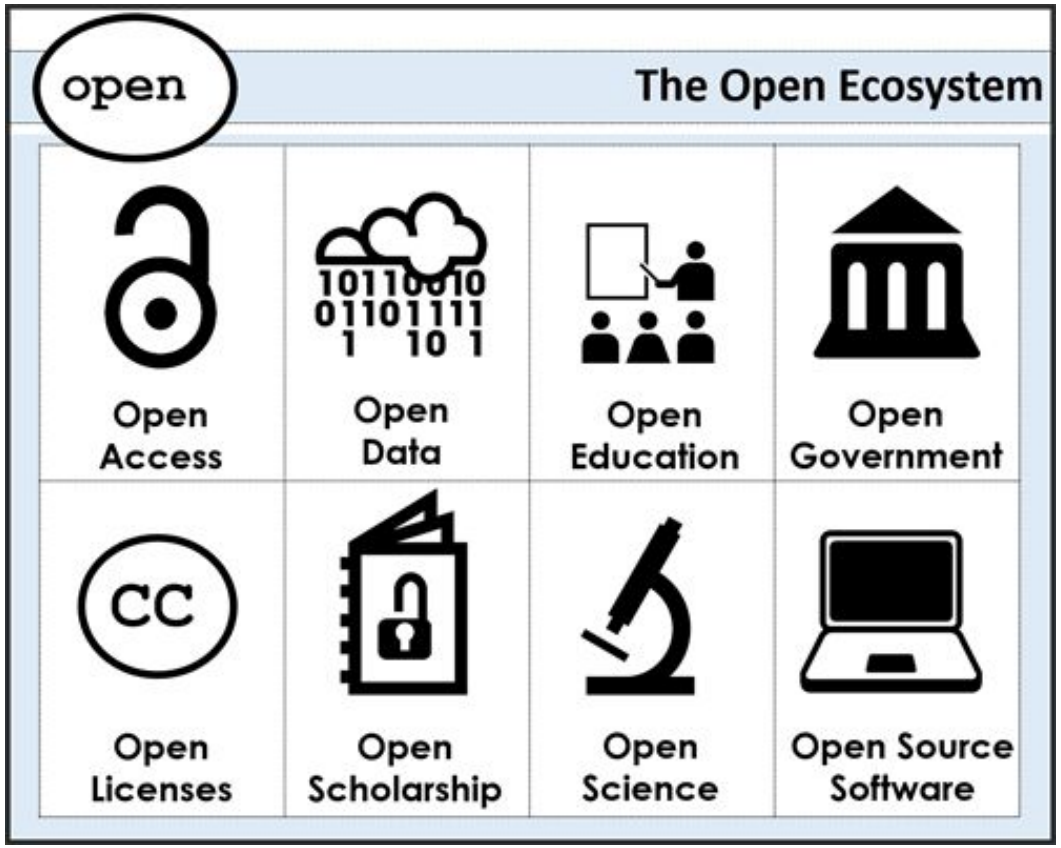

# Opening Minds, Changing Habits

Dr Emma A Harris, Max-Delbrück-Centre, Berlin

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527 and runs from May 2017 to April 2021.

# What is Open Science?

- Making research accessible to all
- Culture of global collaboration not competition




This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527 and runs from May 2017 to April 2021.

# Why do we need Open Science?

- Better research
- Right of Access
- Democratic principle
- Research integrity

# Challenges

- Time

- Money

https://www.pexels.com/photo/money-pink-coins-pig-9660/

- Motivation

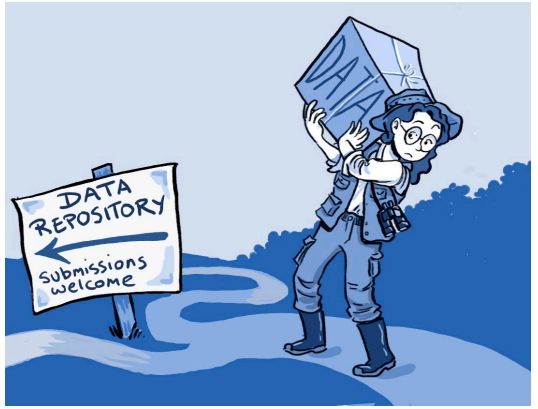

Motivation by Nick Youngson CC BY-SA 3.0 Alpha Stock Images

# Open Access, Open Data, Public Engagement

- Open Access – can I read it for free? Can I share it with others?

- Open Data – can I find it?

Can I use it?




- Public Engagement – do I know about it? Can I be involved in it?

