

# Instruments @ DataCite - 2024

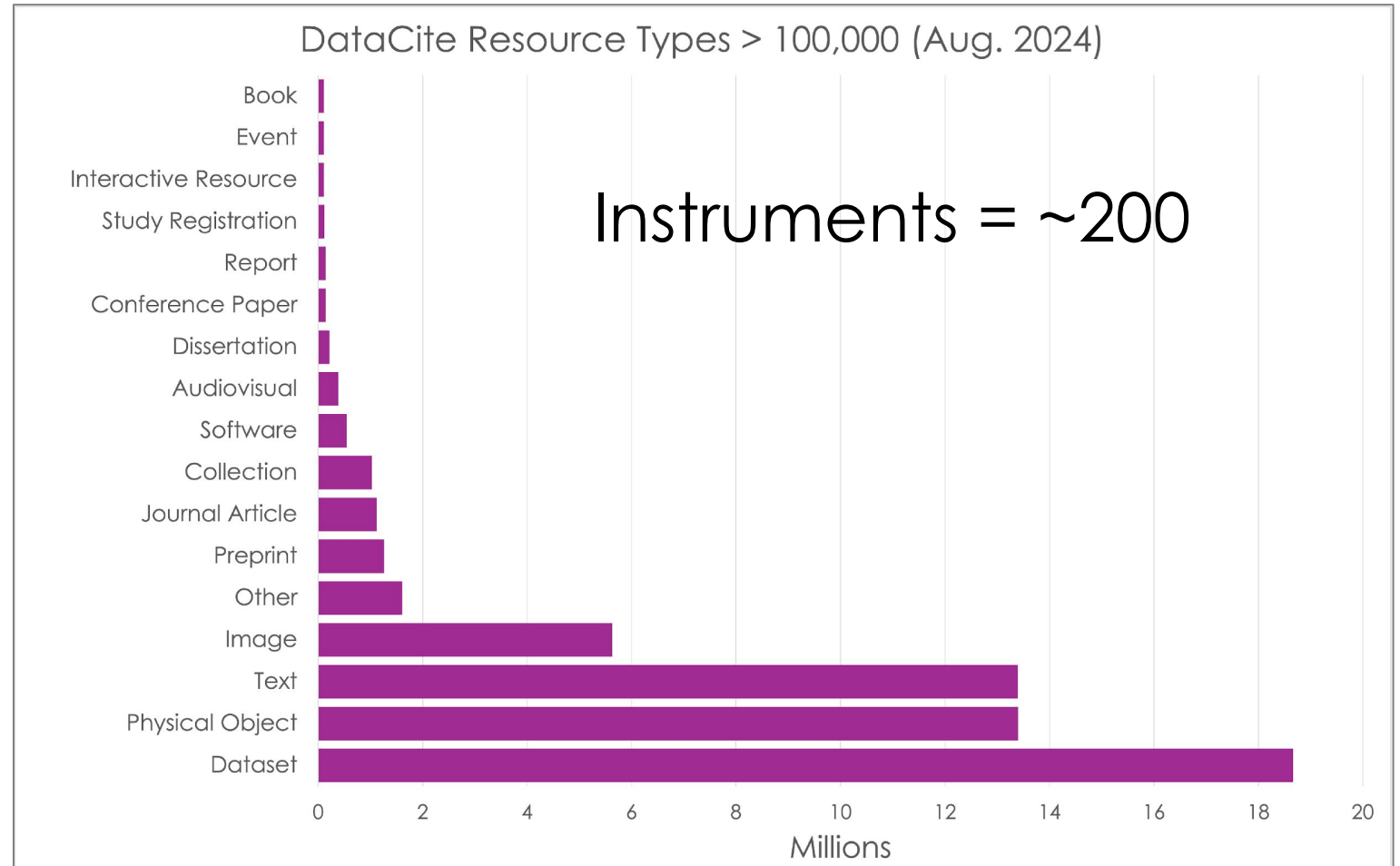
Ted Habermann, Erin Robinson, Metadata Game Changers



A DOI provider and repository encompassing ~3000+ members.

DataCite includes ~60,000,000 resources with 28 different types.

<https://datacite.org/>



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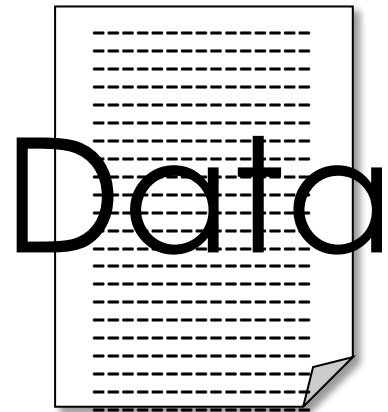
**METADATA**  
GAME CHANGERS

# resourceTypeGeneral & resourceTypeInstrument

resourceType  
recommended  
free text

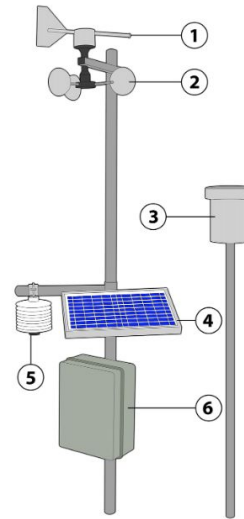
Version 4.5  
Jan 2024

resourceTypeGeneral  
mandatory  
shared vocabulary



IsCollectedBy

Collects



Discover  
and Describe  
Connect  
RelatedIdentifiers

# resourceTypeGeneral = Instrument

Resource Type General	Count
Other	27
PhysicalObject (UCAR)	25
Instrument	78

52  
Pioneers

The number of records with resourceTypeGeneral = instrument has passed the number of pioneering records.

