



SN SciGraph

+ **SN** Insights

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*Bibliothekartag
June 2018
Berlin*

SPRINGER NATURE

Agenda (20 Min Talk + 10 Min Q&A)

SN SciGraph

- Motivation
- Linked Open Data
- Recent Success Stories

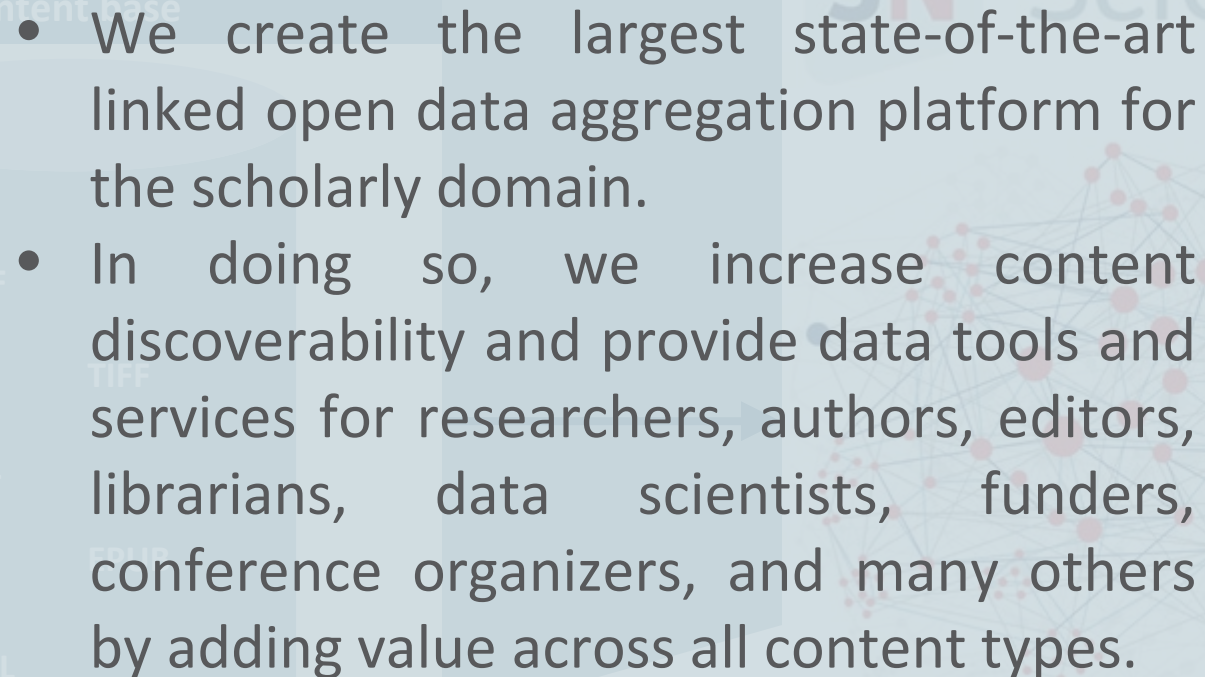
