NORDP
National Organization of Research Development Professionals
2017 NORDP RESEARCH DEVELOPMENT CONFERENCE

Using Global Research Activity for Informed, Data-driven Research Administration at all Levels

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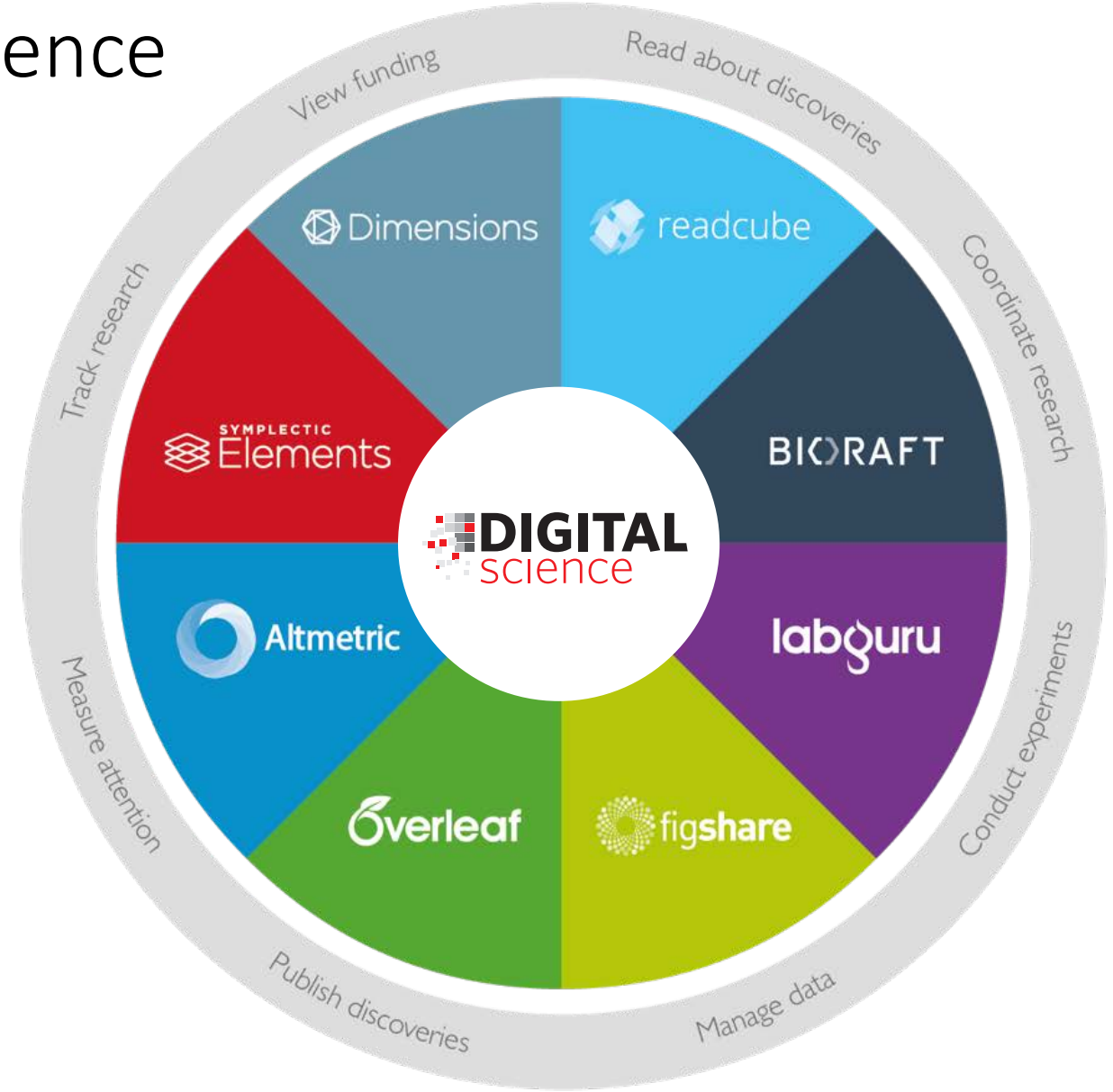
Managing Director,
ÜberResearch

Overview

- Who are ÜberResearch? Who are Digital Science?
- Aggregation and integration of information in the age of open data
- Building awareness of what is “out there”
- Answering strategic questions and strengthening the research base
- Helping researchers to help themselves through provision of information
- New and diverse metrics

ÜberResearch and Digital Science

A team of developers, scientists and experts with more than 10 years experience delivering solutions and services for funding and research institutions.



The Digital Science portfolio

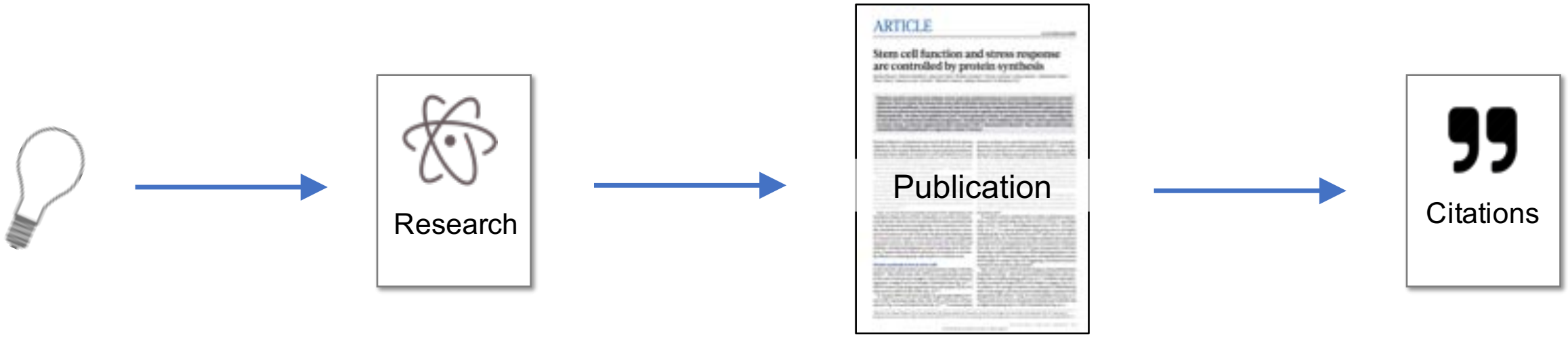
We provide an expansive coverage of Science, we understand the drivers of science

Solutions	Problem Solved
Dimensions ***Funder activity and their impact***	*A funding analysis tool that helps institutions visualize and understand the funding landscape, with $1trillion of awarded grants from over 200 funders.*
Altmetric ***Research impact and influence***	*Platform that captures the leading and immediate indicators of the broader reach and influence of their research (news, social media, Wikipedia, blogs etc.)*
figshare ***Manage and share research***	*A web-based platform that allows an institution to store, share, manage and showcase all of its research outputs with a custom branded portal.*
readcube ***Read , manage and discover new research***	*Make the world of scholarly literature more accessible and connected for researchers, institutions and publishers.*

Clients

University of Cambridge
The University of Western Australia
The University of Auckland
University of Oxford
Princeton University
Penn
Smithsonian Institute
The University of Melbourne
Stony Brook University
Manchester 1824 The University of Manchester
LSE The London School of Economics and Political Science
University of Glasgow
The University of Melbourne
Monash University
Loughborough University
The University Of Sheffield.
Brunel University London
Cranfield University

