

# Resilience of Open Science in Times of Crisis

7 April 2026 - Coffee Lecture Lib4RI

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Unless stated otherwise



24 March 2025

## Interview with Marileen Dogterom: 'This isn't just about America; it's about us too'

Recent developments in the United States regarding academic freedom and scientific research are cause for concern. Marileen Dogterom, President of the Royal Netherlands Academy of Arts and Sciences (KNAW), emphasizes that measures taken by Trump have far-reaching global consequences: 'These events highlight just how crucial it is to cherish and safeguard free, independent science. This isn't just about America; it's about us too.'

## Dutch libraries express their support for their American colleagues

14-05-2025

Libraries in the Netherlands are very concerned about the restriction of free access to information in the United States. For some time now, libraries have been asked to remove unwelcome books from their collections. In addition, the US government distributes lists of words that may no longer be used in its publications. The Trump administration, for political reasons, cut funding for various scientific research fields. And as a new low came last week the dismissal of Carla Hayden, the director of the Library of Congress – the national library of the United States.

## Europe PMC is een cruciale databank

28 maart 2025



Goede medische wetenschap kent geen grenzen. Medische bibliografische databanken als PubMed en Europe PMC spelen daarbij een sleutelrol. 'Het is nu belangrijker dan ooit om niet te leunen op één internationale databank', zegt

News > SURF Takes The Next Step With Nextcloud: Broad Internal Roll-out As An Alternative To Big Tech

## SURF takes the next step with Nextcloud: broad internal roll-out as an alternative to big tech

Following several successful pilots with Nextcloud — including projects within SURF itself and in collaboration with the AlgoSoc consortium — SURF is now taking the next step. We are rolling out Nextcloud broadly across the organisation as a complementary, open-source platform alongside the existing big tech solutions we use for collaboration and document management.

### SHB steunt EBLIDA statement

**EBLIDA stands in solidarity with the ALA, reaffirming our commitment to libraries as pillars of democracy and inclusive, informed communities**

News > SURF Moves Network Core From Private Business To Member Organisation

### Greater independence, sustainability and cooperation

## SURF moves network core from private business to member organisation

SURF is moving a significant part of its network from a commercial data centre to the data centre of Nikhef, one of our cooperative members and scientific partners. The move is in line with the cooperative's aim to achieve greater independence, sustainability, and collaboration.



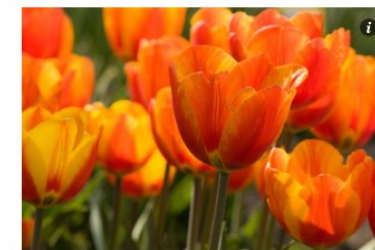
20 February 2025

## Academic freedom and international research collaboration under threat in U.S

## Tulip Fund opens for top international scientists

20 August 2025

Starting today, knowledge institutions can submit nominations for the Tulip Fund, NWO's new instrument that enables universities to attract renowned international scientists from outside the EU. Nominations can be submitted until 31 March 2026.



# Blog post on resilience of open science

**Upstream**

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THOUGHT PIECES

## The resilience of open science in times of crisis

JEROEN BOSMAN and JEROEN SONDERVAN  
May 13, 2025 . 7:36 AM — 18 min read

<https://doi.org/10.54900/pqrcx-8d019>

actual threat   encounter, attack   incursion

protection   resistance   withstanding

**resilience**

systems   communities   individuals

Available at:

<https://doi.org/10.54900/pqrcx-8d019>

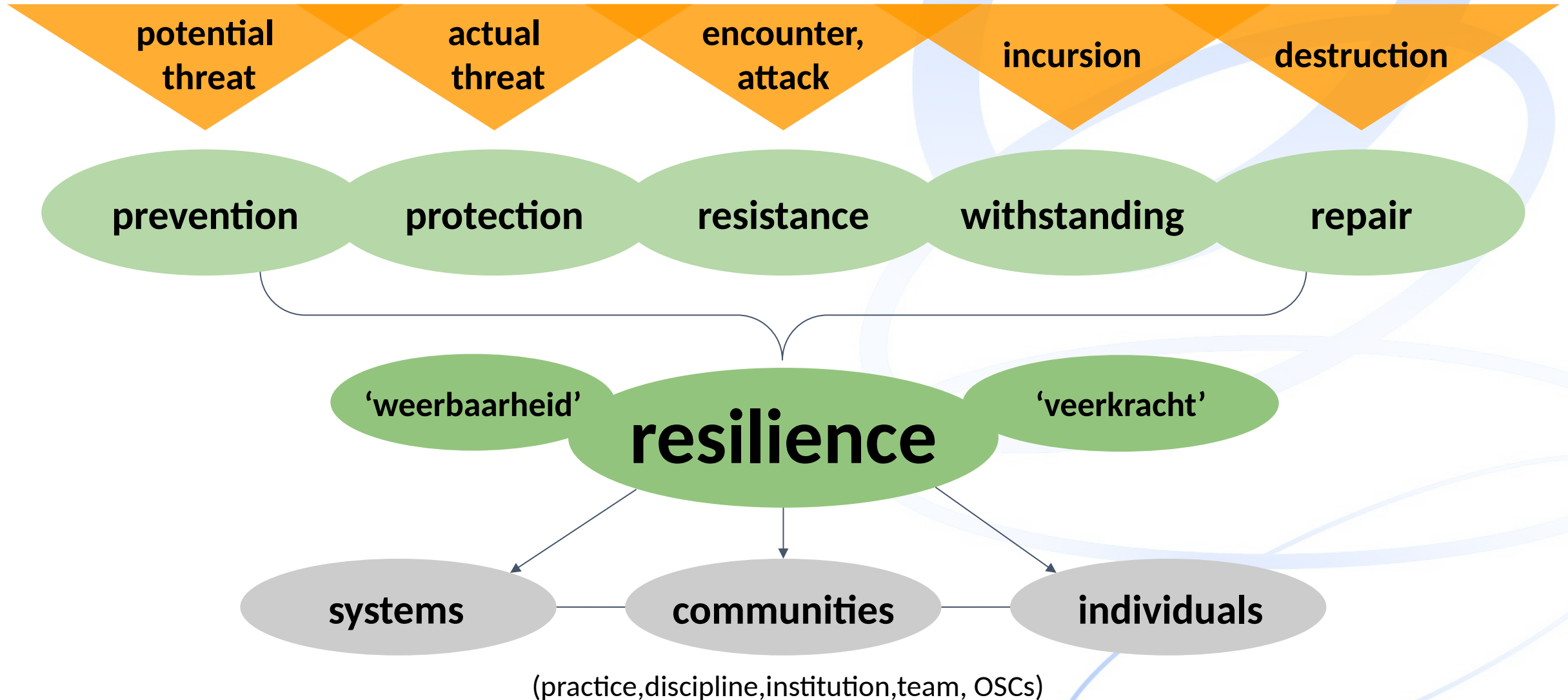
# Defining resilience

“Resilience scientists define resilience as the **capacity of a system to absorb disturbance and reorganize so as to retain essentially the same function**, structure, and feedbacks; that is, it is to have the **same “identity.”** Put simply, resilience is the ability to cope with shocks and keep functioning in much the same kind of way as before.”

“It requires the ability to— in one way or another—**describe the identity of the system**, how that identity might be changing over time, and what threatens that identity.”

Walker, B., Salt, D. (2017). A Crash Course in the Science of Resilience. In: Lerch, D. (eds) The Community Resilience Reader. Island Press, Washington, DC. [https://doi.org/10.5822/978-1-61091-861-9\\_10](https://doi.org/10.5822/978-1-61091-861-9_10) [paywalled]

# Resilience aspects during a threat/intrusion event



# Resilience strategies

potential  
threat

prevention:



mutual interest



agreements, contracts

actual  
threat

protection:



(double) wall



sovereignty, control

encounter,  
attack

resistance:



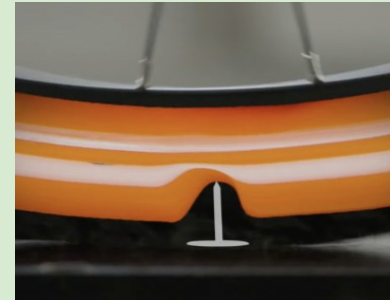
action, fighting back



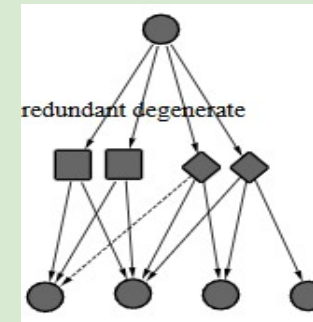
solidarity (in/external)

incursion

withstanding:



elasticity



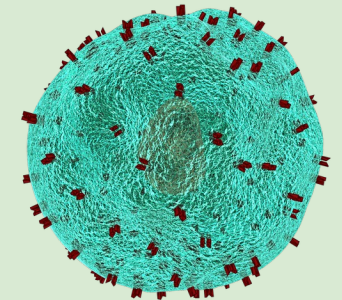
redundancy

destruction

repair:



jugaad ('make do')



resources

# Resilient against what?



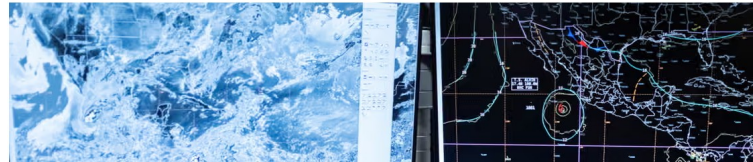
# Tech/platform dependence & financial stress: examples of threats

## NOAA under the second presidency of Donald Trump

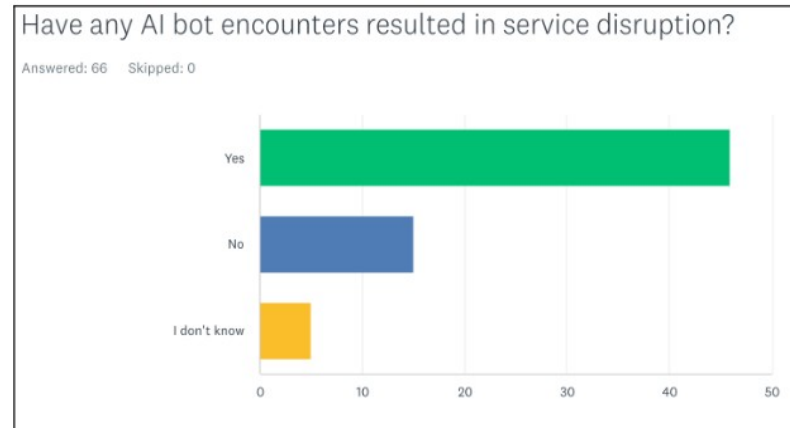
<b>Employees terminated</b>	850 <sup>[1]</sup> –880 <sup>[2]</sup>
<b>Buyouts or resignations</b>	1,029 <sup>[3]</sup>
<b>Department of Government Efficiency involvement</b>	
<b>Contracts terminated</b>	196
<b>Contract total value</b>	\$133,927,153.01 <sup>[4]</sup> (2025 USD; As of June 29)
<b>Claimed contract savings</b>	\$42,481,923.88 <sup>[4]</sup> (2025 USD; As of June 29)
<b>Claimed grants terminated</b>	4
<b>Leases terminated</b>	8–19
<b>Claimed lease savings</b>	\$2,390,754–\$7,177,962 (2025 USD; As of June 29)

## Major US climate website likely to be shut down after almost all staff fired

Exclusive: Climate.gov, which supports public education on climate science, will soon no longer publish new content



## Impact on Repositories



## OAPEN under attack: a swarm of locusts

Under normal circumstances, we see less than 50 dialogues per second happening between a user and the OAPEN Library. However, when a swarm of AI bots starts hammering the OAPEN server, the number of interactions rises to over 10,000. As you can imagine, this is similar to undergoing a swarm of locusts.