SN Insights

- Product Proposition
- Powered by Dimensions
- Use Cases & Product Model

SN SciGraph

SN SciGraph: **Motivation**

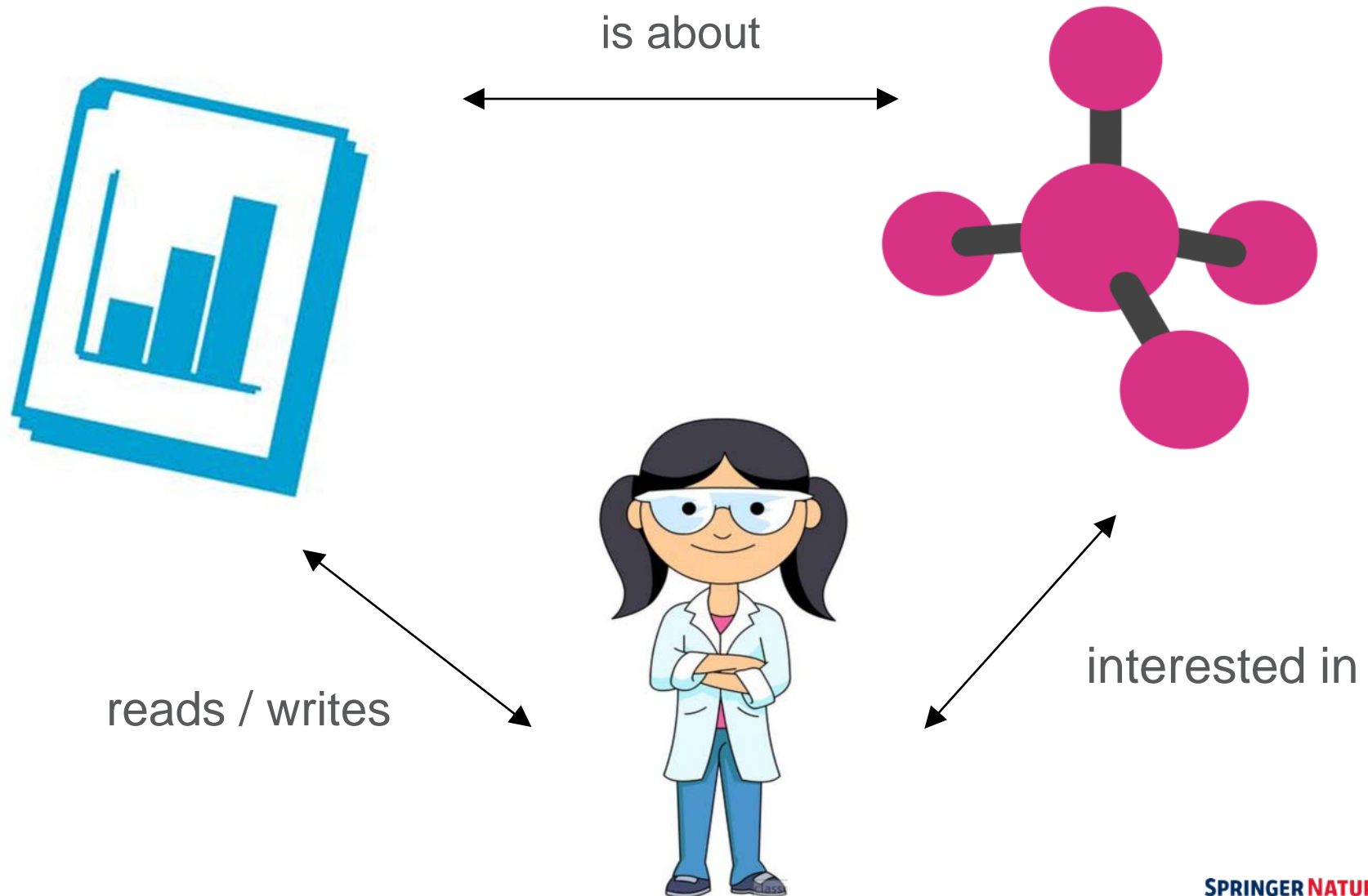
Vision: From Content to Data

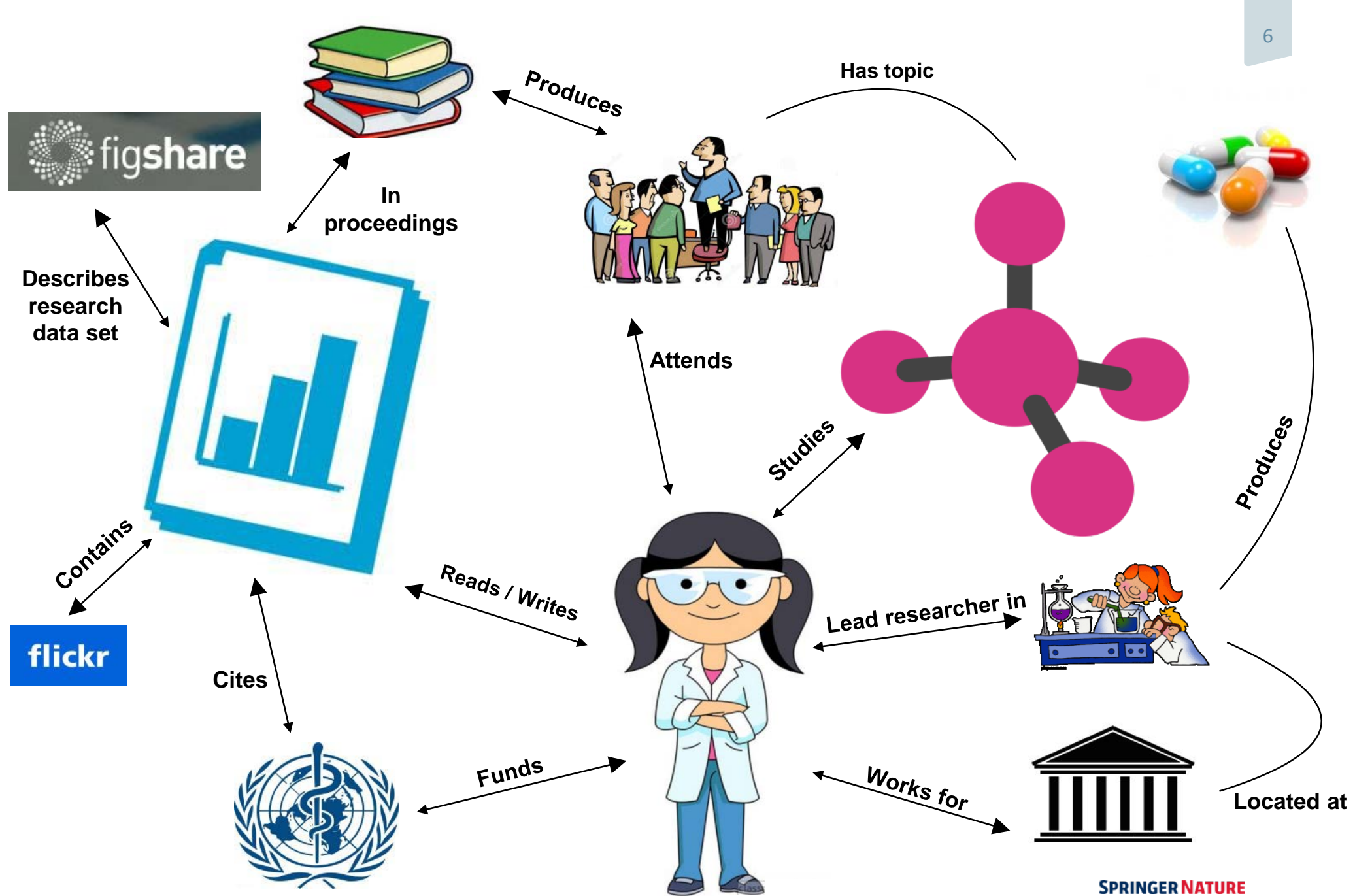
- 
- We create the largest state-of-the-art linked open data aggregation platform for the scholarly domain.
 - In doing so, we increase content discoverability and provide data tools and services for researchers, authors, editors, librarians, data scientists, funders, conference organizers, and many others by adding value across all content types.

