



OPEN KNOWLEDGE FOUNDATION AUSTRIA

*Arbeitsgruppe Open Science*

# Open Science

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Quelle: Global 2000

# Gen-Sequenzdaten

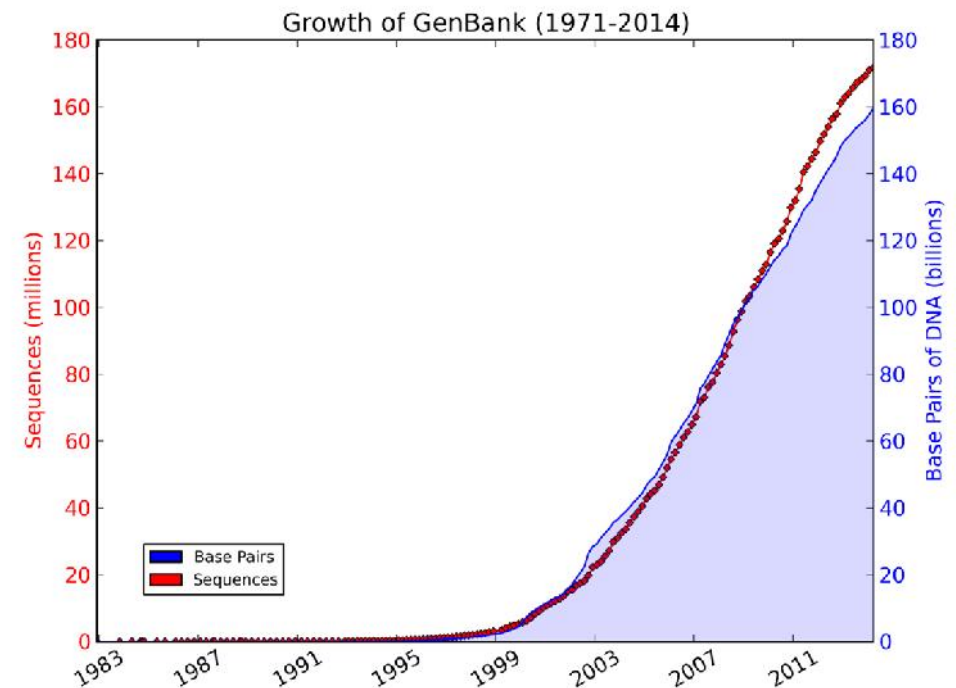
## Bermuda Rules

“Primary Genomic Sequence Should be in the Public Domain”

“Primary Genomic Sequence Should be Rapidly Released”

## Internationale Kollaboration

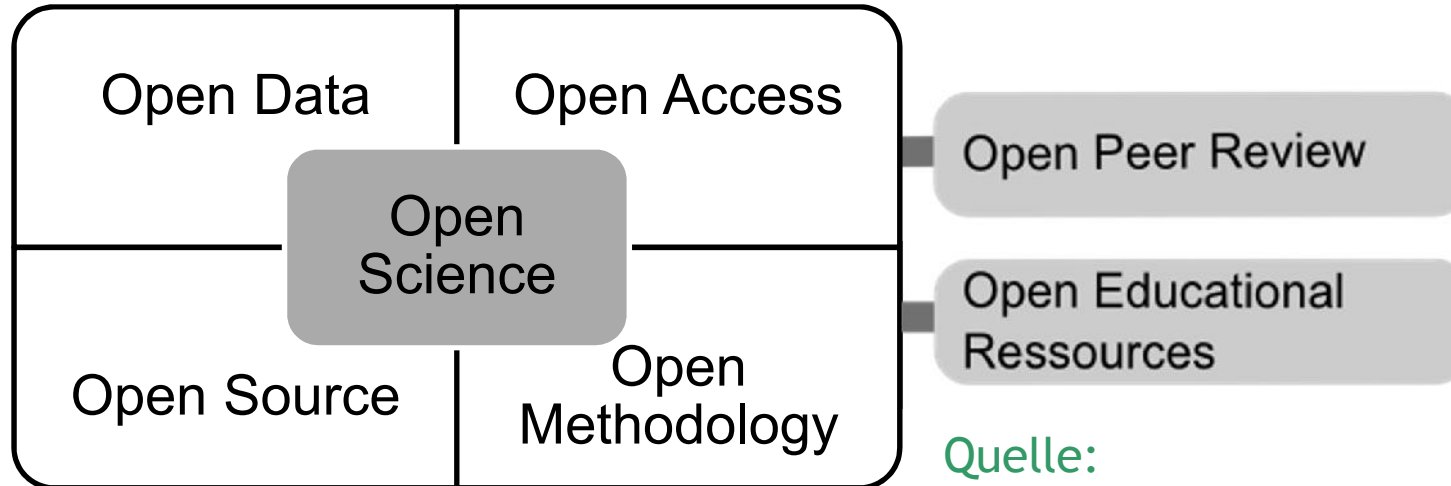
- EMBL-Bank (Europe)
- GenBank (USA)
- DNA Data Bank of Japan



