

# How NWO Supports and Stimulates Open, FAIR Data

Maria Cruz | 15 November 2021 | Launch Groningen DCC



# About me

- Joined the Executive Board Office of NWO as Policy Advisor Open Science in October 2019.
- Coordinator and contact person for the NWO research data management policy
- Persistent Identifier Strategy for NWO
- Open Science Fund development and implementation



# Plan for today

- Open Science at NWO
- Results from a recent survey
- RDM and FAIR Data
  - Support for Local DCCs
- Research software
- Beyond mandates
  - rewards and incentives for Open Science
- Conclusion
  - How does NWO support and stimulate open, FAIR data?



# Open Science at NWO



# Open Science in NWO's strategy

“ Open Science is defined as the scientific practice where research data, methodologies and other information (publications, data, workflows, software, code, et cetera) are **made available for use and reuse across disciplinary, social and national boundaries at the earliest possible stage.**

**Open Science implies a change in the way research is conducted and evaluated:** a shift from an emphasis on publications of mainly positive results in scientific journals to the sharing of all available knowledge in various stages of the research process.

”



# NWO is committed to Open Science

Because it leads to:

- reliable and transparent research
- knowledge sharing and innovation
- follow-on research and opportunities for collaboration

<https://www.nwo.nl/en/open-science>





# The NWO Open Science policies...

...are aimed at ensuring that publicly funded research outputs are as open as possible, and only closed where necessary, for the benefit of science and society.



Image: Krista van der Niet (for [NWO Onderzoek magazine](#))

# NWO grant requirements

## Open Access publishing

- All publications emerging from NWO funded research must be made available in Open Access immediately upon publication.

## Research Data Management

- Researchers are expected to carefully manage all research data generated as part of NWO funded projects.
- As open and FAIR as possible, closed if necessary.
- As a minimum, research data underlying research publications should be published alongside those publications, unless there are valid reasons not to do so.





# NWO Open Science Programme

- Open Access to Publications
- Research Data Management (Open / FAIR data)
- Citizen Science
- Rewards and Incentives (DORA)
- Open Science Infrastructure Support



# The only way forward

Results from a recent survey commissioned by NWO



# What do researchers think about open science?



87% of respondents have a positive or very positive attitude towards Open Science.

95% of respondents find publishing open access an important or very important aspect of Open Science.

83% of respondents always or regularly publish open access.

93% of respondents find open data sharing an important or very important aspect of Open Science.

56% of respondents always or regularly share open data.

<https://www.nwo.nl/en/only-way-forward>

# The barriers to practicing open science

## Belemmeringen voor open science

Ervaren belemmeringen	(Ze)er meer oneens	Neutraal	(Ze)er meer eens	Geen indruk
Gebrek aan infrastructuur	25	24	44	7
Gebrek aan instructies en richtlijnen	26	23	47	4
Financiële belemmeringen	11	12	71	5
Gebrek aan tijd	29	21	45	5

# The role of NWO in promoting open Science

## De rol van NWO bij het bevorderen van open science

Mogelijke rol van NWO	Niet tot weinig belangrijk	(Zeer) belangrijk	Weet ik niet
Meer financiering voor onderzoekers	9	88	3
Meer financiering voor infrastructuur	23	72	5
Beloningen en incentives betrekken in beoordeling	37	56	8
(Inter)nationale samenwerkingen	20	73	7
Uitbreiden van de voorwaarden voor open toegang	31	53	16
Aanbieden van ondersteuning en opleidingen	36	59	6



# RDM and FAIR Data



# Research Data Management since 2016

- 5 years since we introduced our RDM policy in October 2016
  - As open and FAIR as possible, as closed as necessary
  - Data management section in grant applications
    - 4 questions about RDM in application forms
    - Not part of the evaluation
  - Data management plan for funded projects
    - To be submitted to NWO no later than 4 months after the project has been awarded.
    - The project will start as soon as NWO has approved the DMP.
    - DMPs reviewed by grant officers, programme managers in the respective disciplinary domain.