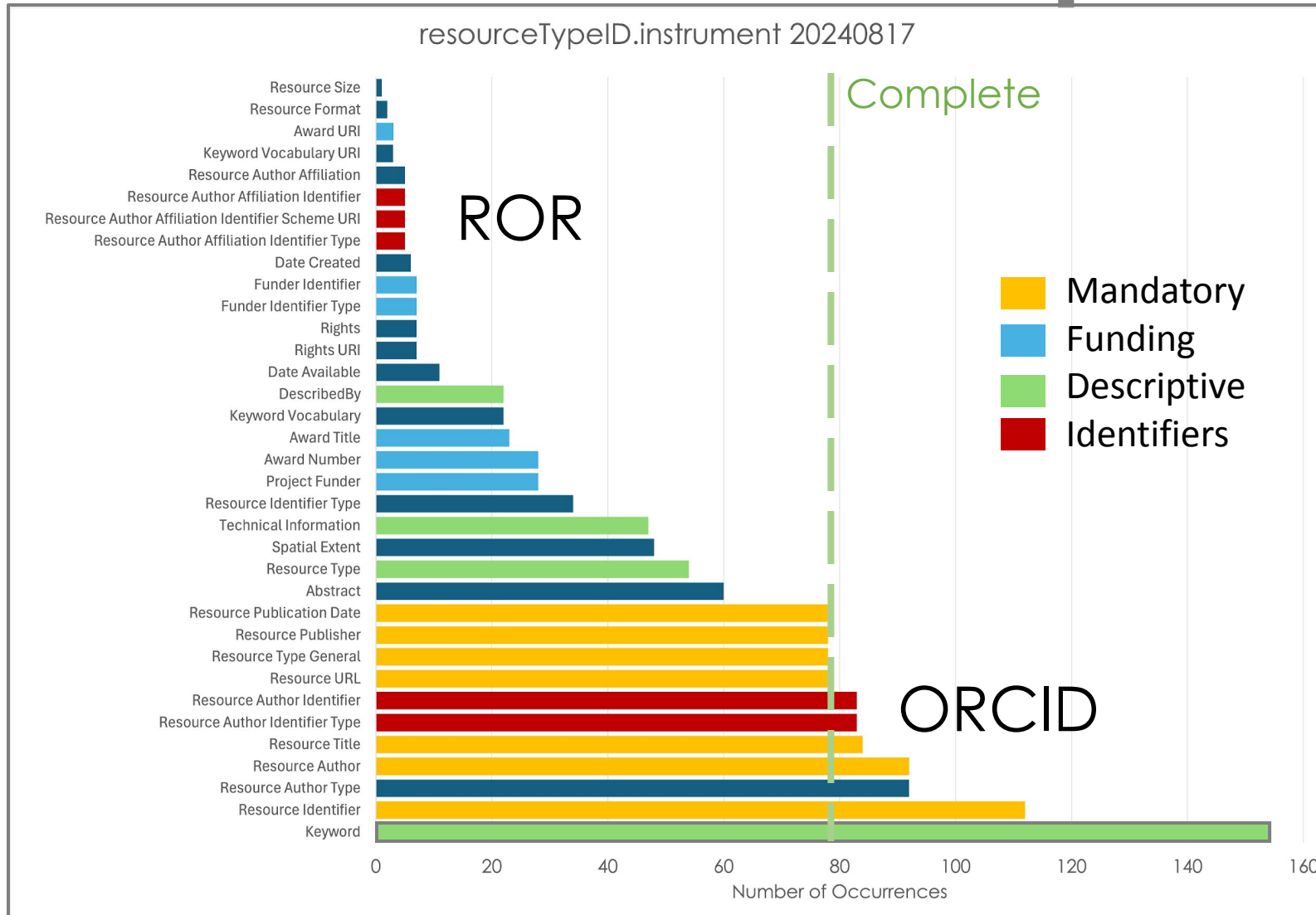


# resourceTypeGeneral = Instrument

Client ID	Name	Count
tib.hzb	Helmholtz-Zentrum Berlin für Materialien und Energie GmbH	24
psu.dmr-first	2D Crystal Consortium (2DCC) - Division of Materials Research (DMR) - FIRST	22
todn.hcsvci	Technical University of Denmark - Energy Innovation Systems	12
pawsey.repo	Pawsey Supercomputing Centre	7
cos.osf	Open Science Framework	6
pqip.devices	Helmholtz-Zentrum Dresden-Rossendorf e.V. -DEVICES	3
upenn.repo	Univ. of Pennsylvania Repository	2
tib.iow	Leibniz-Institut fuer Ostseeforschung Warnemuende	1
uq.repo	The University of Queensland	1
<b>Total</b>		<b>78</b>



# Documentation Concepts

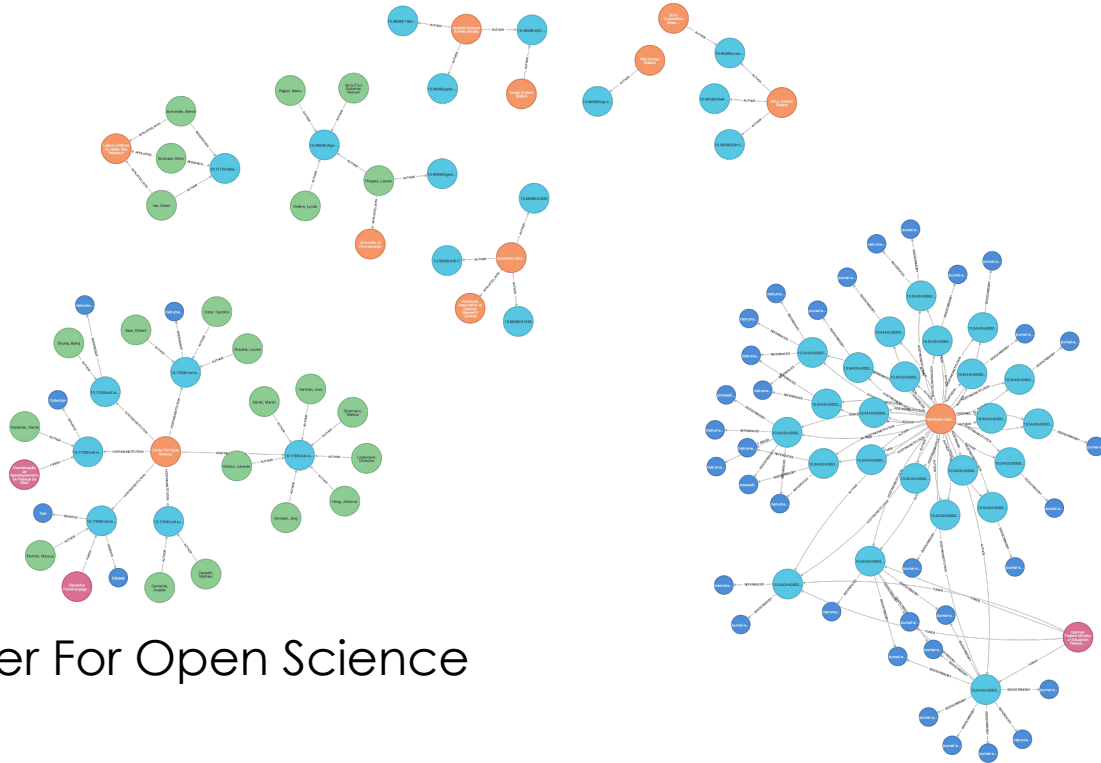


# resourceType = Instrument

Client ID	Name	Count
todn.hcsvci	Technical University of Denmark - Energy Innovation Systems	20
doe.osti	DOE Office of Scientific and Technical Information (OSTI) Repository	4
doe.pnnl	DOE Pacific Northwest National Laboratory (PNNL) Repository	3
dzhw.fdz-dzhw	Research Data Center for Higher Education Research and Science Studies (FDZ-DZHW)	2
si.ccrn	Smithsonian Research Infrastructure	2
unsw.repo	University of New South Wales	2
doe.ornl	DOE Oak Ridge National Laboratory (ORNL) Repository	1
ubc.oc	Open Collections	1
Total		35



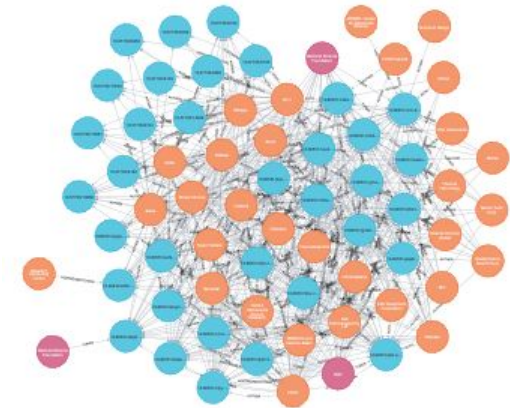
# All Instruments (resourceTypeGeneral)