Points of Information on the Research Cycle



Points of Information on the Research Cycle

Grants

Research

Conferences

News, Tweets, Blogs

Citations

Patent data

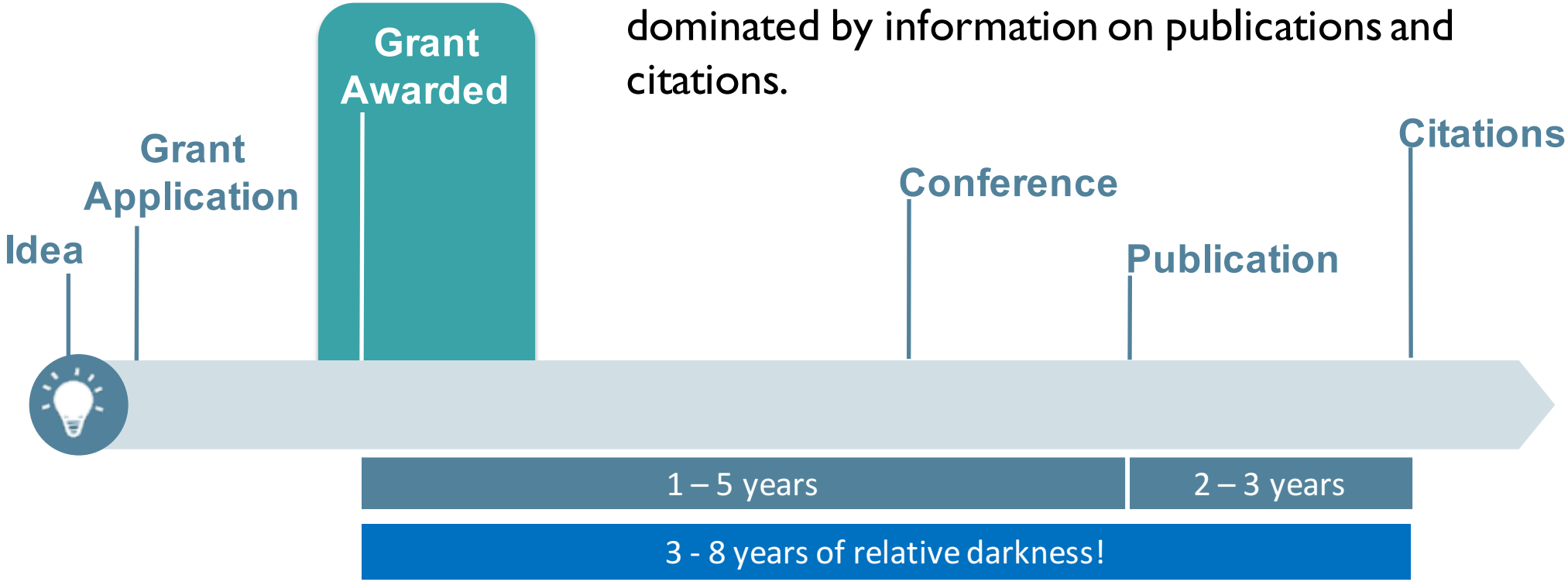
Policy papers

Company formation

Publications and citations are not the only pieces of data that exist in the research space – they are just two parts of the puzzle.

Funding Data versus Publications Data

Any activities that relate to research are always dominated by information on publications and citations.



Funding Data versus Publications Data

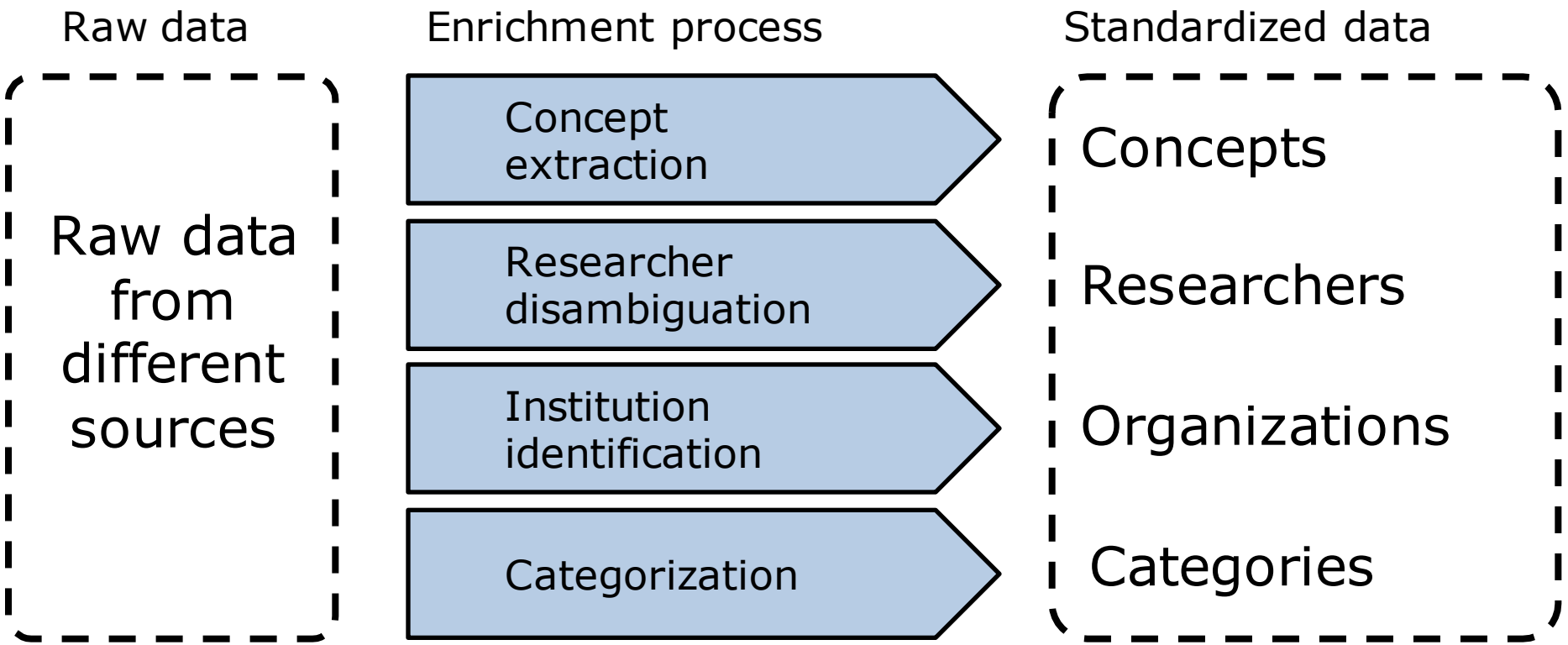
Publication Data	Funding Data
Several years behind the research curve	Up to date and looking into the future
Published achievements and findings	Proposal for work and research intentions

Both types of data provide different advantages, and together they can form an extremely informative picture of the state of research in any field.