# Fair Data: It Takes a Village

- Researchers and research communities
  - including Open Science communities
- Institutional research support
  - RDM specialists, data stewards, lab managers, etc.
- Infrastructure and service providers
  - data repositories, PID providers, etc.
- Funders
- Publishers

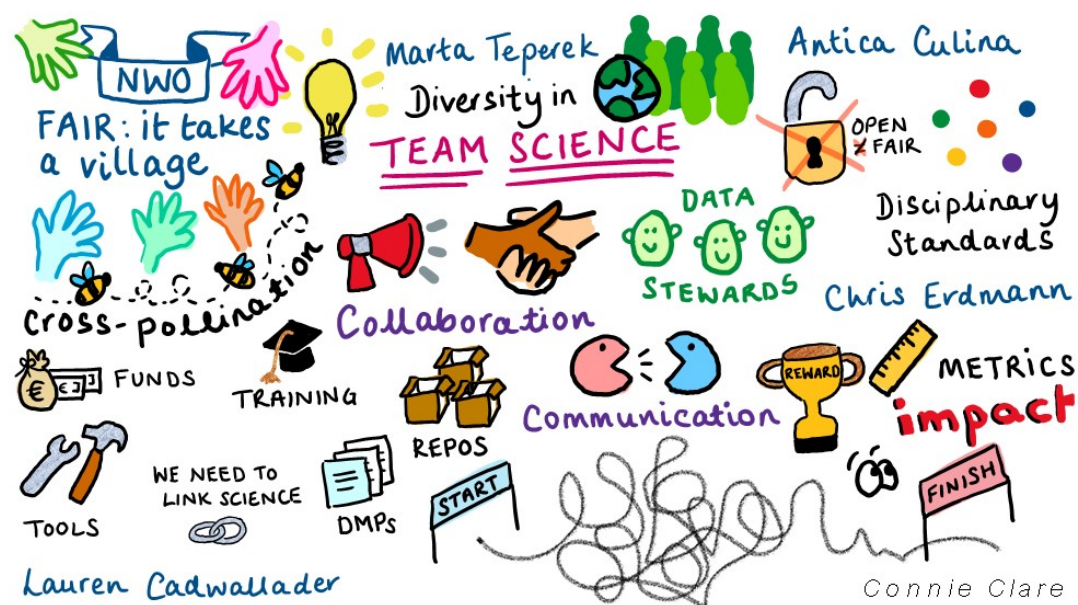


Illustration by Connie Clare (TU Delft), <https://twitter.com/ConnieEClare/status/1458838270159245317>

# Research Data Management from 2020

- NWO championed and contributed to the Science Europe Practical Guide to the International Alignment of Research Data Management
  - DMP template according to guidelines implemented in 2020.
- Allow the use of approved institutional DMP templates.
  - Evaluated according to Science Europe Core Requirements.
- Require researchers to complete the DMP in consultation with data stewards / research support staff in their home institutions.

<https://www.nwo.nl/en/research-data-management>



# Local Digital Competence Centres

- One-off 4,5 million euro to support universities to further invest in data stewardship support.
- By establishing or expanding local support offices (DCC's).
- Where researchers can go for support with research data management and also research software.
- Supported by SURF (national ICT organisation for research and education) in national network.
- A follow-up call will support federation of local DCCs and domain-specific (national) DCC's.





# Research Software (as a research output)



# NWO and Research Software

## Creating Awareness:

NWO was an early endorser of the Five Recommendations for FAIR Software <https://fair-software.nl/>. Link to the recommendations is included in the DMP guidance. Will become early adopter of the RDA/ReSA FAIR Principles for research software.

## Research Software in RDM Policy

NWO recognizes that software (algorithms, scripts and code developed by researchers in the course of their work) may be necessary to access and interpret data. In such cases, **the data management plan** will be **expected to address research software sustainability**.



# Beyond mandates



# Incentives and rewards for Open Science

“Over the past decade, funder mandates have had an important role in stimulating open science practices. For open science (and FAIR data) to become a norm, rather than simply a hurdle to overcome, **we need to give credit and recognition to the researchers who put open science into practice.** The incentives for collective success (what benefits science and society) and incentives for individual success (what determines academic career progression) need to be aligned.”

Maria Cruz, Hans de Jonge, Beyond mandates: For open science to become a norm, it must be recognised and rewarded, [LSE Blog](#)

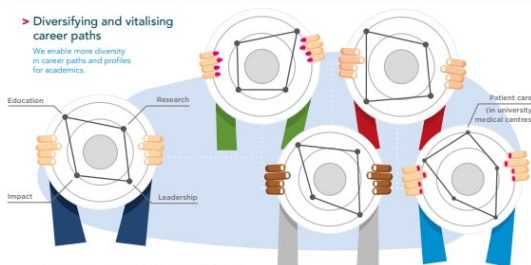
# “Knowledge sector takes major step forward in new approach to recognising and rewarding academics” (VSNU, NFU, KNAW, NWO and ZonMw) November 2019

## Room for everyone's talent

towards a new balance in the recognition and rewards of academics

### > Diversifying and vitalising career paths

We enable more diversity in career paths and profiles for academics.



### > Achieving balance between individuals and the collective

We assess academics based on both their individual and their team performance.



### > Focusing on quality

In our assessments of academic performance, we increasingly focus on quality, content and creativity.