Center For Open Science

Helmholtz-Zentrum Berlin Für  
Materialien Und Energie

## Node labels

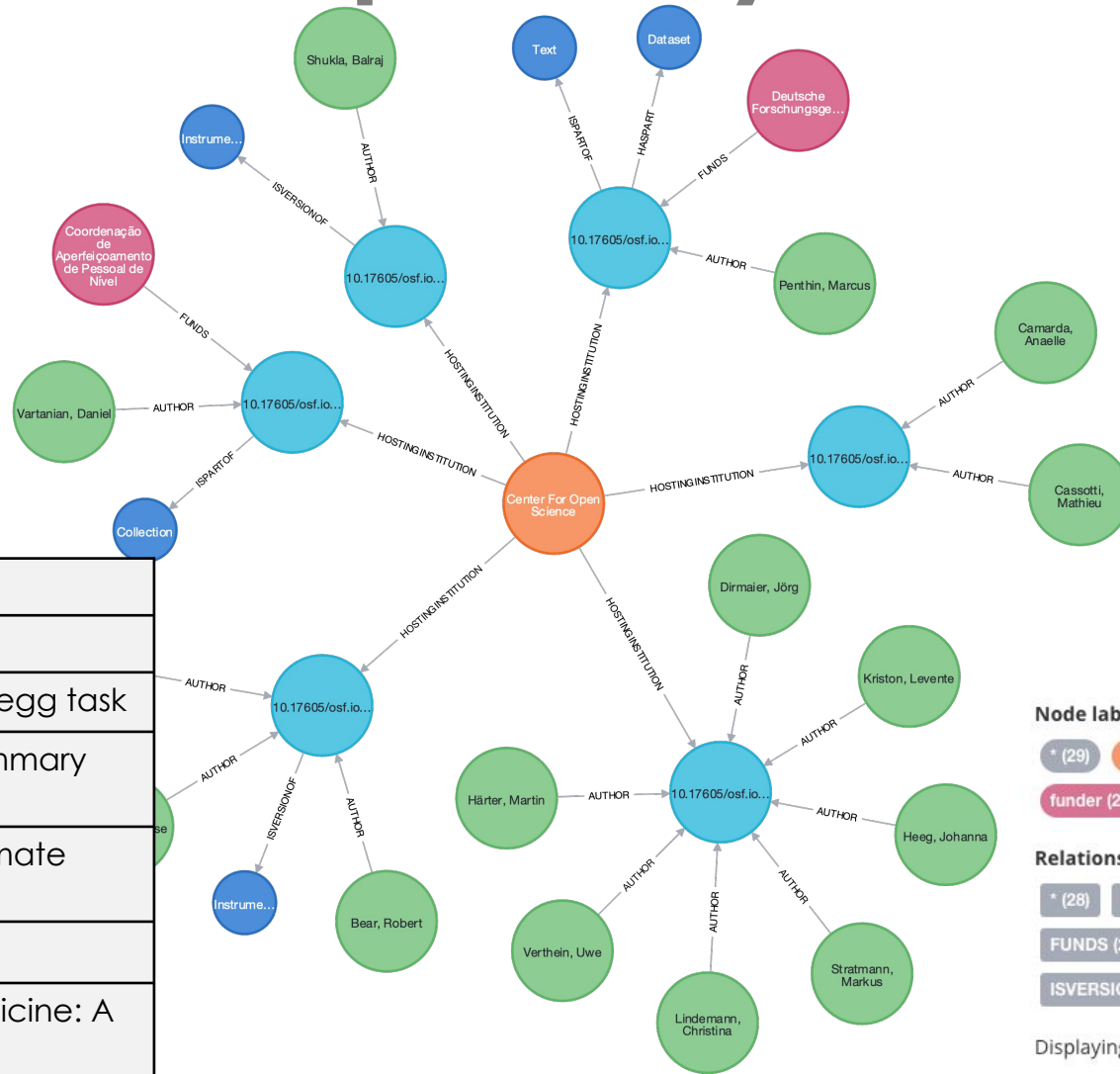


2DCC - The  
Pennsylvania State  
University



# COS - Generalist Repository

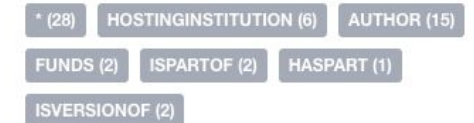
One Hosting Organization  
 Six instruments  
 Connections to 15 people  
 Connections to 2 funders  
 Connections to 5 resources  
 Instrument = questionnaire



## Node labels



## Relationship types

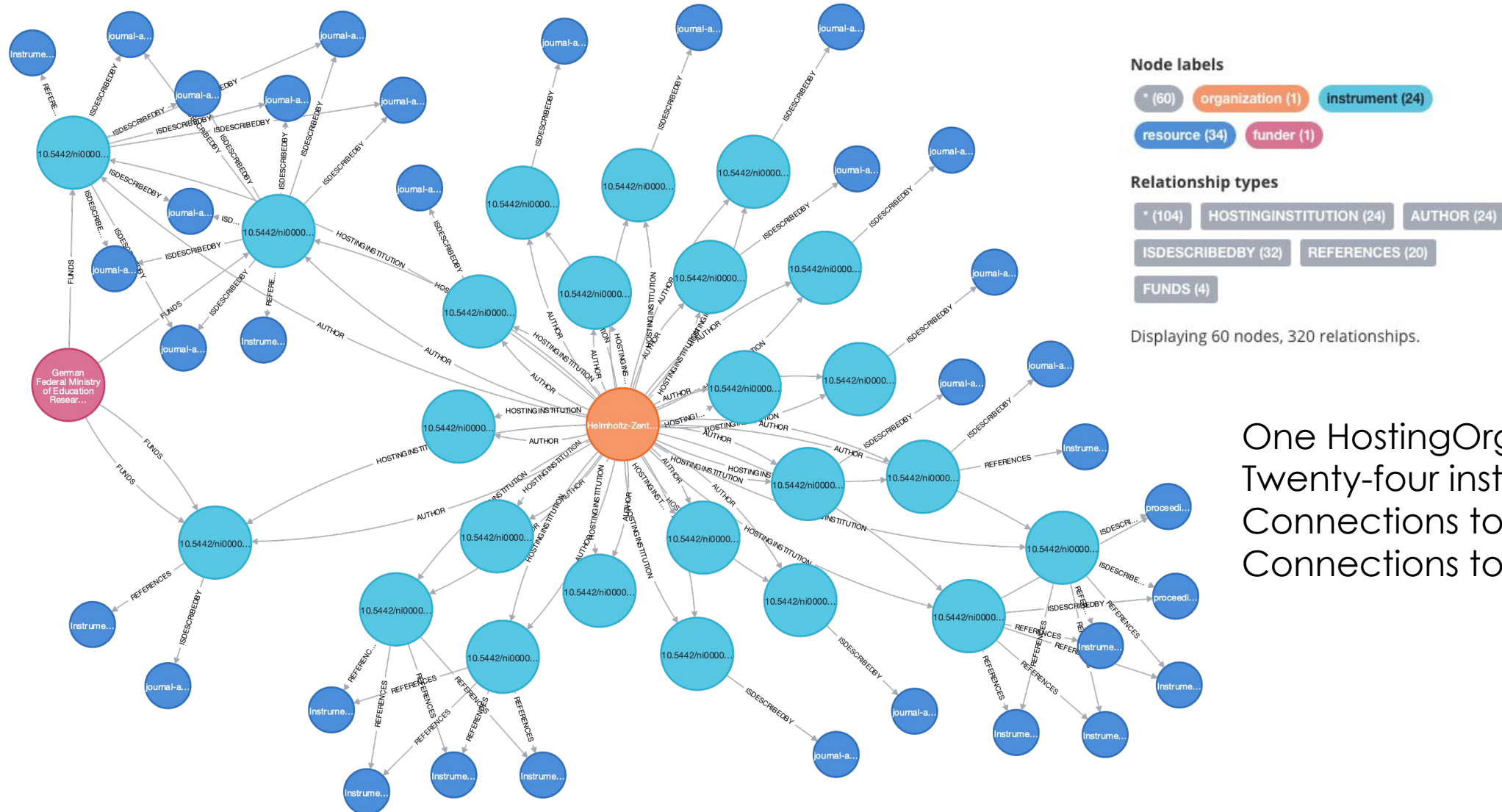


Displaying 29 nodes, 44 relationships.