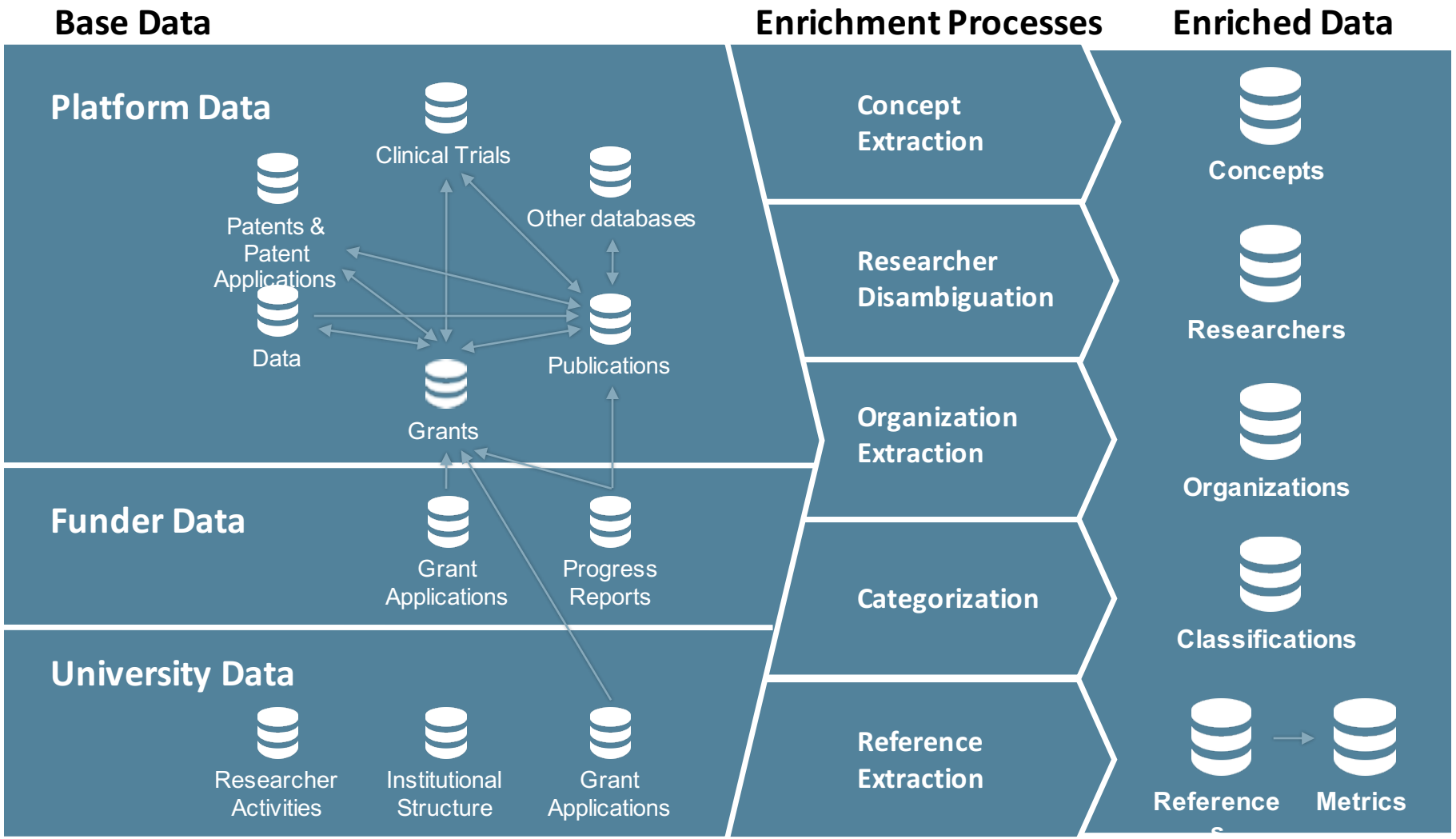
Aggregation of information in an age of Open Data

Much of this data is out there, it is just not in a usable form.

Aggregation of information in an age of Open Data



Dimensions .....and beyond.



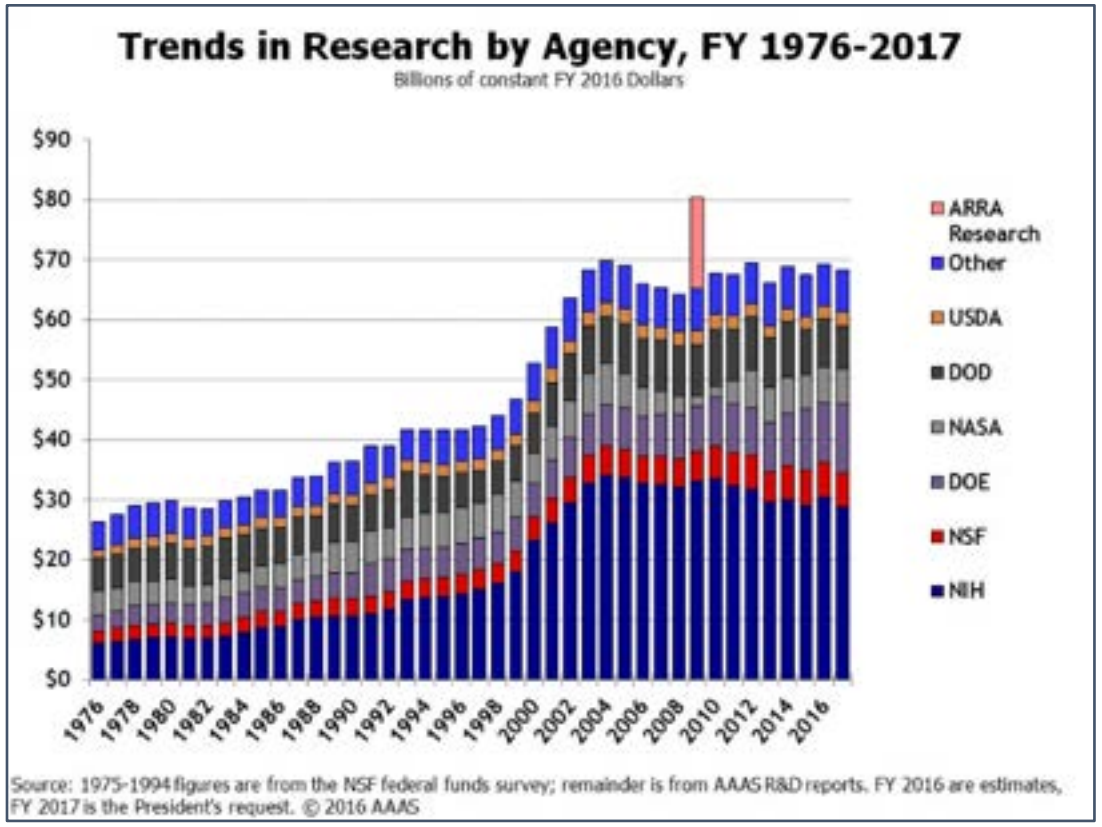
More perspectives = Better decisions

None of this data exists in isolation. Grants are linked to publications, which are linked to altmetrics and citations etc.

“That’s great. But why do I need more data?!”

The more information that is available, the easier it is to answer questions, and **more informed decisions can be made**.

Research funding is tough. Being informed about the present activity out there is crucial in order to get the best chance of success.



Supporting Research Management and Analysis

The time previously required to collect information can now be used to analyze/interpret.

- What are the trends in our received grants in the last 10 years?
- Who are the experts in this research topic? What are they working on?
- Are we attracting funding from all possible sources?
- What grants do we have at the moment that are related to area X?
- How do we compare to our competitors in topic areas or within the State?
- What new funding trends we can take advantage of?
- How can we help researchers to get the best chance of success?
- How will our funding streams look in 2020 and beyond?

With the availability of grants (and other) data, instant answers can be gained to questions on the present state of research activity either internally, nationally, or internationally.