These swarms of AI bots are scraping content to feed LLMs. The impact? Our response time balloons from milliseconds to minutes, effectively making the OAPEN Library unusable. And it doesn't stop. These surges can last for hours and sometimes occur multiple times a day.

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CAREER FEATURE | 03 November 2025

## Insiders warn how dismantling federal agencies could put science at risk

From NASA to the National Institutes of Health, federal agencies conduct research that universities cannot. Agency scientists speak out about the irreplaceable facilities, institutional knowledge and training opportunities that the country is losing.

PLOS BLOGS

## Absolutely Maybe




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What if We Can't Rely on PubMed?

# Tech/platform dependence: examples of actions

## Rescuing, restoring

DRP Portal Datasets Offices Categories  Data Rescue Project

### Data Rescue Project Portal

1268 datasets across 86 government offices compiled through the efforts of over 500 volunteers

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A generous supporter has stepped forward with a \$10,000 match challenge. [Donate right now](#) and every gift to Climate.us will be doubled, dollar for dollar, up to a maximum of \$10,000!

**They're hiding the truth. We're fighting back.**

## Alternatives / mirroring

### Open Life Science Publication database (OLSPub)

Strengthening the Biomedical Research Community by Building a Resilient and Sustainable Solution



### TIB BLOG

ENGLISH PRESS

PROTECTING SCIENCE: TIB BUILDS DARK ARCHIVE FOR ARXIV

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# GPT-NL



# OpenAlex

### Software development, but free!

Codeberg is a non-profit, community-led effort that provides Git hosting and other services for free and open source projects.

 [m] [BLOG](#) [DOCS](#)



## Sustaining / collaborating



Monday, September 15, 2025

## From Surviving to Thriving: A Convening to Reclaim and Sustain Open Science Communities

By Kari L. Jordan, Erin Becker, Daniela Saderi, Vanessa Fairhurst, Patricia Herterich, Noam Ross, Yanina Bellini Saibene, Leah Wasser, Yo Yehudi

**Is open science more threatened—  
or better equipped to endure?**

# Is resilience different for \*open\* science & scholarship?

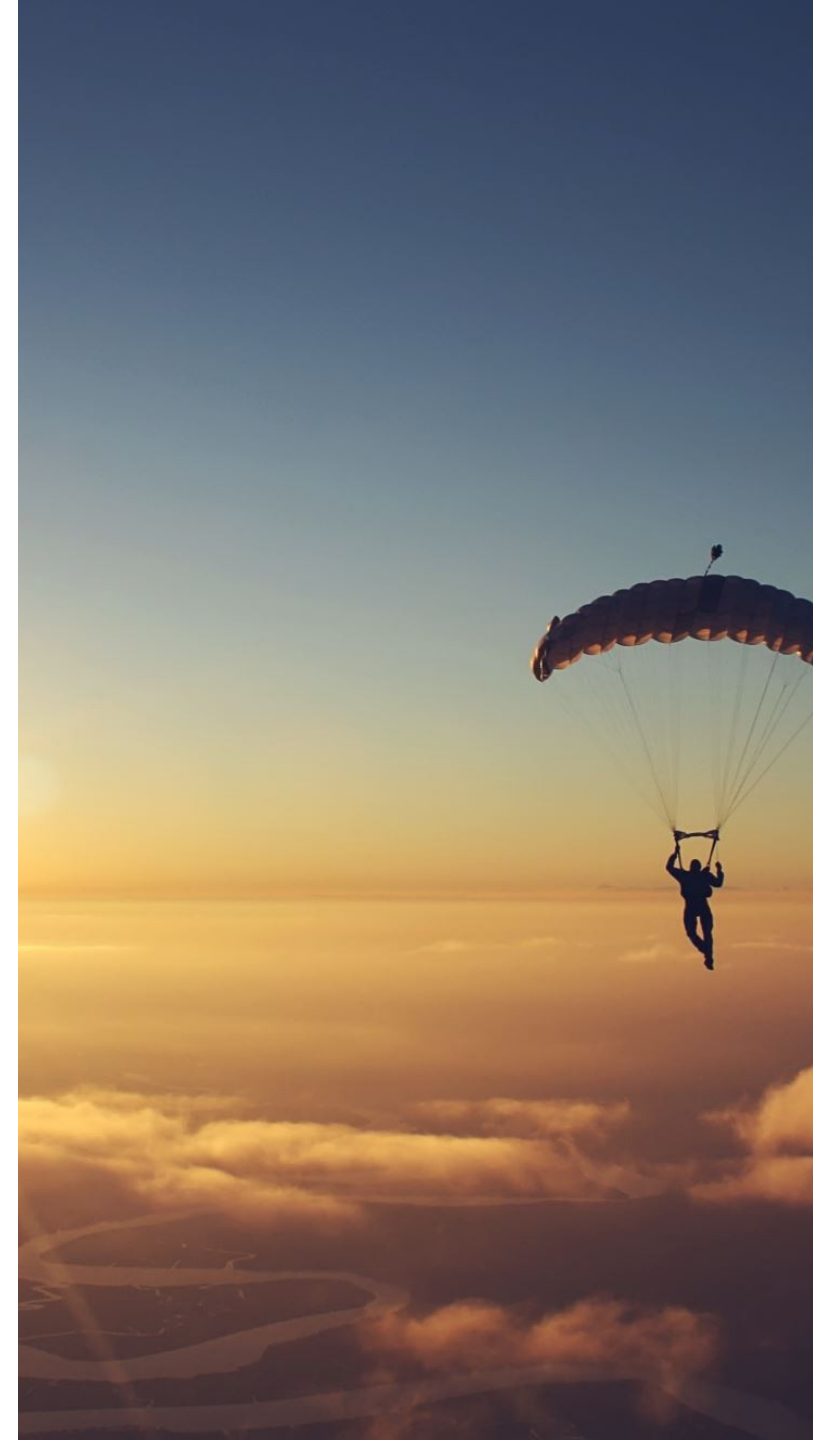
Negatively:

- more **dependent on sharing generally** (i.e. on vulnerable US, commercial platforms)
- more **dependent on data/code sharing** and international collaborations
- open science is still '**under development**'
- open science is **more visible** and aiming at societal impact, making it an easy first target
- open science is **strong in fields related to global challenges** (climate, epidemics), making it more vulnerable to science skepticism
- more **openly sharing of content** in repositories that are being targeted by aggressive AI-bots

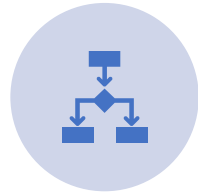
# Is resilience different for \*open\* science & scholarship?

Positively:

- **open source and open licensed resources** easier to fork, mirror, adapt and repair if necessary
- some open science practices are **relatively low cost**, especially when based on open-source software
- OS communities likely have **more members with a 'make do' mentality**
- community is likely **more open to change** and more flexible



# Approaches for increasing OS resilience



Having multiple **alternatives**, ideally built-in, automatic, in diverse stable democratic jurisdictions.



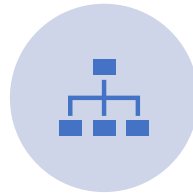
**Awareness**, solidarity, inclusivity and creativity in the academic community, strong bonds between stakeholders



Making sure that the most open and equitable options are also **the easiest, cheapest** and well supported ones



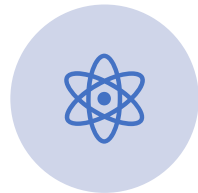
Strategic **investments** in (OS) science awareness in **primary and secondary education** and media/journalism



Strong, explicit and explicitly supported **policies and standards**, built in systems and procedures



Clear **dealing with fraud cases** and **communication** around those cases.



Making sure that science is transparent but can also be **trusted**



Open Science not as an optional add on but as **default** and expected or required practice



REGIEORGAAN

**OPEN**  
SCIENCE  
NL

# Thank you!

Thanks and credits to: Jeroen Bosman, Utrecht University

Newsletter: <https://www.openscience.nl/en/newsletter>

Website: <https://www.openscience.nl>

Email: [j.sondervan@nwo.nl](mailto:j.sondervan@nwo.nl)



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