Title
BENDEP-SRQ-GV (Instrument and Project)
Methodology to analyse the divergent thinking egg task
Rebel - Codebook/scales manual, dataset, summary chart of Rebel
Digital Interface Patterning for Detecting Illegitimate Publications (DIP-DIP) scale
Data collection form
Mental Health and Illness Education in Paramedicine: A Scoping Review



# Helmholtz-Zentrum Berlin für Materialien und Energie GmbH



One HostingOrganization  
Twenty-four instruments  
Connections to 1 funders  
Connections to 34 resources

# 2D Crystal Consortium – NSF Center

## Node labels

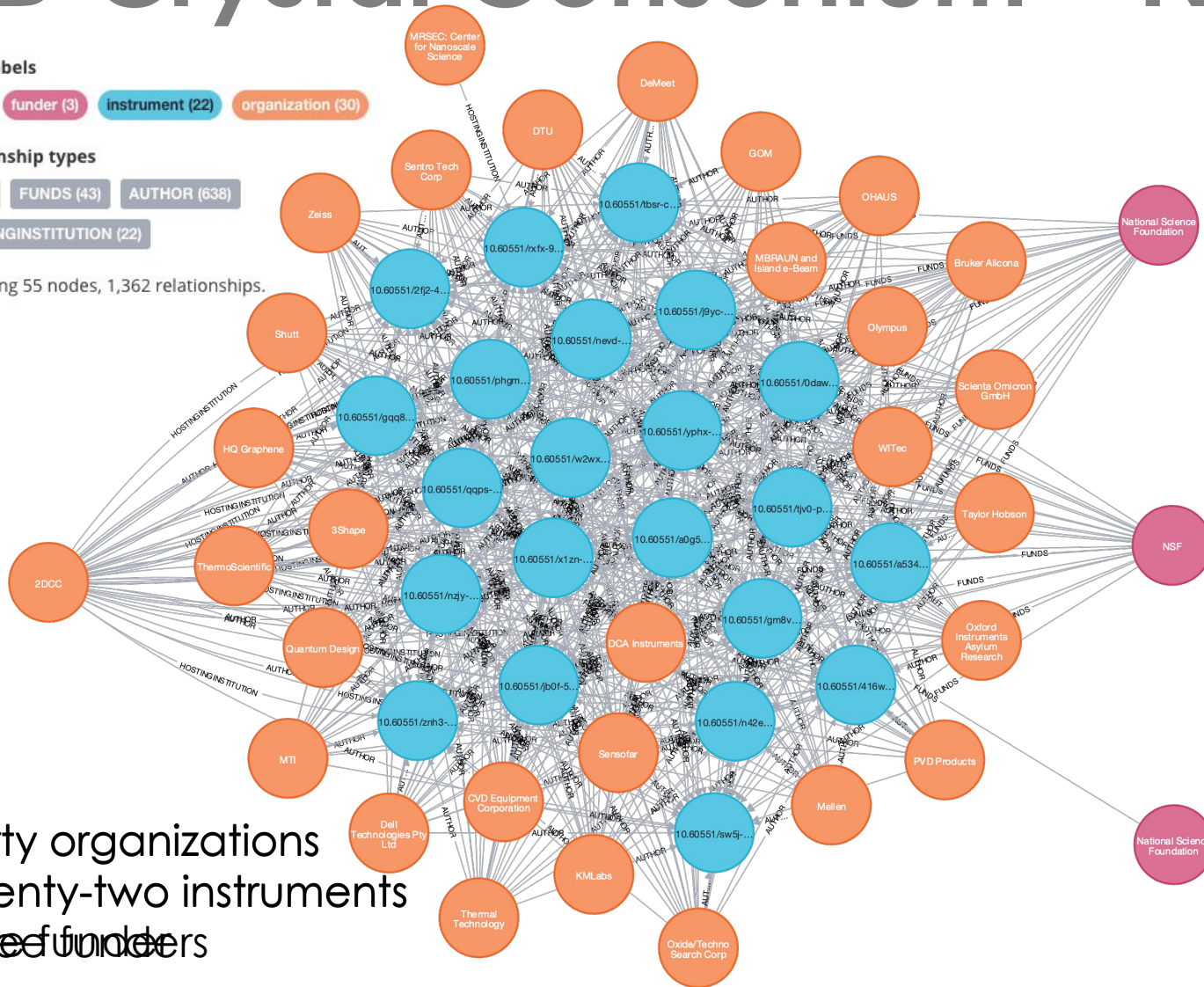
\* (55) funder (3) instrument (22) organization (30)

## Relationship types

\* (703) FUNDS (43) AUTHOR (638)

HOSTINGINSTITUTION (22)

Displaying 55 nodes, 1,362 relationships.



Thirty organizations  
Twenty-two instruments  
One funder

```
"fundingReferences": {
  "awardTitle": "MIP: 2D Crystal Consortium (MIP-2DCC)",
  "funderName": "National Science Foundation",
  "awardNumber": "DMR-2039351",
  "funderIdentifier": null,
  "funderIdentifierType": null.}
```

```
"fundingReferences": {
  "awardTitle": "MIP: 2D Crystal Consortium (MIP-2DCC)",
  "funderName": "NSF",
  "awardNumber": "DMR-1539916",
  "funderIdentifier": null,
  "funderIdentifierType": null}
```

```
"fundingReferences": {
  "awardTitle": "MIP: 2D Crystal Consortium (MIP-2DCC)",
  "funderName": "National Science Foundation",
  "awardNumber": "DMR-1539916",
  "funderIdentifier": "https://ror.org/021nxhr62",
  "funderIdentifierType": "ROR" }
```