We publish content

We manage knowledge

Three Areas Of Knowledge We Focus On

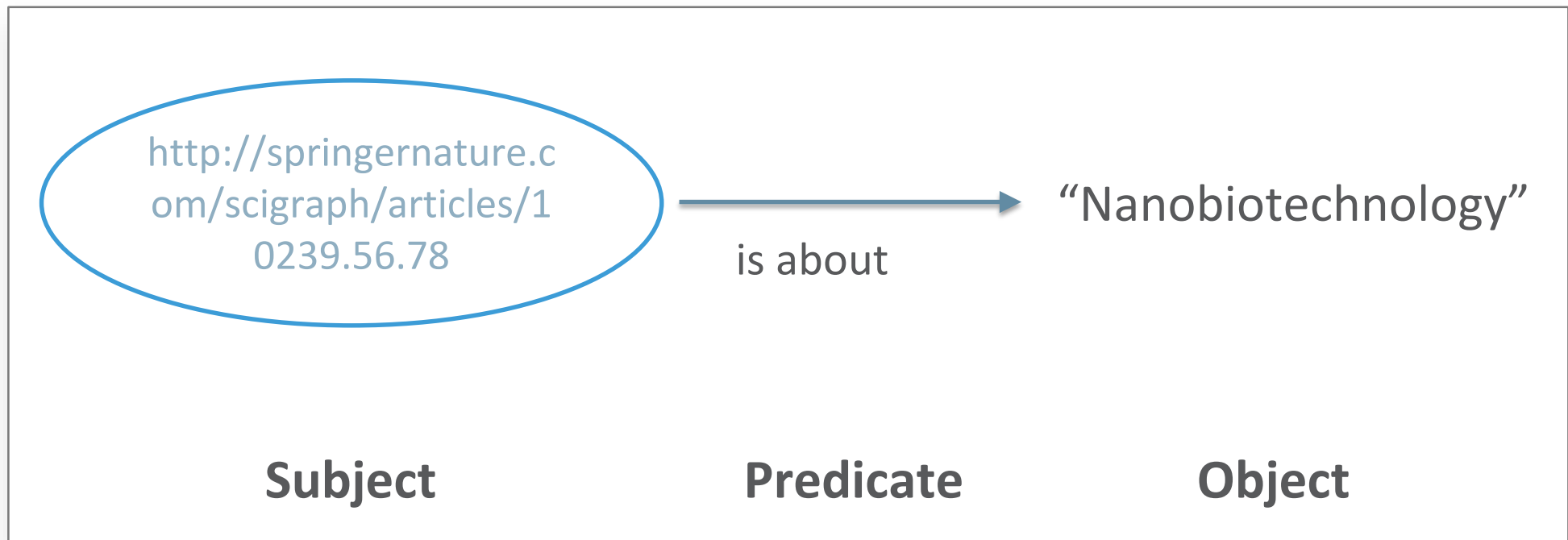




SN SciGraph: Linked Open Data

How? Via the Resource Description Framework (RDF)

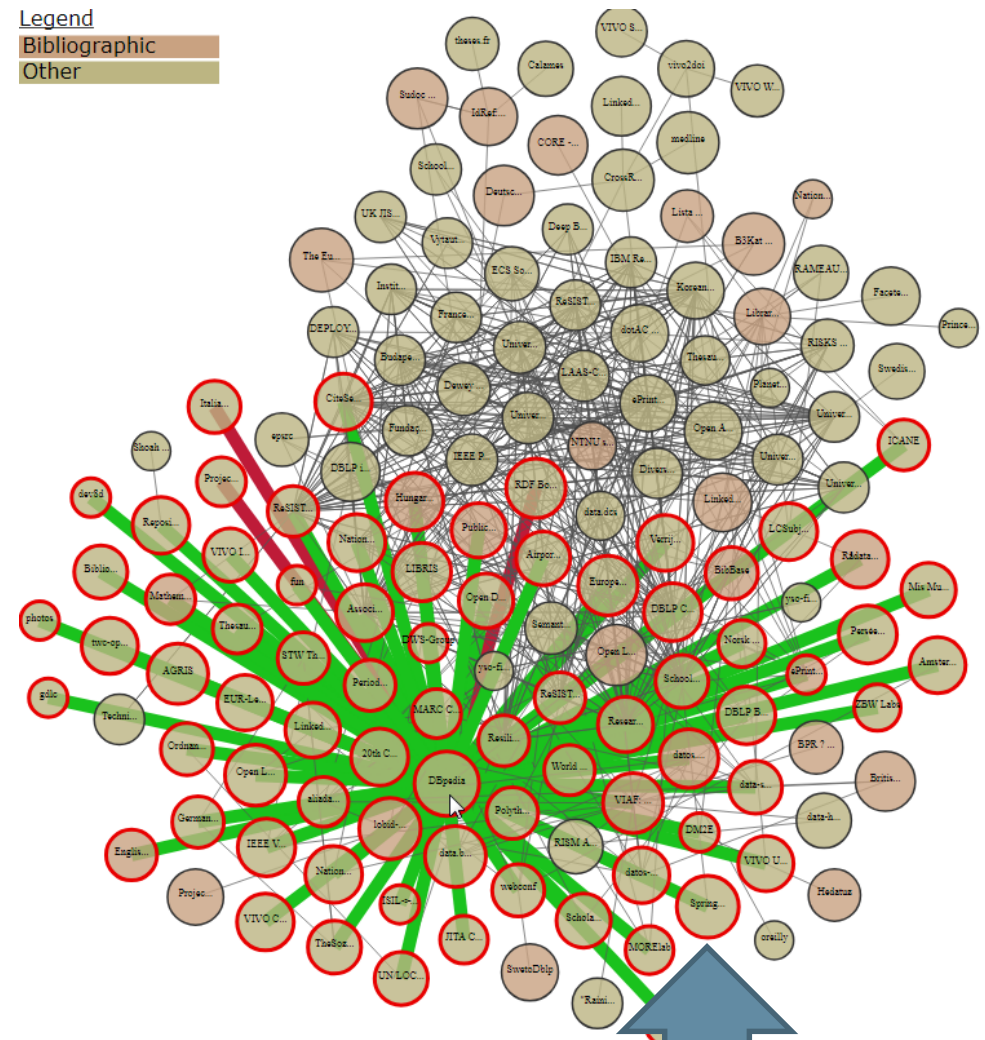
Essential Linked Data Basics: A statement of subject > predicate > object



.. is a so called 'Triple'.