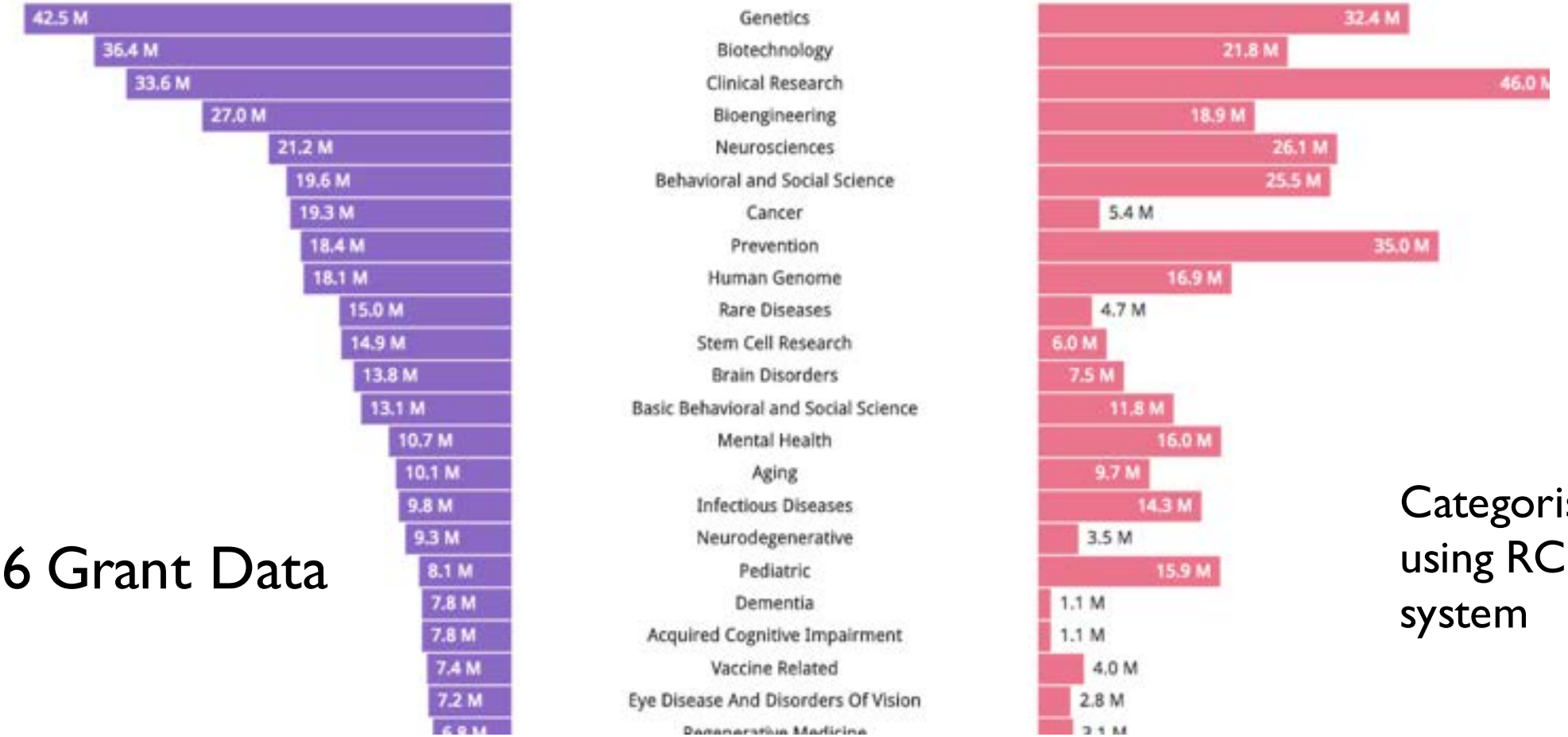
Examining performance and benchmarking

University of Washington Seattle, Washington, United States	1,035	USD	2.0 B
Harvard University Cambridge, Massachusetts, United States	1,162	USD	2.0 B
University of North Carolina at Chapel Hill Chapel Hill, North Carolina, United States	957	USD	1.8 B
University of California Los Angeles Los Angeles, California, United States	1,042	USD	1.7 B
University of California, San Diego San Diego, California, United States	915	USD	1.6 B

Funding in RCDC category of “Genetics”, last ten years.

Knowledge of national, and international, grant data allows fast and accurate benchmarking using any key term or research category.

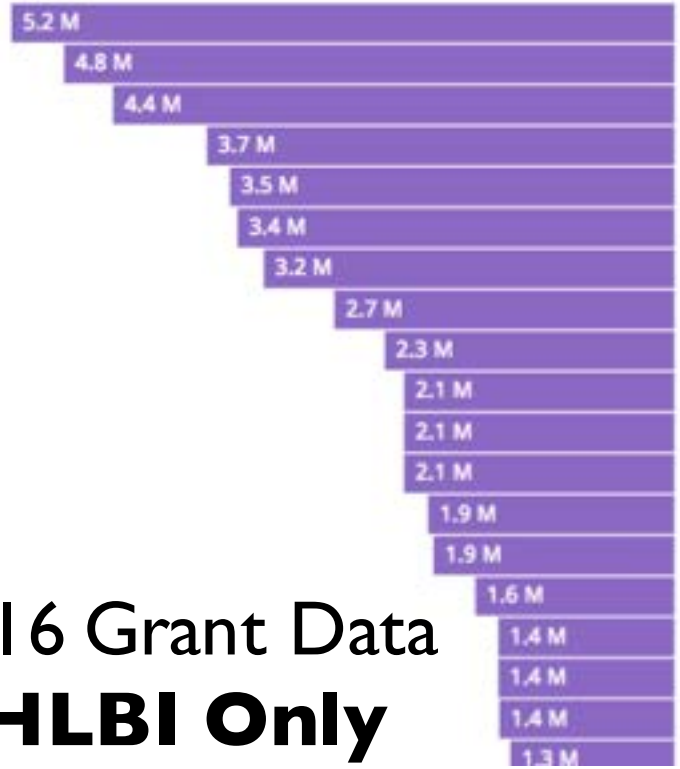
University X vs. University Y

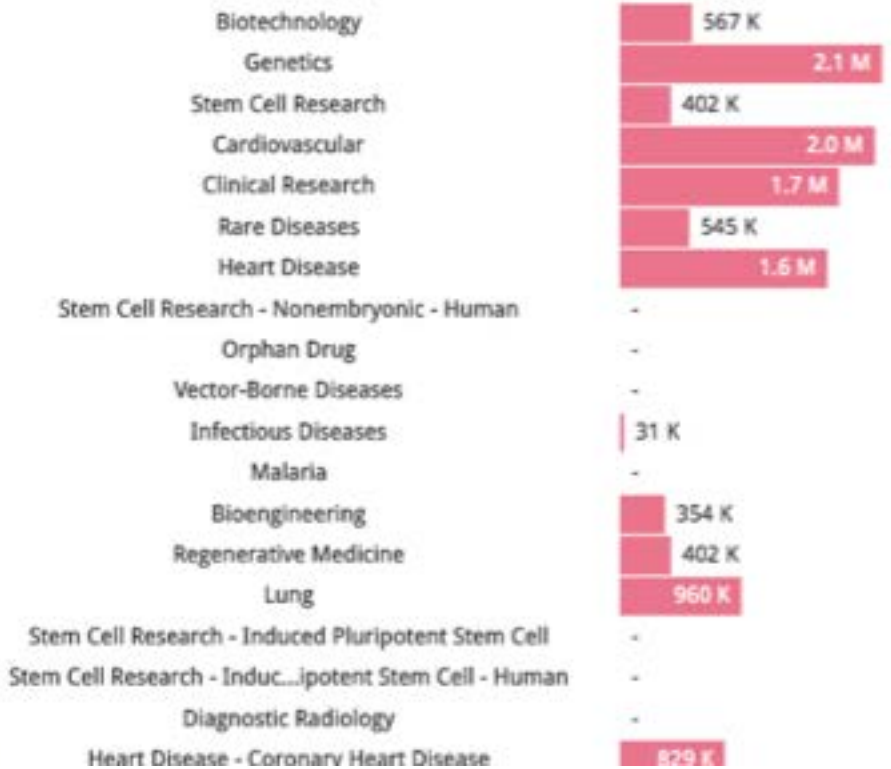


2016 Grant Data

Categorised using RCDC system

University X vs. University Y





2016 Grant Data
NHLBI Only

"Why are we not getting much funding from NHLBI?"

