



Universität Stuttgart

Dr.-Sc.  
Andrew  
Clifton



**LIKE**  
**Open Science Course**  
**Seminar 1:**  
**Introducing**  
**Open Science**

29 September 2020

# Today's discussion

Cover page photo by [Alex Holyoake](#) on [Unsplash](#)

# Introduction

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# Our goals for today

- Tell you about the course
- Introduce open science
- Share experiences of COVID-19



Image courtesy [National Gallery of Art, Washington](#).

# Who's here?

Andy Clifton



IEA Wind Task 32  
Operating Agent



Nikola Vasiljevic



Special Consultant for  
Digitalization



And you



Please introduce yourselves!

# The LIKE Open Science Course

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# What is this “Open Science” thing anyway?

*Open science is the movement to make scientific research and its dissemination accessible to all levels of an inquiring society, amateur or professional.*

*Open science is transparent and accessible knowledge that is shared and developed through collaborative networks.*

—Wikipedia

# What is this “Open Science” thing anyway?

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## It is...

- A philosophy
- A set of tools
- An old idea

## It is not...

- Difficult
- Expensive
- Rewarded directly



# Course goals

We want you to be successful.

This course will:

- Tell you about open science
- Give you a toolbox
- Help you use these tools



Photo by [Milan Popovic](#) on [Unsplash](#)

# Course outline

Seminar	Self-study	Assignment
1. <u>Introducing open science</u>	1. <u>Background reading</u>	
2. <u>Guiding principles</u>	2. <u>Is your group's work FAIR?</u>	
3. <u>Open science and intellectual property</u>	3. <u>Implementing open science</u>	
4. <u>Communicating your science</u>	4. <u>Communications strategies</u>	1. <u>Implementation case study</u>
5. <u>What are data management plans and why do they matter?</u>	5. <u>Draft a data management plan</u>	
Workshop: <u>Open science in LIKE</u>	6. <u>Revise data management plan</u>	2. <u>Data management plan</u>

# Course logistics

## Grading

- No exams, but..
- Complete assignments to get a participation certificate.

## Questions?

- No office hours!
- Use slack and ask each other

## Errors, suggestions, corrections...

- [Help improve the material](#)

## Your feedback

This is a new course!

- Get in touch at any time
- Survey at the end

**Let's talk about  
COVID-19**

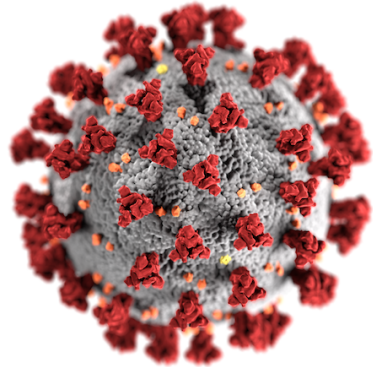
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# Why would we want to talk about COVID-19?

COVID-19 is...

- something we've all experienced,
- international, and
- recent,

... and a great example of how we experience and share science!



The SARS-CoV-2 Virus

Source: [Public Health Image Library #23312](#).

Credit: Alissa Eckert, MSMI, Dan Higgins, MAMS.

# How did we learn about COVID-19?

## Mainstream media

- Traditional news
- Social media

## Scientific media

- Researchers' websites
- Paper repositories

## Personal experience

- Directly affected
- Rumours and gossip

What do you think?

- What makes information useful?
- What makes you take action?
- What can we learn from this?

# How did we respond to COVID-19?



The ARENA2036 team and many others made face shields to protect against coronavirus. Source: [U. Stuttgart](#)

# How was scientific information shared?



I'M A HUGE FAN OF WEIRD GRAPHS, BUT EVEN I ADMIT SOME OF THESE CORONAVIRUS CHARTS ARE LESS THAN HELPFUL.

Source: [xkcd](#)



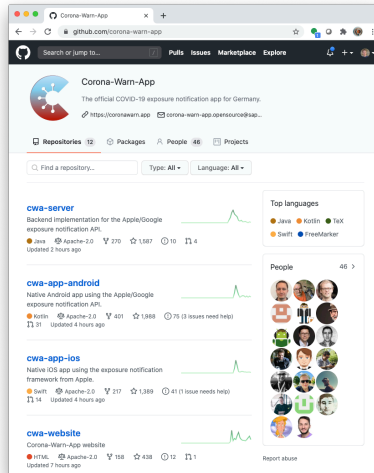
# Lessons learned from COVID-19

Openness has advantages:

- Monitoring spread of the SARS-CoV-2 virus
- Sharing treatment plans across continents
- Developing technical solutions

But it brings new challenges for STEM experts:

- Communicating (uncertain) results
- Making scientific information useful



The German COVID-19 exposure notification app source code is shared through GitHub

**Closing thoughts**

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# Seminar summary

You've learned:

- About the course
- A first definition for “open science”
- How openness helps fight COVID-19
- Some challenges with being open



Photo by [Mathew Schwartz](#) on [Unsplash](#)

# What to do now

## Self-study 1: Background reading

Read about how open science has been used to fight COVID-19, for example...

- Open science takes on the coronavirus pandemic (Nature, 2020)
- “Data Sharing in a Time of Pandemic” (Patterns, 2020)
- “Open Science against COVID-19: how Zenodo and OpenAIRE support the scientists” (CERN, 2020)

## Seminar 2: Guiding principles

What are the basic principles of open science? How can you implement them, and what do they mean for your organisation?

- Seminar materials on GitHub