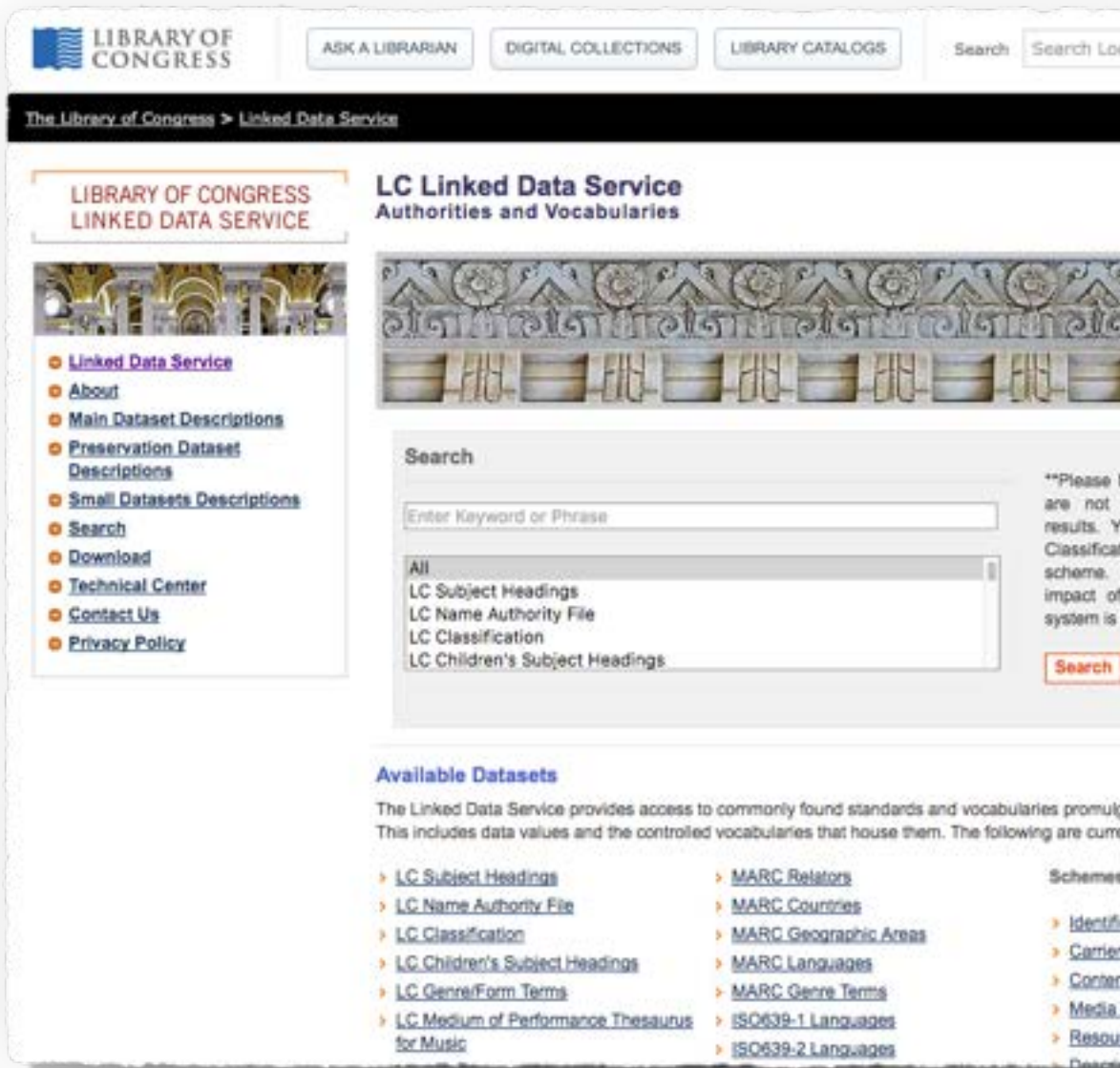
Why Linked Open Data (LOD)?

- Make data **machine-readable, interoperable, and re-usable**
- **Increase discoverability** of related data through linking
- **Combine data** from different sources
- **Drive traffic and usage** to library catalogues & platforms
- Linked dataset **publishing**
 - Collaborate with other LOD providers
 - Support Library Linked Data
 - Be part of the LOD cloud