	Projects	Funding Amount Aggregated
Rafael Fridman Wayne State University, United States	5	EUR 4.5 M
Hing C Wong Altor BioScience (United States), United States	5	EUR 11.1 M
Virginia A Zakian Princeton University, United States	4	EUR 11.2 M
Ronald A Depinho University of Texas MD Anderson Cancer Center, United States	4	EUR 15.1 M
Titia De Lange Rockefeller University, United States	3	EUR 10.6 M
Steven E Artandi Stanford University, United States	3	EUR 5.0 M
Jayakrishnan Nandakumar University of Michigan–Ann Arbor, United States	3	EUR 897 K
Kathleen Collins University of California, Berkeley, United States	3	EUR 7.1 M

Who are the top people in this field?

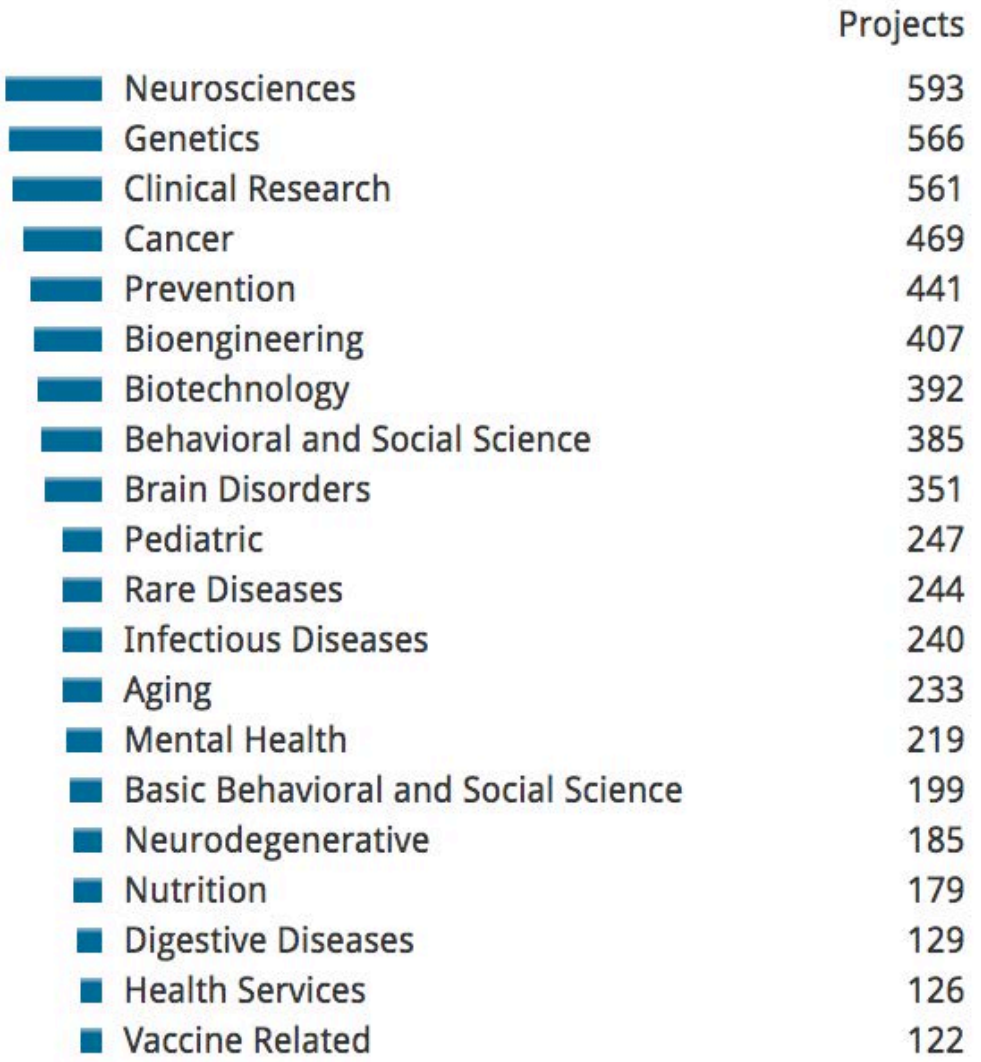
Could they be interested in moving to our new center of excellence?

What is their track record of attracting funding?

What are the strengths and weaknesses of the current research portfolio?

Where do we need to improve to meet strategy goals?

How might we be affected by a changing political climate over the next few years?



Establishing in vitro carcinoma models of the Alternative Lengthening of Telomeres pathway to elucidate molecular mechanisms and identify therapeutic vulnerabilities **NATIONAL CANCER INSTITUTE** to MINDY KIM GRAHAM	EUR 2017	- 	**51,500** 2019

What other grants do we already have that relate to this topic? When will they run out?

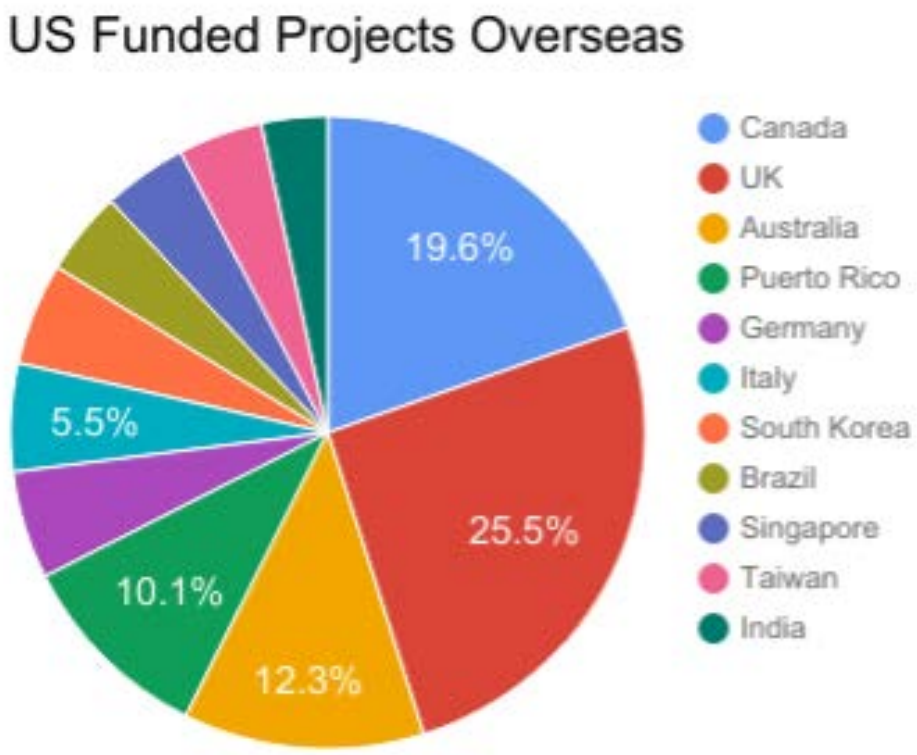
Determining the Roles of ATRX and DAXX Abnormalities in Cancer Telomere Biology **NATIONAL CANCER INSTITUTE** to ALAN KEITH MEEKER	EUR 2013	- 	**1,388,464** 2017
Mechanisms of subtelomere recombination in telomerase deficient tumors **NATIONAL CANCER INSTITUTE** to TAMMY A MORRISH	EUR 2011	- 	**196,549** 2012
Cellular Response to Short Telomeres in B-Cell Lymphoma **NATIONAL CANCER INSTITUTE** to CAROL W GREIDER	EUR 2011	- 	**2,000,866** 2017
Telomere Shortening and Stem Cell Maintenance **NATIONAL CANCER INSTITUTE** to MARY Y ARMANIOS	EUR 2006	- 	**581,176** 2011
Telomerase and the Consequences of Telomere Dysfunction **NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES** to CAROL W GREIDER	EUR 1989	- 	**3,651,884** 2013