# Open Science: mehr als Open Data

“Open Science means **opening up the research process** by **making all of its outcomes**, and the way in which these outcomes were achieved, **publicly available on the World Wide Web**”

(Kraker et al. 2011)



Quelle:  
<http://openscienceasap.org>

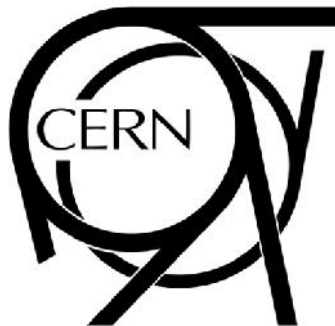


# Open Science Landschaft (Auszug)

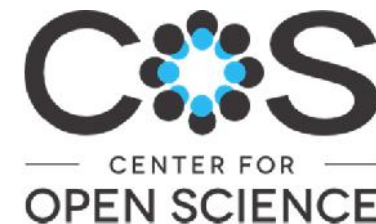


**FWF**

Der Wissenschaftsfonds.



openscience**ASAP**



# Herausforderungen

- Disziplinen-Abhängigkeit
- Urheberrecht
- Privacy
- Mehraufwand für WissenschaftlerInnen und Organisationen
- Awareness und Discovery



# Open Science: Enormes Potential

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## Bioanalyzer

The **Bioanalyzer** is a chip-based capillary electrophoresis machine to analyse RNA, DNA, and protein. It is produced by Agilent and widely used, among other things, in RNA quality control measurements before downstream experiments like microarrays.

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- 2 Protocol for Bioanalyzer RNA pico chip
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<http://openwetware.org/wiki/Bioanalyzer>

### Protocol for Bioanalyzer RNA nano chip

#### Preparation of material

- Prepare a maximum of 12 samples per chip.
- Maximum concentration recommended is 500ng/μl, 1000ng/μl is okay.
- Denature RNA 70°C 2min, cool on ice.

#### Cleaning, gel preparation (start 40min before experiment)

- take out filtered gel aliquot and fluorescent dye from fridge next door 30min ahead of time (1 gel aliquot tube enough for 2 chips)
- take out ladder from -80 freezer nextdoor (r145), column 5, nano white box / pico yellow

Figure 1. DNA 6000 Mass Ladder

# Wissenschaft öffnen!

<http://galaxyzoo.org>

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# OANA: Fokus ausweiten?

- Open Access: Grundsteine gelegt
- Open Data: starker Trend (z.B. EU, FWF)
  - In Zukunft Standard
  - Jetzt: Gestaltungsmöglichkeiten
  - E-Infrastructures Austria
  - Potential für Informations- und Mentorenangebot
- Z.B. Open Peer Review, Open Methodology
- Zentrale Bestandteile von Open Science





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# Vielen Dank für die Aufmerksamkeit!

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