The Publications Linked Open Data Cloud from lod-cloud.net

Libraries using Linked Data



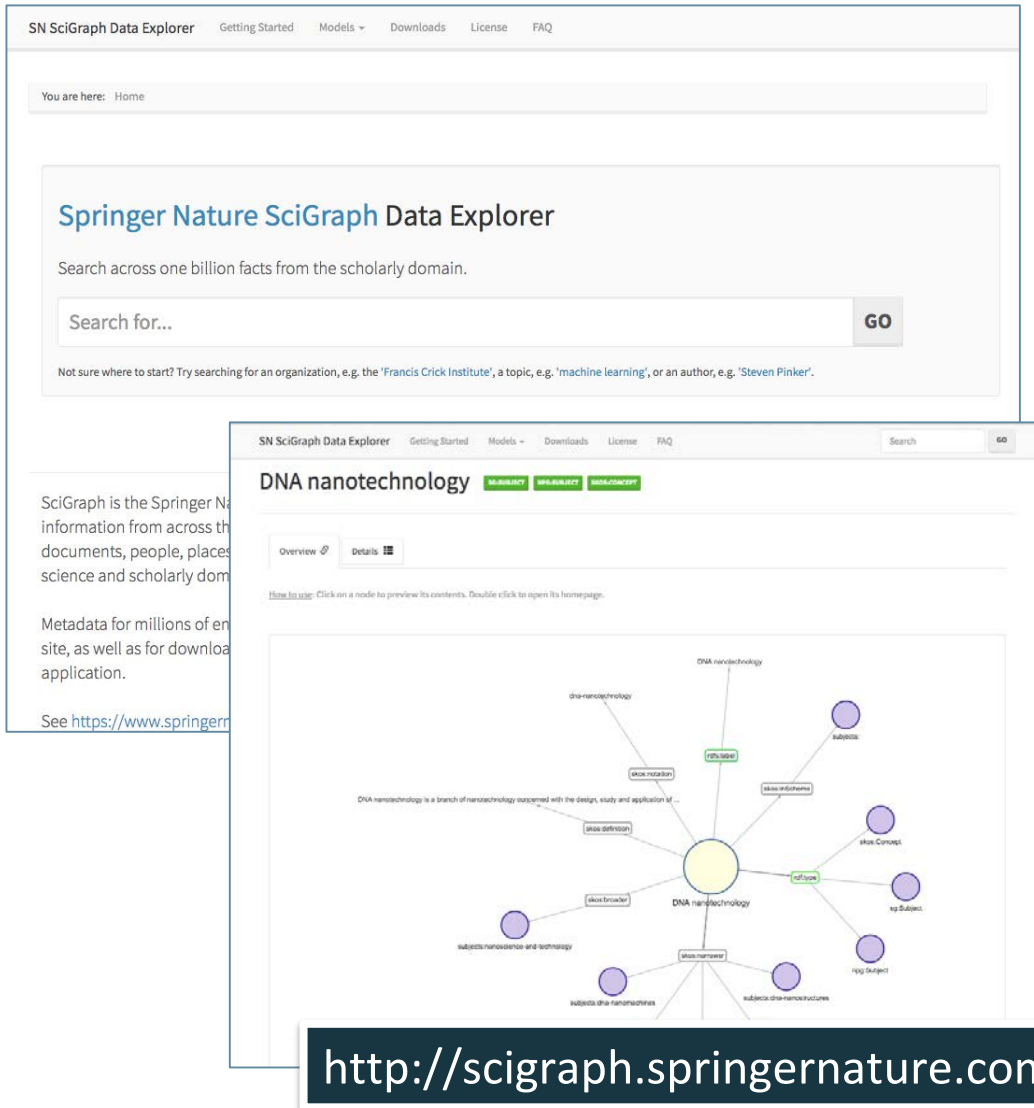
Library of Congress Linked Data Service (2009)

- A library catalog “must be designed by considering its context of the Web”
- Access to data at no cost.
- Ability to link to Library of Congress data values within your metadata via Linked Data.

Other libraries:

- British Library (**BL**)
- French National Library (**BNF**)
- German National Library (**DNB**)
- National Library of Spain (**BNE**)
- National Library of Sweden (**LIBRIS**)
- Hungarian National Library (**NSL**)

Linked Open Data Publishing So Far



Nov 2017 Release:

- 1 billion facts / 200 gb download size
- Licensing: CC0, CC-BY-NC & CC-BY

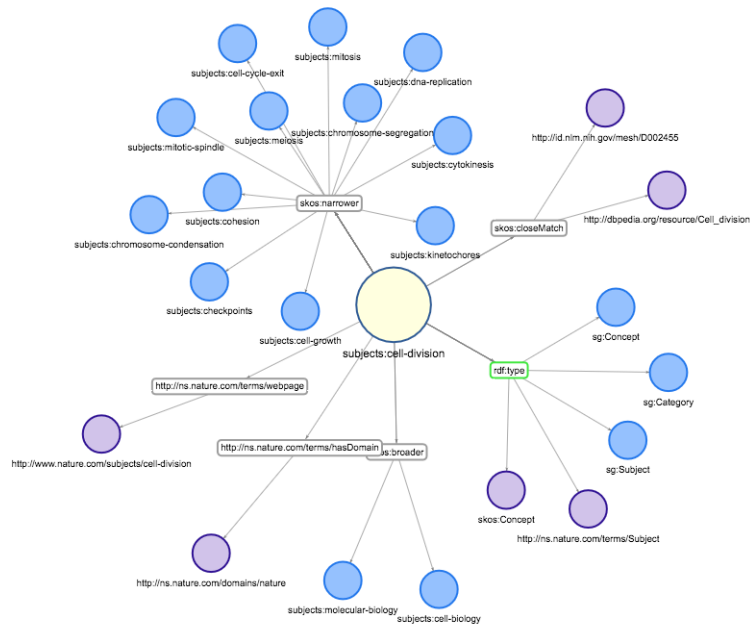
Metadata about:

- Journals & Articles (8M) + Abstracts
- Books & Chapters (4M)
- Grants (200k)
- Subjects, Research Organizations, Conferences, Ontologies (100k)
- Links to to other datasets (20M): Crossref, GRID, MESH, DBpedia, Wikidata

Linked Open Data Explorer

Cell division

Cell division is the process by which a parental cell gives rise to two daughter cells. The process involves both nuclear division and cytokinesis and can either produce two equal cells (symmetric cell division) or two cells with different cellular fates (asymmetric cell division).



Purpose

- simple UI for exploring graph contents interactively
- internal version: unrestricted access to data and statistics
- external version: only public data, allows linked data 'dereferencing'

Features

- text & graphical UI on top of graph database
- one page per URI, permits to download machine readable descriptions of data

SN SciGraph: Recent Success Stories

Linked Open Data Put To Use By The Open University, UK

Geographical trends in research: a preliminary analysis on authors' affiliations

Andrea Mannocci, Francesco Osborne, Enrico Motta

Knowledge Media Institute, The Open University, Milton Keynes, UK
name.surname@open.ac.uk

Abstract. In the last decade, research literature reached an enormous volume with an unprecedented current annual increase of 1.5 million new publications. As research gets ever more global and new countries and institutions, either from academia or corporate environment, start to contribute with their share, it is important to monitor this complex scenario and understand its dynamics.

We present a study on a conference proceedings dataset extracted from Springer Nature Scigraph that illustrates insightful geographical trends and highlights the unbalanced growth of competitive research institutions worldwide. Results emerged from our micro and macro analysis show that the distributions among countries of institutions and papers follow a power law, and thus very few countries keep producing most of the papers accepted by high-tier conferences. In addition, we found that the annual and overall turnover rate of the top 5, 10 and 25 countries is extremely low, suggesting a very static landscape in which new entries struggle to emerge. Finally, we highlight the presence of an increasing gap between the number of institutions initiating and overseeing research endeavours (i.e. first and last authors' affiliations) and the total number of institutions participating in research. As a consequence of our analysis, the paper also discusses our experience in working with affiliations: an utterly simple matter at first glance, that is instead revealed to be a complex research and technical challenge yet far from being solved.

Keywords: Scholarly knowledge, affiliations, conferences, scientometrics, research, scigraph

Best paper award at WWW 2018

Focus on conference proceedings data in SN SciGraph from 1996 to 2017

Findings :

- “few countries keep producing most of the papers accepted by high-tier conferences.
- “turnover rate [...] is extremely low [...] new entries struggle to emerge.
- “increasing gap between the number of institutions initiating and overseeing research [...] and the total number of institutions participating in research”



DBpedia Subjects Browser

Subject:

C-peptide

The connecting peptide, or C-peptide, is a short 31-amino-acid polypeptide that connects insulin's A-chain to its B-chain in the proinsulin molecule. In the insulin synthesis pathway, first preproinsulin is translocated into the endoplasmic reticulum of beta cells of the pancreas with an A-chain, a C-peptide, a B-chain, and a signal sequence. The signal sequence is cleaved from the N-terminus of the peptide by a signal peptidase, leaving proinsulin. After proinsulin is packaged into vesicles in the Golgi apparatus (beta-granules), the C-peptide is removed, leaving the A-chain B-chain, bound together by disulfide bonds, that constitute the insulin molecule.