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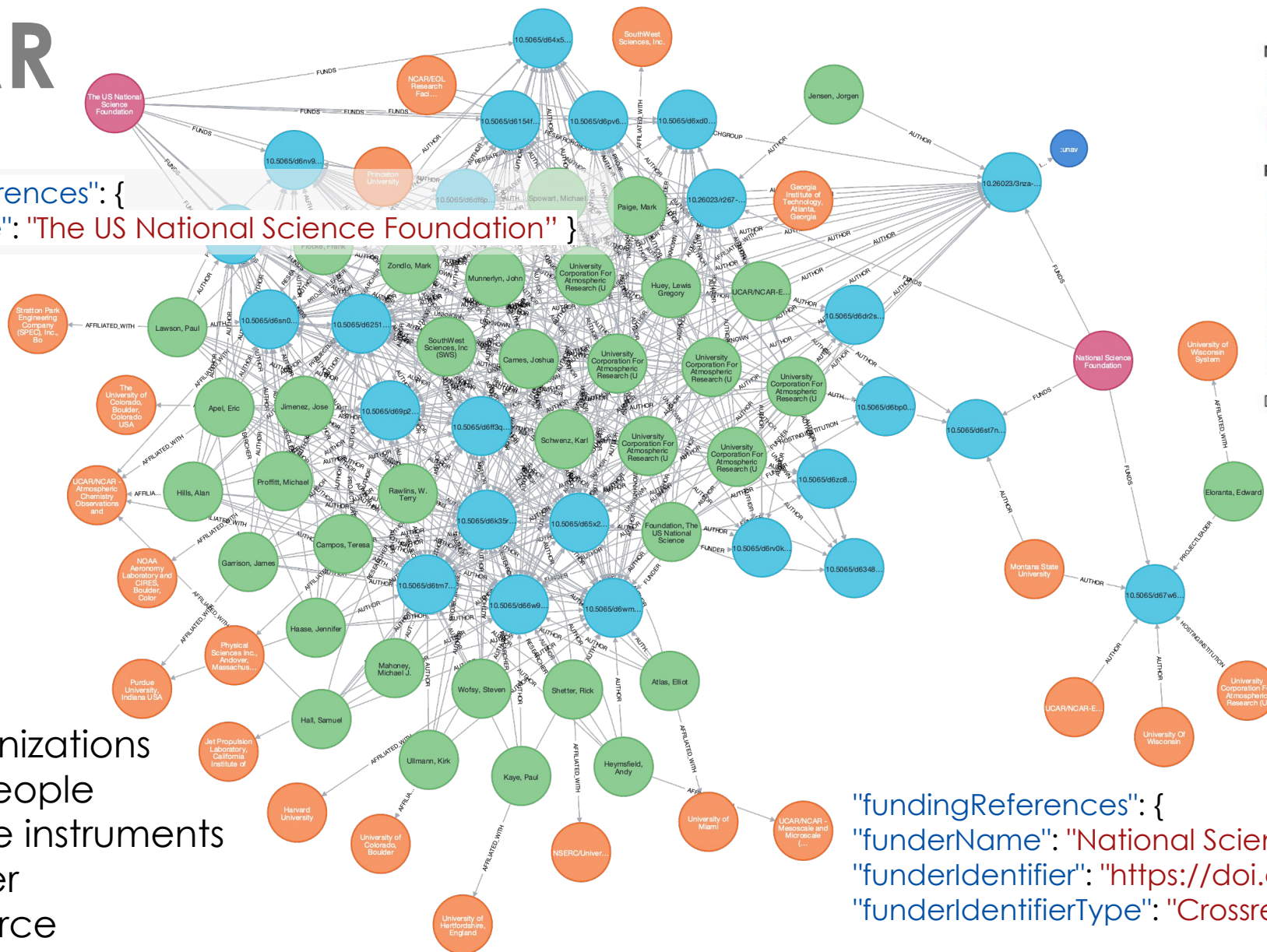


**METADATA**  
GAME CHANGERS



# UCAR

```
"fundingReferences": {  
  "funderName": "The US National Science Foundation"}  
}
```



## Node labels

- \* (86)
- person (36)
- instrument (25)
- organization (22)
- funder (2)
- resource (1)

## Relationship types

- \* (566)
- AUTHOR (470)
- FUNDER (8)
- UNKNOWN (20)
- HOSTINGINSTITUTION (3)
- FUNDS (17)
- PROJECTLEADER (12)
- AFFILIATED\_WITH (22)
- RESEARCHER (9)
- RESEARCHGROUP (2)
- ISDESCRIBEDBY (1)
- PROJECTMEMBER (2)

Displaying 86 nodes, 566 relationships.

Thirty organizations  
Thirty-six people  
Twenty-five instruments  
One funder  
One resource

```
"fundingReferences": {  
  "funderName": "National Science Foundation",  
  "funderIdentifier": "https://doi.org/10.13039/100000001",  
  "funderIdentifierType": "Crossref Funder ID"}  
}
```

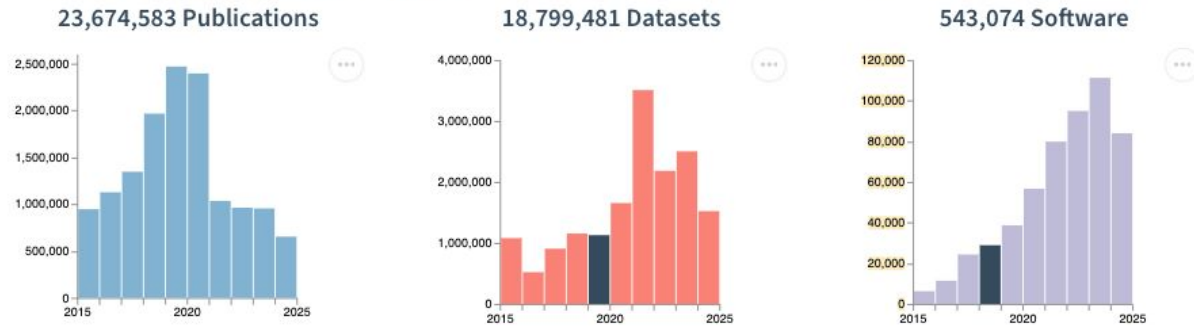


# commons.datacite.org

The DataCite Commons is the emerging interface to metadata in DataCite and other elements of the global research PIDGraph (Crossref, ORCID, ROR, Event Data)

## Works

DataCite Commons currently includes 88,780,771 works, with identifiers and metadata provided by DataCite and Crossref. For the three major work types [publication](#), [dataset](#) and [software](#), the respective numbers by publication year are shown below.



<https://commons.datacite.org/statistics>



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**METADATA**  
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# Commons: UCAR/EOL Instruments

Up to 200 citations/references available as CSV.

The screenshot shows a search for 'Earth Observing' on DataCite Commons. The results list three works:

- NSF/NCAR GV HIAPER Aircraft**: 268 Citations (highlighted in a red box). DOI registered March 13, 2015 via DataCite.
- NSF/NCAR Hercules C130 Aircraft**: 142 Citations (highlighted in a red box). DOI registered April 1, 2015 via DataCite.
- S-PolKa: S-band/Ka-band Dual Polarization, Dual Wavelength Doppler Radar**: 51 Citations (highlighted in a red box). DOI registered April 1, 2015 via DataCite.

Each entry includes a brief description of the instrument and a 'Physical Object' link. The citation counts are prominently displayed in large text next to each entry.

The screenshot shows the detailed page for the 'NSF/NCAR GV HIAPER Aircraft' work. Key features include:

- Download Reports**: A red box highlights this button, which provides a CSV export of related works (266 citations).
- Filter Works**: A search bar and a 'Connection Types' filter showing 349 All, 71 References, and 266 Citations.
- Publication Year**: A bar chart showing the distribution of citations from 2015 to 2025.
- Work Types**: A bar chart showing 100% of works are 'Dataset'.
- Licenses**: A bar chart showing 100% of works are 'Missing'.



