source Projects
- Sharing before it felt “ready”
- Ask questions!



FORRT

What I learned

- Learning in public is scary, but rewarding!
- If you don't ask, people can't help!
- Sharing the “messy” parts of your code makes the field more inclusive for everyone
- Community-led initiatives are built by people invested in helping others!



The Turing Way Community, & Scriberia. (2024). Illustrations from The Turing Way: Shared under CC-BY 4.0 for reuse.

From Participant to Facilitator

After participating, I felt more confident in my own value, and I started *facilitating* so others could learn.

How to Start Your Own Code Club

AUTHOR: Cecilia Baldoni, Saoirse Kelleher, Natalie van Dis, Corné de Groot
PUBLISHED: October 16, 2025

1 Introduction

This guide was born out of the SORTEE 2025 unconference session 'How to Start Your Own Code Club'. During the event, participants came together to share their experiences, questions, challenges, and creative ideas about *building communities of practice around coding*.

Many contributors were people already running a Code Club, others were planning to start one, and some simply joined out of curiosity to learn from others. The discussion materials were collected in a shared online document, later used as the foundation for this collaboratively written guide. What follows is a synthesis of collective contributions: participant statements, experiences, well-tested strategies, and answers to common challenges. The result is a guide created *by the community, for the community*.

This guide aims to document that collective experience and present practical advice for anyone interested in cultivating a learning community around coding.

On this page:
1 Introduction
2 What is a Code Club?
3 Format and Frequency
4 Session Types
5 Common Challenges and Solutions
6 Getting Started: Steps You Can Try Tomorrow
7 Resources and Inspiration
8 Acknowledgements
9 How to Contribute

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DAY 2 (Sat 26 July): Data Wrangling with dplyr & tidyr

Online Expert Lecture | In-person sessions

Topic: Data Wrangling with the {tidyverse}

By **Dr. Cecilia Baldoni** Biostatistician, Germany

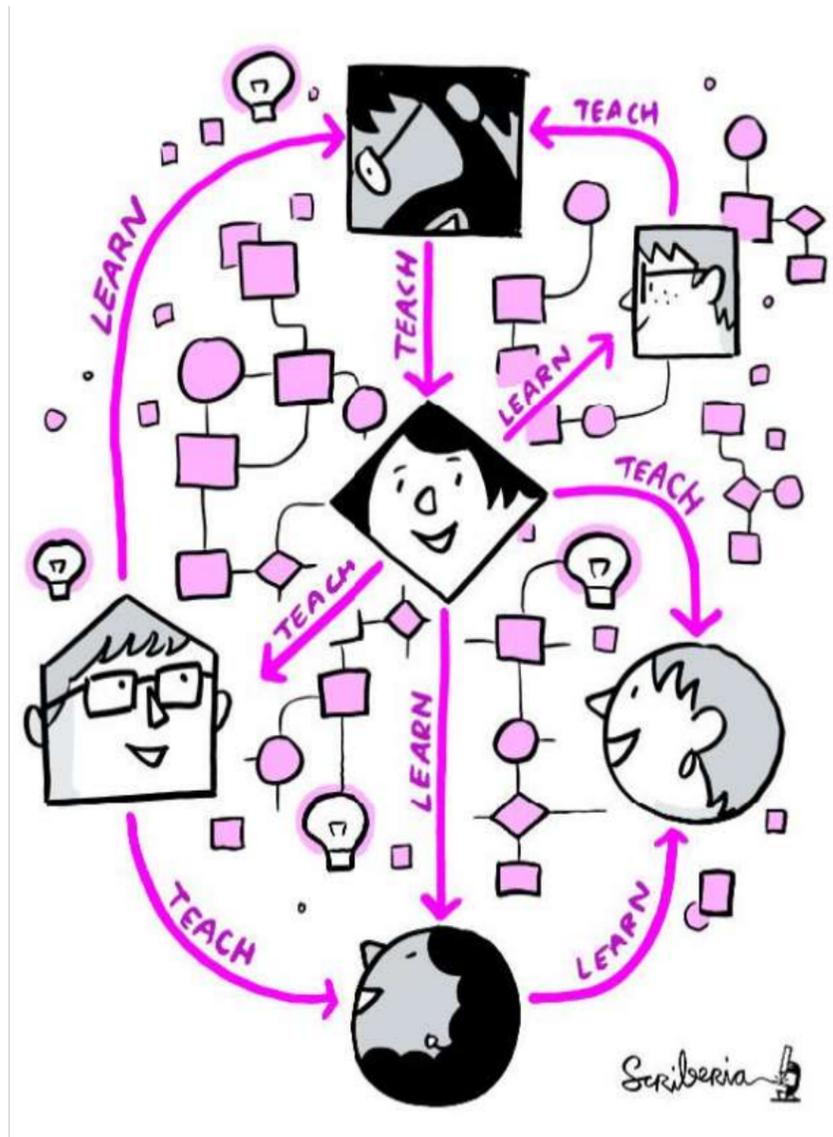
🕒 26 JULY 4 PM IST.

📺 [Watch on YouTube](#)

Cecilia Baldoni

Scrollytelling Science with Quarto and Closeread

Feel the fear, and do it anyway!



- You don't need to be an expert to help others
- Explaining a concept to someone else reveals exactly where your own gaps are
- I don't always have the answers—and that is okay

The Turing Way Community, & Scriberia. (2024). Illustrations from The Turing Way: Shared under CC-BY 4.0 for reuse.

Thank you!



- Stay in touch!
- Join wonderful communities!
- Ask questions!



Resources & Communities

- How to start your own Code Club
- SORTEE and SORTEE Code Club
- The Turing Way Book
- R-Ladies Global
- The Carpentries
- FORRT
- Code like a Girl
- Open Science in Practice - MPG
- Open Science Toolbox - LMU