Global Research Activity and Collaboration

Global Research Activity and Collaboration

Many international projects each year are funded by US Funders, as well as funding coming into the US from overseas.

Collaboration and partnerships across borders can be examined and strengthened when the international research picture can be easily explored.



Global Research Activity and Collaboration

Country of Funder	Number of Grants received
United States	4,350
Canada	595
France	119
Austria	46
Germany	45
Netherlands	9

Grants coming in from overseas to a major US University

With international data in funding, publications, metrics and altmetrics, a truly global perspective can be gained.

- Where do we attract overseas funding from, and how could we expand this?
- Who are the main collaborating institutions overseas from our researcher's publications?
- Which overseas partnerships could be particularly beneficial?

Alternative and responsible metrics

Altmetric

Dynamic attention and immediacy indicators

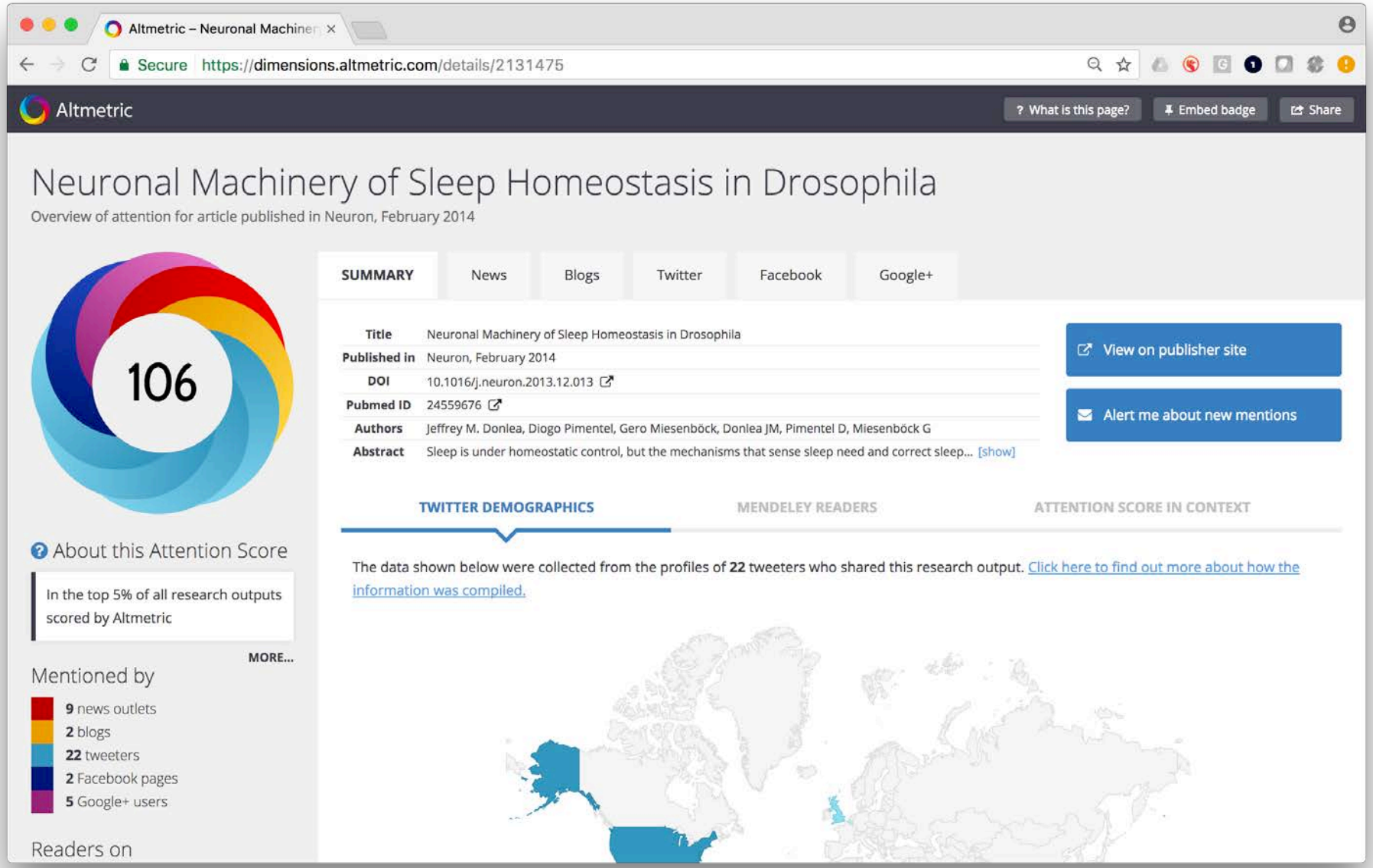
From non-traditional sources

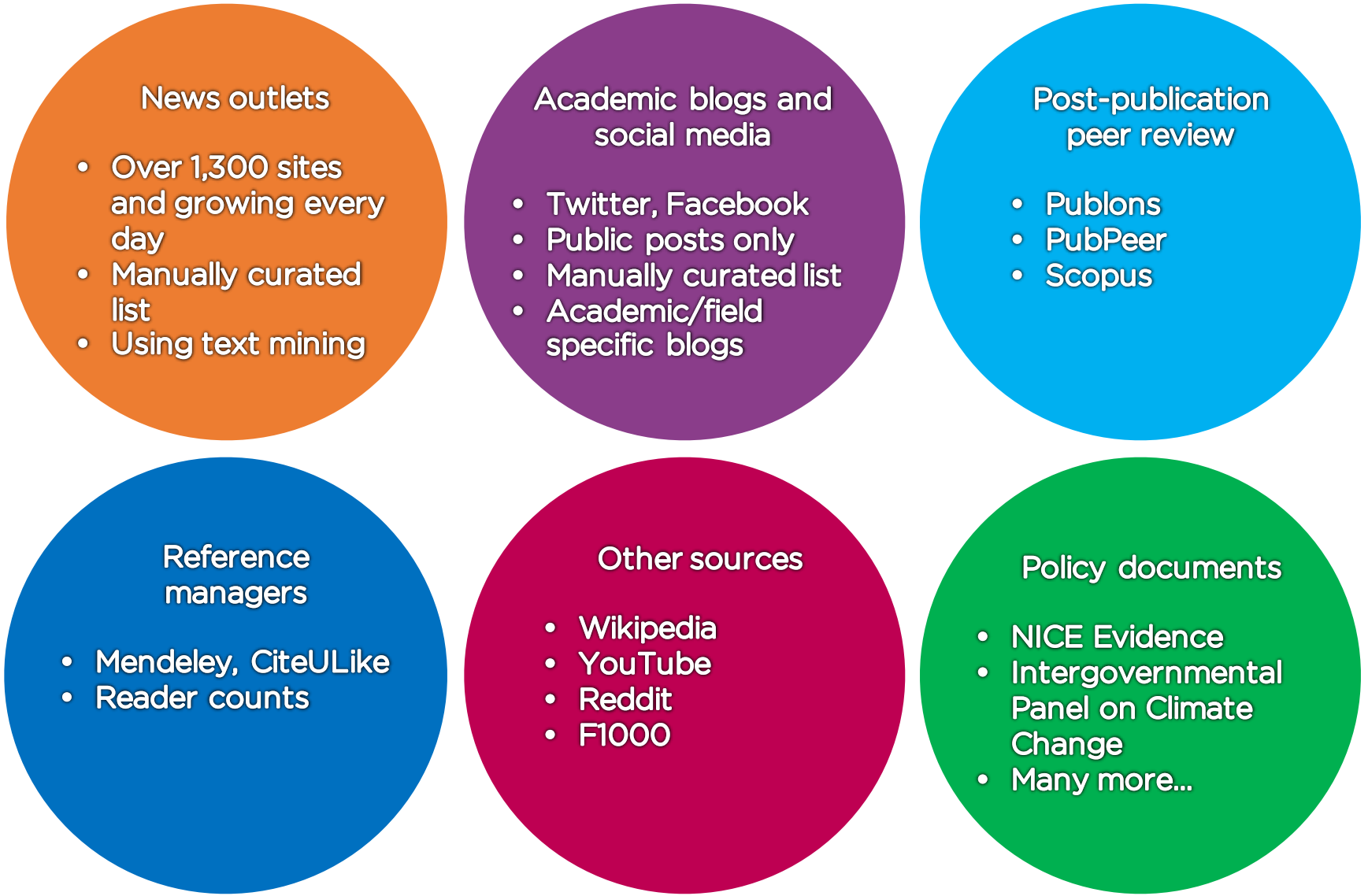
figshare
get credit for your research

MENDELEY

Indicating non-traditional use by many audiences

Altmetric aggregates attention information from many different sources, in real time, so that attention and reaction can be seen, and tracked, as it is happening.





Mentions are tracked from a huge range of sources.

Where has the research of your faculty been featured recently?

Citations, citations, citations……..

Citations are, of course, still the main way in which most people measure the impact of a publication within the research community. However, comparison between articles can be skewed, due to date of publication, or the normal patterns of citation between fields.

Enter the Relative Citation Ratio (RCR).

Developed by the Office for Portfolio Analysis (OPA) at the NIH, the RCR takes citations, and standardises them based on

1. The time of publication
2. The research "ecosystem" in which the paper has been published.

Linking different data points on one research process

Combining and connecting all of this information and metrics allows for the examination of research as an ongoing process instead of a loosely connected series of data points.

Linking different data points on one research process