# Questions?

Work with us on:

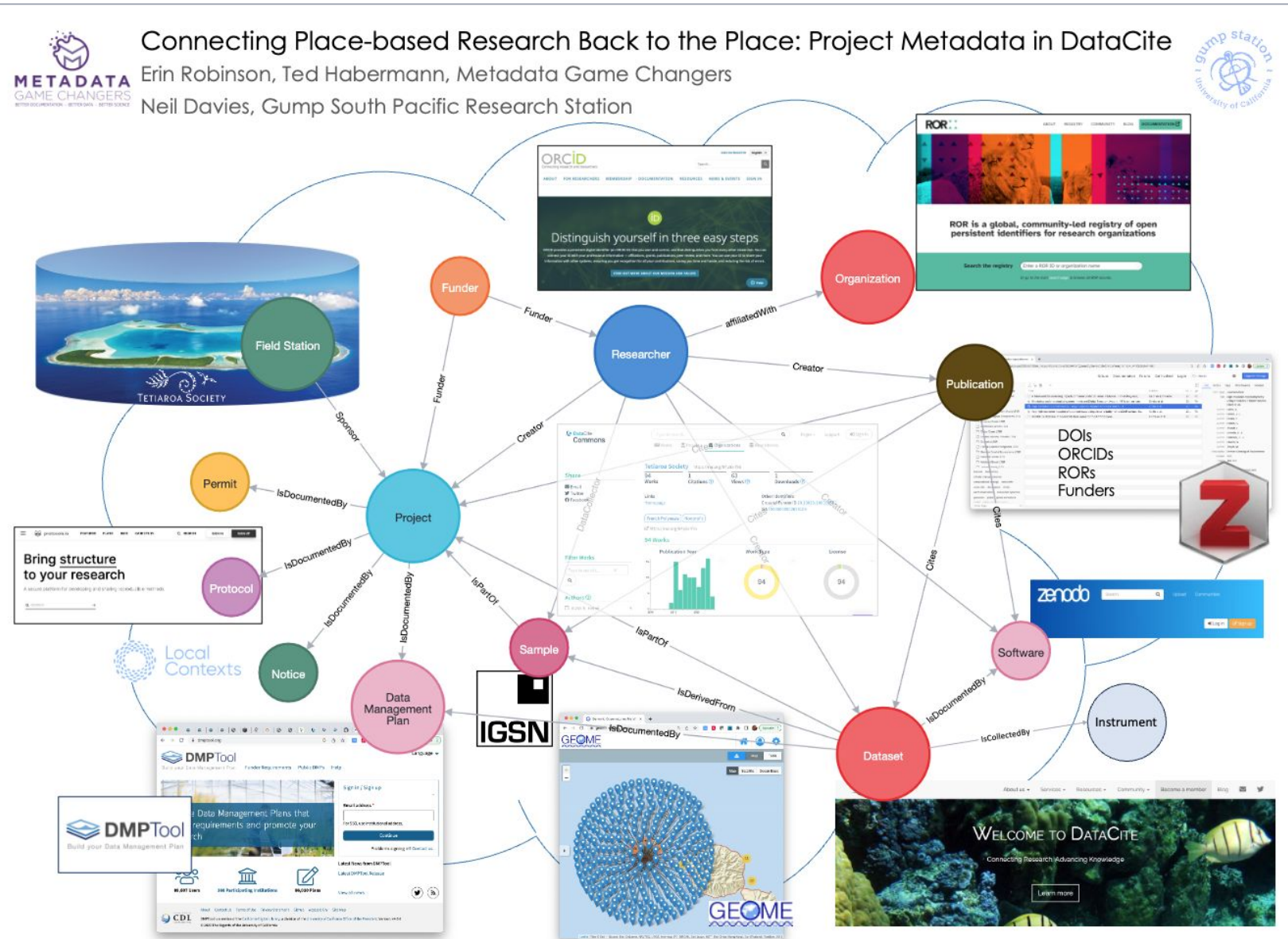
- Identifiers and Repository Re-curation
- Repository and Journal Connectivity
- Metadata evaluation and improvement (FAIR metadata)
- Community building strategy
- International Metadata Standards (ISO, DataCite, schema.org)
- Workshop design and facilitation
- Community conventions / profiles
- Leadership coaching

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# The Goal: A Connected Information Ecosystem



<https://doi.org/10.6084/m9.figshare.23671917.v1>

on: 0000-0001-9998-0114, Ted Habermann: 0000-0003-3585-6733, Neil Davies: 0000-0001-8085-5014, Metadata Game Changers: 05bp8ka05, Gump South Pacific Research Station: 04sk0et52

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**METADATA**  
 GAME CHANGERS

# Finding UCAR Instruments in Commons

These next few slides show how to find UCAR instruments in DataCite Commons

Use presentation mode to follow the steps!

Screen shots are from 2023...





# ucar.eol@commons.datacite.org

The image shows two overlapping browser windows from DataCite Commons. The left window is at [commons.datacite.org/repositories](https://commons.datacite.org/repositories) and displays the 'Earth Observing Laboratory' repository page. It includes a sidebar with 'Criteria Compliance', 'Certificates', and 'Software' sections. A blue arrow points to the 'Find Related Works' button. The right window is at [commons.datacite.org/doi.org?query=client.uid:ucar.eol](https://commons.datacite.org/doi.org?query=client.uid:ucar.eol) and shows a search results page for 'client.uid:ucar.eol'. It lists 8,570 works and highlights two specific datasets: 'HIPPO Merged 10-Second Meteorology, Atmospheric Chemistry, and Aerosol Data. Version 1.0' and 'HIPPO Pressure-Weighted Mean Total, 10-km, and 100-m Interval Column Concentrations. Version 1.0'. A red box highlights the 'Work Type' section in the left sidebar of the second window, which lists categories like Dataset, Physical Object, Text, Software, Event, Interactive Resource, and Other.

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# ucar.eol@commons.datacite.org

The screenshot displays the DataCite Commons interface with three overlapping browser windows. The left window shows the 'Earth Observing Laboratory' repository page with options for 'Go to Repository' and 'Find Related Works'. A blue arrow points from these buttons to the middle window. The middle window shows a search for 'client.uid:ucar.eol' with 8,570 works. A red box highlights the 'Type' filter, with a blue arrow pointing to the right window. The right window shows search results for 'client.uid:ucar.eol' with 25 works. Two red boxes highlight citation counts: '268 Citations' for 'NSF/NCAR GV HIAPER Aircraft' and '142 Citations' for 'NSF/NCAR Hercules C130 Aircraft'.