To_deposit_or_not_to_deposit,_that_is_the_question_-_journal.pbio.1001779.g001

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527 and runs from May 2017 to April 2021.

# Open Access: How does open research work within the world of publishing?

- Green – Free, Embargo, Repository
- Gold – Paid, Instant

https://www.flickr.com/photos/jroberts72/

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527 and runs from May 2017 to April 2021.

# Open Data: how does it work?

- FAIR: Findable, Accessible, Interoperable, Reusable
- Repositories
- Data Management Plans
- Storage/Ethics

https://www.flickr.com/photos/130729854@N07/

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527 and runs from May 2017 to April 2021.

# Public Engagement/Science Communication

- Social Media/Online
- Altmetrics
- Engagement: surveys, dialogues, consultations
- Citizen Science
- Communication

Foto: Ralf Rebmann

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527 and runs from May 2017 to April 2021.

# Commercialisation and IP

- Know your rights
- Don‘t compromise your integrity
- Benefit for society
- When in doubt consult!


https://svgsilh.com/fr/4caf50/image/606685.html

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 741527 and runs from May 2017 to April 2021.

# How can open research help a researcher's career?

- Increased citations
- Raised profile
- Increased opportunities for collaboration
- Less wasted time
- Increased employability
- Better chances of funding

# Practical Tips

- Small changes
  - e.g. Pre-prints, wikipedia, metadata, repository, Lange Nacht, Tweet, schools, patient advocate
- Financial Gain
  - funding options, save money on resources, institututional money available

http://sciscripter.baltimorewebsitedesign.net/recent-clients/

# ORION

- Workshops
- Podcasts
- Factsheets
- Checklist
- Webinars
- MOODLE

ORION Open Science Checklist

Planning stage:

**Have you…**

- Consulted non-professional scientists about the aims and impact of the research e.g. patient advocates?
  - You could do this in person or via a survey.
- Written a data management plan which clarifies how you deal with your data?
- Planned a non-academic dissemination strategy?
  - Do you know what your institutions Communications strategy/activities are?
- Considered involving citizen scientists in part of the research?
  - ESCA can advise on this.
- Pre-registered your experiments?

During research:

**Are you…**

- Keeping an Open Lab Notebook?
- Using Citizen Science to enhance and help research?
- Publishing social media updates on the research?
  - Do you have a professional profile for Twitter and other platforms?
- Securely storing and curating your data?
- Using existing Open Science resources to expand, speed up, and strengthen the res… you are conducting?

Publishing and Dissemination:

**Will you…**

- Publish your results as pre-prints?
  - Are there aspects of the projects that you could publish as single experiments…
  - Would a 'data only' paper fit your research well?
- Put your data sets in a suitable repository?
  - Does your data meet the FAIR principles?
- Publish in Open Access journals?
- Include a layman summary either with your academic paper or elsewhere?
- Contribute to open peer review for other researchers?
- Make your code open source?
- Do public engagement activities, such as local talks, schools, podcasts, blogs?
- Talk openly about conducting animal research?


CONTENTS

# ORION Open Science Checklist

## Planning stage:

**Have you…**

- Consulted non-professional scientists about the aims and impact of the research e.g. patient advocates?
  - You could do this in person or via a survey.
- Written a data management plan which clarifies how you deal with your data?
- Planned a non-academic dissemination strategy?
  - Do you know what your institutions Communications strategy/activities are?
- Considered involving citizen scientists in part of the research?
  - ECSA (European Citizen Science Association) and Zooniverse can advise on this.
- Pre-registered your experiments?

## During research:

**Are you…**

- Keeping an Open Lab Notebook?
- Using Citizen Science to enhance and help research?
- Publishing social media updates on the research?
  - Do you have a professional profile for Twitter and other platforms?
- Securely storing and curating your data?
- Using existing Open Science resources to expand, speed up, and strengthen the research you are conducting?

## Publishing and Dissemination:

**Will you…**

- Publish your results as pre-prints?
  - Are there aspects of the projects that you could publish as single experiments?
  - Would a 'data only' paper fit your research well?
- Put your data sets in a suitable repository?
  - Does your data meet the FAIR principles?
- Publish in Open Access journals?
- Include a layman summary either with your academic paper or elsewhere?
- Contribute to open peer review for other researchers?
- Make your code open source?
- Do public engagement activities, such as local talks, schools, podcasts, blogs?
- Talk openly about conducting animal research?


## Thank you for your attention!

Get in touch with us via:

@ORIONOpenScience
ORION_opensci Emma_A_Harris
www.orion-openscience.eu
Orion@mdc-berlin.de