Grant

Function and plasticity of neural circuits in Drosophila USD **2,540,100**
MRC to Gero Miesenböck **2008** - **2012**

Resultant Publications and Associated Metrics

Sparse, decorrelated odor coding in the mushroom body enhances learned odor discrimination.
Andrew C Lin, Alexei M Bygrave, Alix de Calignon, Tzumin Lee, Gero Miesenböck
Nature neuroscience. 2014; 17(4):559-68.

Neuronal machinery of sleep homeostasis in Drosophila.
Jeffrey M Donlea, Diogo Pimentel, Gero Miesenböck
Neuron. 2014; 81(4):860-72.

Odor discrimination in Drosophila: from neural population codes to behavior.
Moshe Parnas, Andrew C Lin, Wolf Huetteroth, Gero Miesenböck
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Sparse, decorrelated odor coding in the mushroom body enhances learned odor discrimination. **Andrew C Lin, Alexei M Bygrave, Alix de Calignon, Tzumin Lee, Gero Miesenböck** Nature neuroscience. 2014; 17(4):559-68.	3.32	32	
Neuronal machinery of sleep homeostasis in Drosophila. **Jeffrey M Donlea, Diogo Pimentel, Gero Miesenböck** Neuron. 2014; 81(4):860-72.	3.5	30	
Odor discrimination in Drosophila: from neural population codes to behavior. **Moshe Parnas, Andrew C Lin, Wolf Huetteroth, Gero Miesenböck** Neuron. 2013; 79(5):932-44.	1.84	25	

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The Washington Post

A molecule called 'Sandman' could help solve the 'mystery of sleep'

Resultant Publications and Associated Metrics

	RCR score	Times Cited	Altmetric Attention Score
Sparse, decorrelated odor coding in the mushroom body enhances learned odor discrimination. **Andrew C Lin, Alexei M Bygrave, Alix de Calignon, Tzumin Lee, Gero Miesenböck** Nature neuroscience. 2014; 17(4):559-68.	3.32	32	28
Neuronal machinery of sleep homeostasis in Drosophila. **Jeffrey M Donlea, Diogo Pimentel, Gero Miesenböck** Neuron. 2014; 81(4):860-72.	3.5	30	106
Odor discrimination in Drosophila: from neural population codes to behavior. **Moshe Parnas, Andrew C Lin, Wolf Huetteroth, Gero Miesenböck** Neuron. 2013; 79(5):932-44.	1.84	25	6

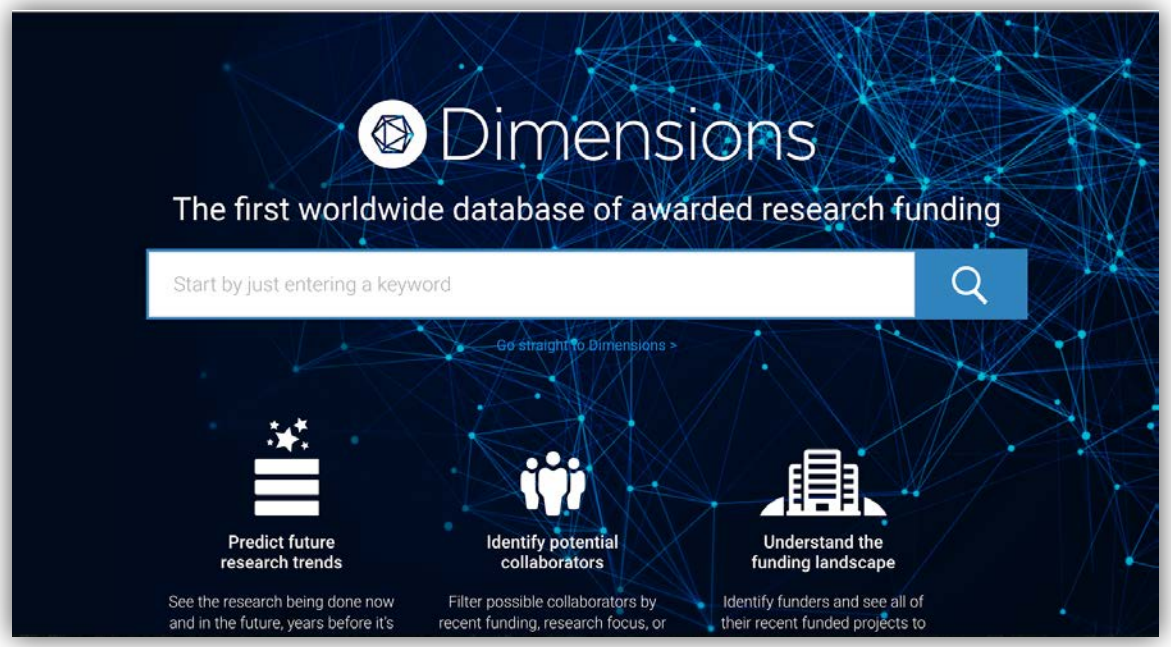
Supporting Researchers with Funding Information

Supporting researchers with funding information

Researchers can also find this information extremely useful and interesting, and it can be used to support them in very tailored ways.