**Repository Management (Left Window):**

- Criteria Compliance:  Enabling FAIR Data Project,  FAIR's FAIR Project
- Certificates:  CoreTrustSeal (1)
- Software:  unknown (1)

**Search Results (Middle Window):**

Publication Year	Count
2023	156
2022	276
2021	178
2020	196
2019	237
2018	261
2017	359

**Search Results (Right Window):**

Work Title	Citation Count
NSF/NCAR GV HIAPER Aircraft	268 Citations
NSF/NCAR Hercules C130 Aircraft	142 Citations

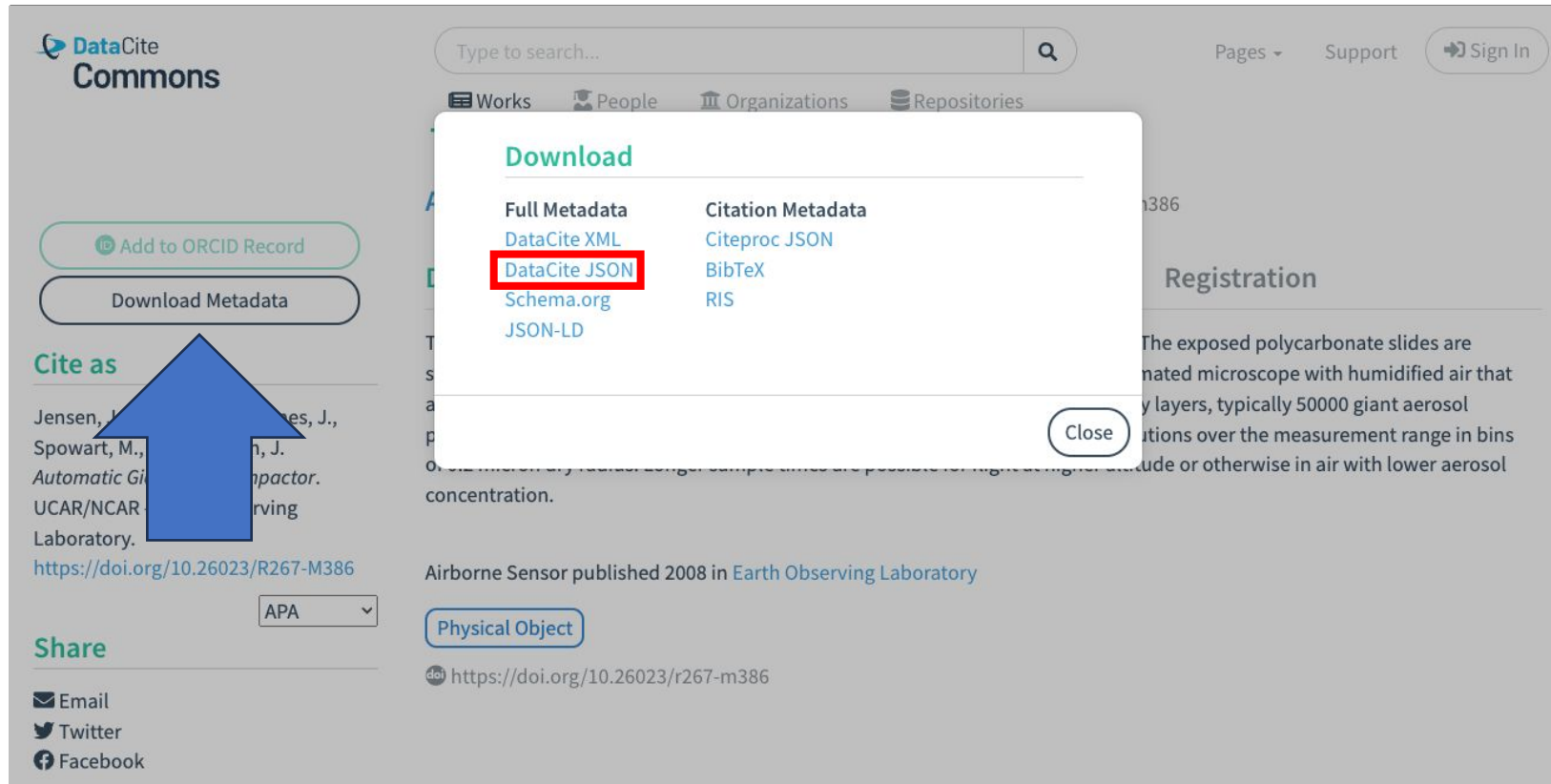
[ted@metadatagamechangers.com](mailto:ted@metadatagamechangers.com)  
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# Automatic Giant Nuclei Impactor



The screenshot shows the DataCite Commons interface for a record. A 'Download' modal is open, displaying two columns of options: 'Full Metadata' and 'Citation Metadata'. Under 'Full Metadata', 'DataCite JSON' is highlighted with a red box. A blue arrow points from the 'DataCite JSON' option to the 'Download Metadata' button on the left side of the page. The background shows the record title 'Automatic Giant Nuclei Impactor' and the DOI 'https://doi.org/10.26023/R267-M386'.

**Download**

Full Metadata	Citation Metadata
DataCite XML	Citeproc JSON
<b>DataCite JSON</b>	BibTeX
Schema.org	RIS
JSON-LD	

Close

Download Metadata

Cite as

Jensen, J., Spowart, M., Automatic Giant Nuclei Impactor. UCAR/NCAR Earth Observing Laboratory. <https://doi.org/10.26023/R267-M386>

Share

Email  
Twitter  
Facebook

Physical Object

<https://doi.org/10.26023/r267-m386>

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**METADATA**  
GAME CHANGERS



# Automatic Giant Nuclei Impactor

The screenshot shows the DataCite Commons interface for the dataset 'Automatic Giant Nuclei Impactor'. The page includes a search bar, navigation tabs for Works, People, Organizations, and Repositories, and a 'Sign In' button. The main content area features a 'Description' tab, a 'Cite as' section (highlighted with a red box), and a 'Share' section. The 'Cite as' section displays the citation: Jensen, J., Schwenz, K., Carnes, J., Spowart, M., & Munnerlyn, J. Automatic Giant Nuclei Impactor. UCAR/NCAR - Earth Observing Laboratory. <https://doi.org/10.26023/R267-M386>. The 'Share' section includes options for Email, Twitter, and Facebook. The 'Description' tab is active, showing a detailed text description of the sampling process.

**Cite as**

Jensen, J., Schwenz, K., Carnes, J., Spowart, M., & Munnerlyn, J.  
*Automatic Giant Nuclei Impactor*.  
UCAR/NCAR - Earth Observing  
Laboratory.  
<https://doi.org/10.26023/R267-M386>

Share  
Email  
Twitter  
Facebook

APA

Physical Object

doi: <https://doi.org/10.26023/R267-M386>

Automatic Giant Nuclei Impactor <https://doi.org/10.26023/r267-m386>

Description Creators Contributors Funders Registration

The Auto-GNI sampling is done using free-stream impaction (i.e., no inlet losses). The exposed polycarbonate slides are stored and subsequently analyzed in EOL / RAF's GNI Microscope, an optical automated microscope with humidified air that allows for size determination using Kohler theory. When flying in marine boundary layers, typically 50000 giant aerosol particles are sampled within a 10-s exposure time; this gives excellent size distributions over the measurement range in bins of 0.2 micron dry radius. Longer sample times are possible for flight at higher altitude or otherwise in air with lower aerosol concentration.

Airborne Sensor published

Physical Object

doi: <https://doi.org/10.26023/R267-M386>

```
"descriptions": [
  {
    "lang": "en",
    "description": "The Auto-GNI sampling is done using free-stream impaction (i.e., no inlet losses). The exposed polycarbonate slides are stored and subsequently analyzed in EOL / RAF's GNI Microscope, an optical automated microscope with humidified air that allows for size determination using Kohler theory. When flying in marine boundary layers, typically 50000 giant aerosol particles are sampled within a 10-s exposure time; this gives excellent size distributions over the measurement range in bins of 0.2 micron dry radius. Longer sample times are possible for flight at higher altitude or otherwise in air with lower aerosol concentration.",
    "descriptionType": "Abstract"
  }
],
```

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# Automatic Giant Nuclei Impactor

DataCite Commons

Type to search... 

