

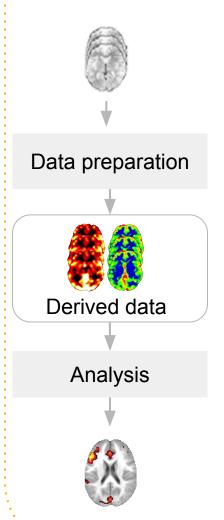
## Effort involved in truly FAIR neuroimaging

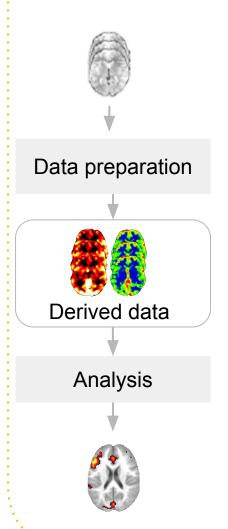
# Towards community-driven research



# Camille Maumet Univ Rennes, Inria, CNRS, Inserm







### Reproducibility crisis

## A Waste of 1,000 Research Papers

Decades of early research on the genetics of depression were built on nonexistent foundations. How did that happen?

ED YONG MAY 17, 2019



SEAN NEL / SHUTTERSTOCK

In 1996, a group of European researchers found that a certain gene, called *SLC6A4*, might influence a person's risk of depression.

It was a blockbuster discovery at the time. The team found that a less active version of the gene was more common among 454 people who had mood disorders than in 570 who did not. In theory, anyone who had this particular gene variant could be at higher risk for depression, and that finding, they said, might help in diagnosing such disorders, assessing suicidal behavior, or even

By Ed Yong, The Atlantic Science, May 2019, <u>link</u>.



## Data preparation



## **Analysis**



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#### SCIENCE

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### **Algorithmic injustice**

The New York Times

## Many Facial-Recognition Systems Are Biased, Says U.S. Study

Algorithms falsely identified African-American and Asian faces 10 to 100 times more than Caucasian faces, researchers for the National Institute of Standards and Technology found.

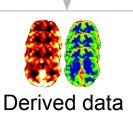


Morning at Grand Central Terminal. Technology for facial recognition is frequently biased, a new study confirmed. Timothy A. Clary/Agence France-Presse — Getty Images

By Natasha Singer and Cade Metz, The New York Times, Dec. 2019, <u>link</u>.



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As a **community**, we need to create and work on **bigger** & more **representative and diverse** datasets

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# FAIR neuroimaging?

Findable Accessible Interoperable Reusable



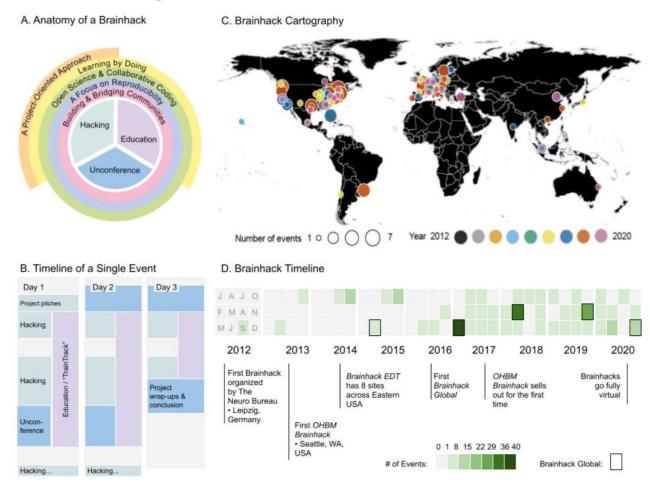
**Technical challenges**: Standards, Databases, Good practices (version control, etc.)

## A culture change: towards community-driven research

- Making resources available to the scientific community
- Reusing existing resources (datasets, tools) that were created by others
- Developing tools collaboratively with a community of contributors

# Community-driven research

# **Brainhack:** project-based community science



Gau\*, R., Noble\*, S., Heuer\*, K., Bottenhorn\*, K., Bilgin\*, I. P., Yang\*, Y. F., ... & Brainhack Community (2021). Brainhack: developing a culture of open, inclusive, community-driven neuroscience. <a href="https://psyarxiv.com/rytig/">https://psyarxiv.com/rytig/</a>

# **Open Brain Consent**

https://open-brain-consent.readthedocs.io/

Informing participants and collecting their consent for data sharing

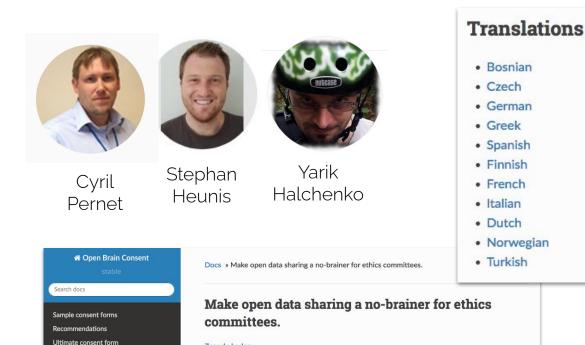
Compliance with European General Data Protection Regulation (GDPR)

 Bosnian Czech German Greek Spanish Finnish

French

 Italian Dutch Norwegian

Turkish



Zenodo badge



# Designing online conferences for inclusivity





#### **Unlocking access**

Schedule purposefully

3 time zone hubs and flexible personal schedule



**Build an accessible space** 

Geographical restrictions and accessibility



Use appropriate fee system

Support hidden costs



Adapt content locally

Translations, language groups



#### **Enabling participation**



Create welcoming space

Conference navigation, communication and support



Enforce a safer space for all

Best practices and privacy, avoiding malicious participation



Opportunities to be visible

Posters, audience engagement and participant interactions



#### **Embracing open leadership**



Seek community input and onboard volunteers



Engage with traditionally underrepresented groups



Build the next leadership pathways





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Camille Maumet

# Thank you!