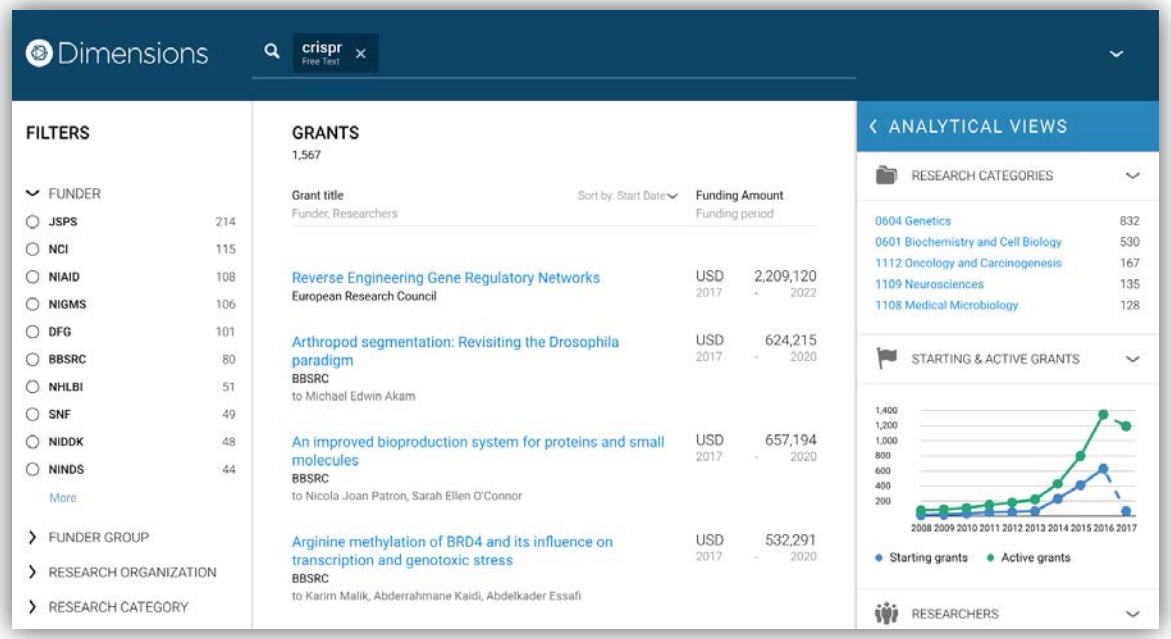
They can -

- build awareness about own research environment
- learn who within their own field has new grants
- detect trending topics in own field before results are published
- find collaborators, potential employers and competitors
- inform new grant applications



Now, for the first time, worldwide grant funding data is available for researchers themselves to explore.

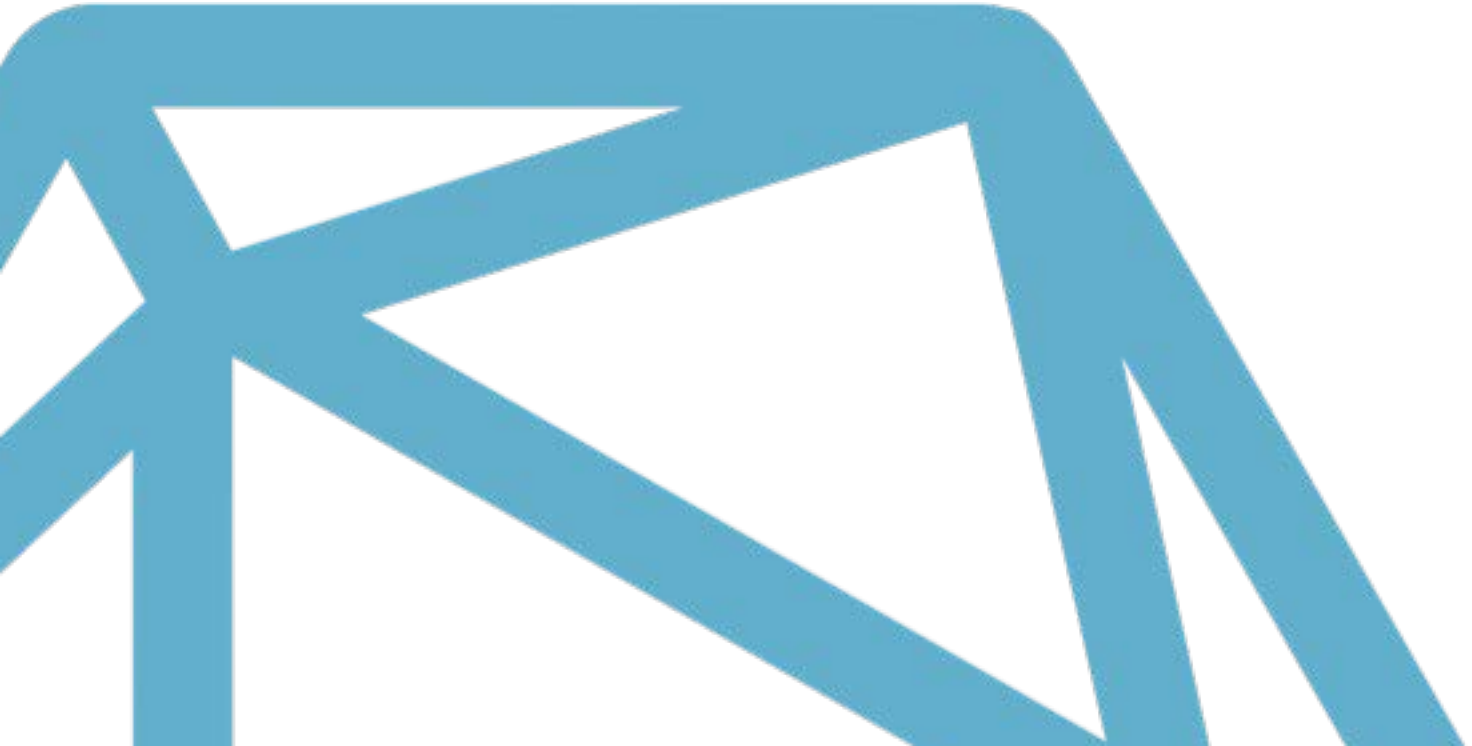
A simple search interface, accessed through institutional IP range, allowing researchers to instantly see what is going on in their field across the world.



Summary

Summary

- Research information is not just publications and citations
- World wide funding, and attention information is readily available, and can integrate with publication information to give a near real-time and forward-looking picture of research activity.
- The availability of all of this information means that almost any area of research management, analysis or research itself, can become better informed of the present state of research – at a very general/global or very specific/local level.
- More perspectives leads to better decision making.
- The limitation should no longer be the data available, but the questions that need to be asked!



Thank you.

Please come and see us at our poster presentations!