Works People Organizations Repositories

Automatic Giant Nuclei Impactor <https://doi.org/10.26023/r267-m386>

Add to ORCID Record

Download Metadata

Cite as

Jensen, J., Schwenz, K., Carnes, J., Spowart, M., & Munnerlyn, J. *Automatic Giant Nuclei Impactor*. UCAR/NCAR - Earth Observing Laboratory. <https://doi.org/10.26023/R267-M386>

APA

Share

Email Twitter Facebook

Description **Creators** Contributors Funders Register

Jorgen Jensen

Karl Schwenz

Joshua Carnes

Michael Spowart

John Munnerlyn

Airborne Sensor published 2008 in Earth Observing Laboratory

Physical Object

doi <https://doi.org/10.26023/r267-m386>


```
"creators": [
  {
    "name": "Jensen, Jorgen",
    "nameType": "Personal",
    "givenName": "Jorgen",
    "familyName": "Jensen",
    "affiliation": [],
    "nameIdentifiers": [
      {
        "schemeUri": "https://orcid.org",
        "nameIdentifier": "https://orcid.org/0000-0002-2504-1277",
        "nameIdentifierScheme": "ORCID"
      }
    ]
  },
  {
    "name": "Schwenz, Karl",
    "nameType": null,
    "givenName": "Karl",
    "familyName": "Schwenz",
    "affiliation": [],
    "nameIdentifiers": []
  }
],
```



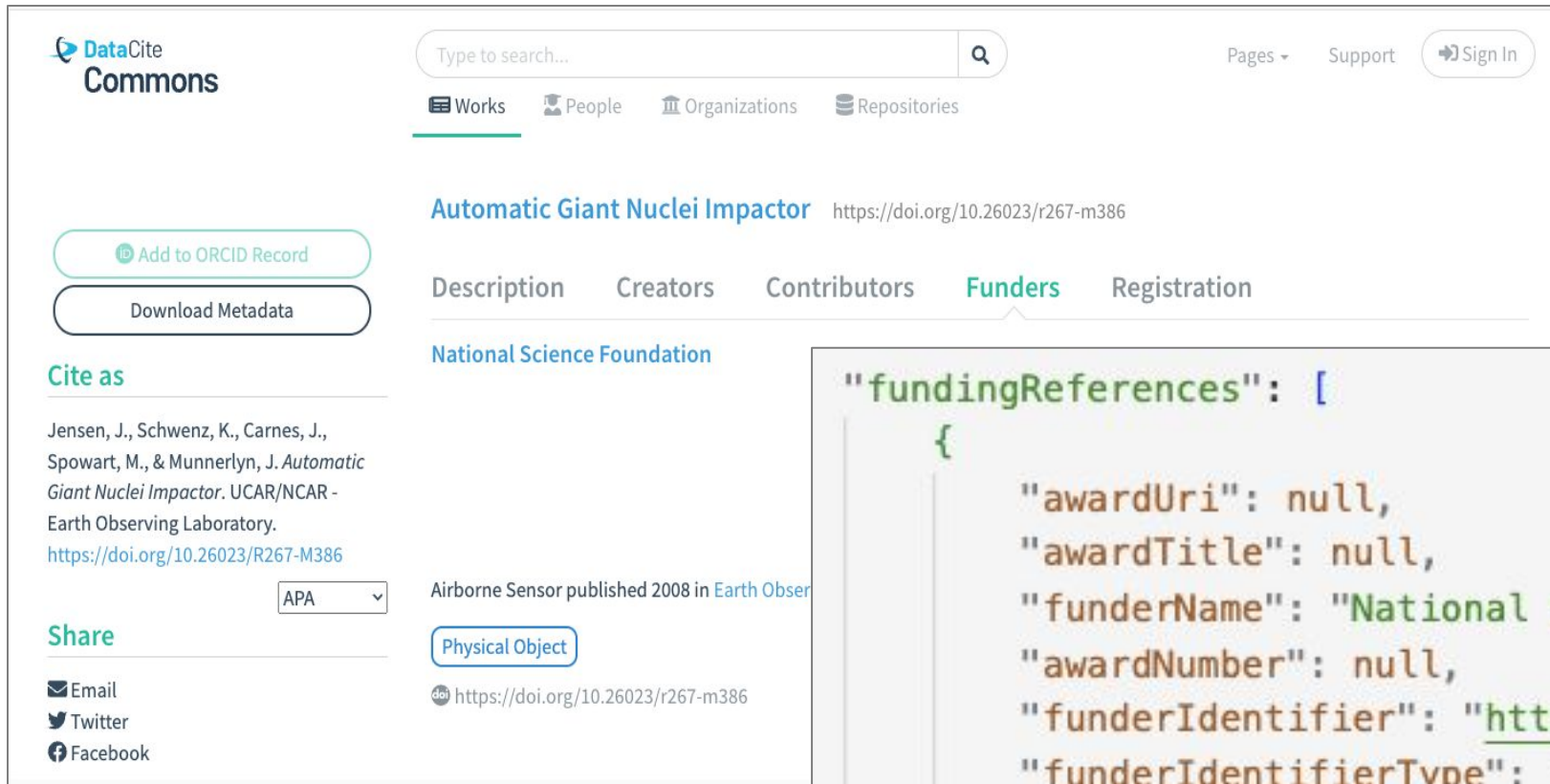
# Automatic Giant Nuclei Impactor

The screenshot shows the DataCite Commons record for the work "Automatic Giant Nuclei Impactor". The record is identified by the DOI <https://doi.org/10.26023/r267-m386>. The record is categorized as a "Physical Object" and is associated with the "NCAR/EOL Research Aviation Facility" as a "Research Group". The record is published in the "Earth Observing Laboratory" in 2008. The authors listed are Jensen, J., Schwenz, K., Carnes, J., Spowart, M., and Munnerlyn, J. The record is available in the "APA" citation style. The record is also available in the "Physical Object" category.

```
"contributors": [
  {
    "name": "NCAR/EOL Research Aviation Facility",
    "nameType": "Organizational",
    "givenName": null,
    "familyName": null,
    "affiliation": [],
    "contributorType": "ResearchGroup",
    "nameIdentifiers": [
      {
        "schemeUri": null,
        "nameIdentifier": null,
        "nameIdentifierScheme": null
      }
    ]
  }
],
```



# Automatic Giant Nuclei Impactor



The screenshot shows the DataCite Commons record for the work "Automatic Giant Nuclei Impactor". The record is associated with the DOI <https://doi.org/10.26023/r267-m386>. The record is categorized under "Works" and "Physical Object". The "Funders" tab is selected, showing the "National Science Foundation" as the funder. The record is cited as: Jensen, J., Schwenz, K., Carnes, J., Spowart, M., & Munnerlyn, J. *Automatic Giant Nuclei Impactor*. UCAR/NCAR - Earth Observing Laboratory. <https://doi.org/10.26023/R267-M386>. The citation is in APA format. The record is also available in ORCID and has a metadata download button.

```
"fundingReferences": [  
  {  
    "awardUri": null,  
    "awardTitle": null,  
    "funderName": "National Science Foundation",  
    "awardNumber": null,  
    "funderIdentifier": "https://doi.org/10.13039/100000001",  
    "funderIdentifierType": "Crossref Funder ID"  
  },  
],
```