### > Stimulating open science

We encourage academics to share their research outcomes with society.



### > Stimulating academic leadership

We stimulate good academic leadership at all levels.

This calls for a system of recognition and rewards of academics and research that:

1. Enables the diversification and vitalisation of career paths, thereby promoting excellence in each of the key areas;
2. Acknowledges the independence and individual qualities and ambitions of academics as well as recognising team performances;
3. Emphasises quality of work over quantitative results (such as number of publications);
4. Encourages all aspects of open science; and
5. Encourages high-quality academic leadership.

### > Stimulating open science

We encourage academics to share their research outcomes with society.



<https://www.nwo.nl/en/news-and-events/news/2019/11/knowledge-sector-takes-major-step-forward-in-new-approach-to-recognising-and-rewarding-academics.html>



# Narrative CV format

- **Academic profile:** Who are you as a researcher?  
Possibility to highlight contributions to open science.
- **Key output:**
  - motivated list of max. 10 items
  - broad definition of output: also preprints, data, software, code, and other outputs can be listed
  - indication of open access status
  - metrics such as h-index or Journal Impact Factor not allowed (DORA)

***“Although it is not a formal criterion, making contributions to open science clearly visible in the CV causes jurors to explicitly take openness into account in their assessment”.***

## 4. Curriculum Vitae (weight: 40%)

### 4a. Academic profile ⓘ

(Min 400 words - max. 700 words)

Wordcount:

### 4b. Key output ⓘ

(Max. 10 items. Min. 400 words - max. 700 words, excl. output titles and references to the output)

Wordcount:

▷ ← Expand for Explanatory Notes on section 4

## 5. Administrative details

### 5a. Personal details

Title(s), initial(s), surname(s):	
Postal address (for full duration of the round):	
Telephone:	
Mobile phone:	

# Open Science Fund

- [New funding instrument to stimulate Open Science](#) by recognising and rewarding researchers for open research practices.
- Aimed at supporting researchers to develop, test and implement innovative ways of making research open, accessible, transparent and reusable, **including FAIR data**.
- Piloting software sustainability section in application form and software sustainability plan for funded projects. **Piloting Open Science Track Record question.**
- **Received 167 eligible applications** by the deadline on 18 May 2021.
- **26 projects awarded funding each up to 50K Euro**, announced on 27 October 2021.



# RUG Open Science Fund Awards

## Using semantic modeling to create FAIR open data for archaeological field survey: a showcase and toolkit (SEMAFORA) dr. P.M. van Leusen – RUG

*Team members: Tymon de Haas (LU); George Bruseker (Takin.solutions); Denitsa Nenova (Takin.Solutions); Sjoerd Siebinga (Delving.eu)*

Field surveys have, since about 1970, been the main method by which archaeologists discover and record findspots and individual finds at the earth's surface. Whilst for the Mediterranean area alone the documented finds already run in the millions, the **lack of documentation standards effectively prevents researchers and heritage managers from conducting large-scale analyses**. This project seeks to build and showcase a software toolkit that will allow them to share and query this fundamental and irreplaceable resource in a distributed, online form, taking advantage of existing work in so-called 'semantic' data modelling in the cultural heritage sector.

## Umbrella HEART NL (Umbrella HEreditary heARt disease daTabase of the Netherlands) dr. M.A. Swertz – RUG

*Team members: Imke Christiaans (UMCG); Michelle Michels (ErasmusMC); Annette Baas (UMCU); Mariëlle van Gijn (UMCG)*

Early recognition and treatment of inherited cardiac conditions, both of patients and of symptom free relatives, can save lives. To enable successful prevention and treatment, genetic data and long-term clinical outcomes of large patient groups need to be studied. However, currently in the Netherlands, this data is spread over many different hospitals and registries and not automatically extracted from patient records. We aim at developing a **national database that automatically extracts data and acts as an umbrella resource for existing data(bases) used in research and diagnostics to stimulate combination and re-use of data to improve cardio genetic patient care**.

<https://www.nwo.nl/en/researchprogrammes/open-science/open-science-fund/open-science-fund-2021-awarded-grants>

# In conclusion

How does NWO support open FAIR data?



# How does NWO support open and FAIR data?

- **Policies and grant requirements**
  - Sharing practice and alignment of policies and requirements with other funding agencies in Europe (via Science Europe)
- **Financial support for infrastructure and services**
  - Investment in local and thematic digital competence centres
    - offer data stewardship support, training, instructions and guidelines
- **Recognition and rewards**
  - Narrative CV
  - Open Science Fund
    - aims to **financially support researchers with innovative open science projects.**





# Thank you! Any questions?

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