View on DBpedia

View on Wikipedia

Co-occurring subjects:

Subjects:

C-peptide

+

Diabetes mellitus remove

+

Insulin remove

Reset

SN SciGraph articles tagged with this subject: 20

Note: open an article panel to load its metadata from SNSciGraph ([open all](#))

1. <http://scigraph.springernature.com/things/articles/00e95d9c5eec61454b2482f0a11dfbf7>

Title Effect of paricalcitol on pancreatic oxidative stress, inflammatory markers, and glycemic status in diabetic rats [View SN SciGraph record](#)

DOI 10.1007/s11845-017-1635-7 [View publication](#)

Abstract ObjectivesThis study is designed to explore the effect of paricalcitol (vitamin D receptor agonist) on pancreatic oxidative stress, inflammatory markers, and adiponectin and glycemic status in diabetic rats. Materials and methodsForty Sprague-Dawley male rats aged 10–12 weeks (150–250 g) were used in this study. Type 2 diabetes was developed by providing 4 weeks of high-fat diet feeding before one shot of streptozotocin injection (40 mg/kg i.p.). Four study groups were designed as normal control rats, diabetic control vehicle-treated, diabetic paricalcitol-treated (0.8 µg/kg), and diabetic glibenclamide-treated (0.6 mg/kg) groups with 10 animals in each. After treatment of diabetic rats for 3 months, pancreatic inflammatory and oxidative stress markers, plasma adiponectin, glycemic status parameters, and histopathological pancreatic islet changes were evaluated. ResultsParicalcitol and glibenclamide treatment significantly ($P < 0.05$) decreased plasma glucose, insulin resistance, and pancreatic malondialdehyde and tumor necrosis factor- α levels. Moreover, they significantly ($P < 0.05$) increased plasma fasting insulin, C-peptide, adiponectin, pancreatic IL-2, catalase, superoxide dismutase, glutathione peroxidase, and reduced glutathione when contrasted with diabetic control rats. Furthermore, they prevented extensive histopathological damage in the pancreas of diabetic rats. ConclusionsParicalcitol reduced pancreatic oxidative stress and inflammatory markers, and improved glycemic status in diabetic rats.

DBpedia subjects: [Adiponectin](#) [Agonist](#) [Blood plasma](#) [C-peptide](#) [Calcitriol receptor](#) [Diabetes mellitus type 2](#) [Glucose](#) [Histopathology](#) [Insulin](#) [Interleukin 2](#) [Laboratory rat](#) [Malondialdehyde](#) [Oxidative stress](#) [Pancreas](#) [Superoxide dismutase](#) [Tumor necrosis factor-alpha](#)

SN SciGraph articles tagged with these subjects: 4

Note: open an article panel to load its metadata from SNSciGraph ([open all](#))

1. <http://scigraph.springernature.com/things/articles/1d7c447404635f1f57ad9472a322dd13>

2. <http://scigraph.springernature.com/things/articles/1da603dd75ebc2fca43819cf1d43302>

3. <http://scigraph.springernature.com/things/articles/927f4b1caf113107171428d91fa28793>

4. <http://scigraph.springernature.com/things/articles/96b2b571be6f2c28ba27e9c47e00ce42>

What is this?

The prototype allows to search a collection of 2017 SN journal articles which have been semantically enriched using DBpedia subjects.

Purpose and Code:

The purpose of this prototype is to evaluate the quality of the subjects and generate more ideas for future applications.

For more info, see the project source code on GitHub

<https://github.com/dbpedia/sci-graph-links/>

SN Insights

SN Insights: **Product Proposition**

SN Insights – Powered by Dimensions

- ✓ Offering analytics **on top of Dimensions** with **proprietary data** from Springer Nature
- ✓ Providing the power of Dimensions, combined with downloads & denial stats, journal impact metrics, indexing status, map functionalities and more
- ✓ The **external product** offers a view of SN publications data in Dimensions, connected to grants, patents and clinical trials, along with selected SN proprietary data

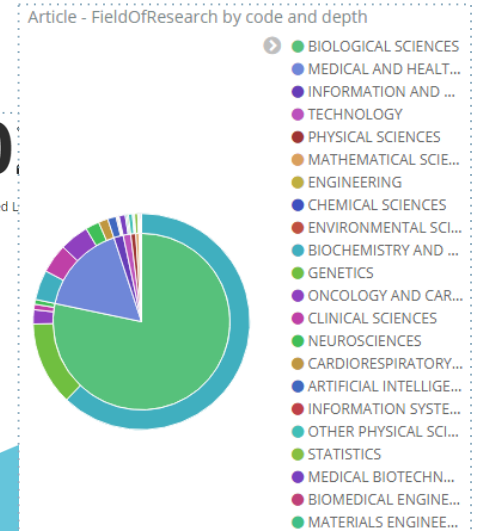
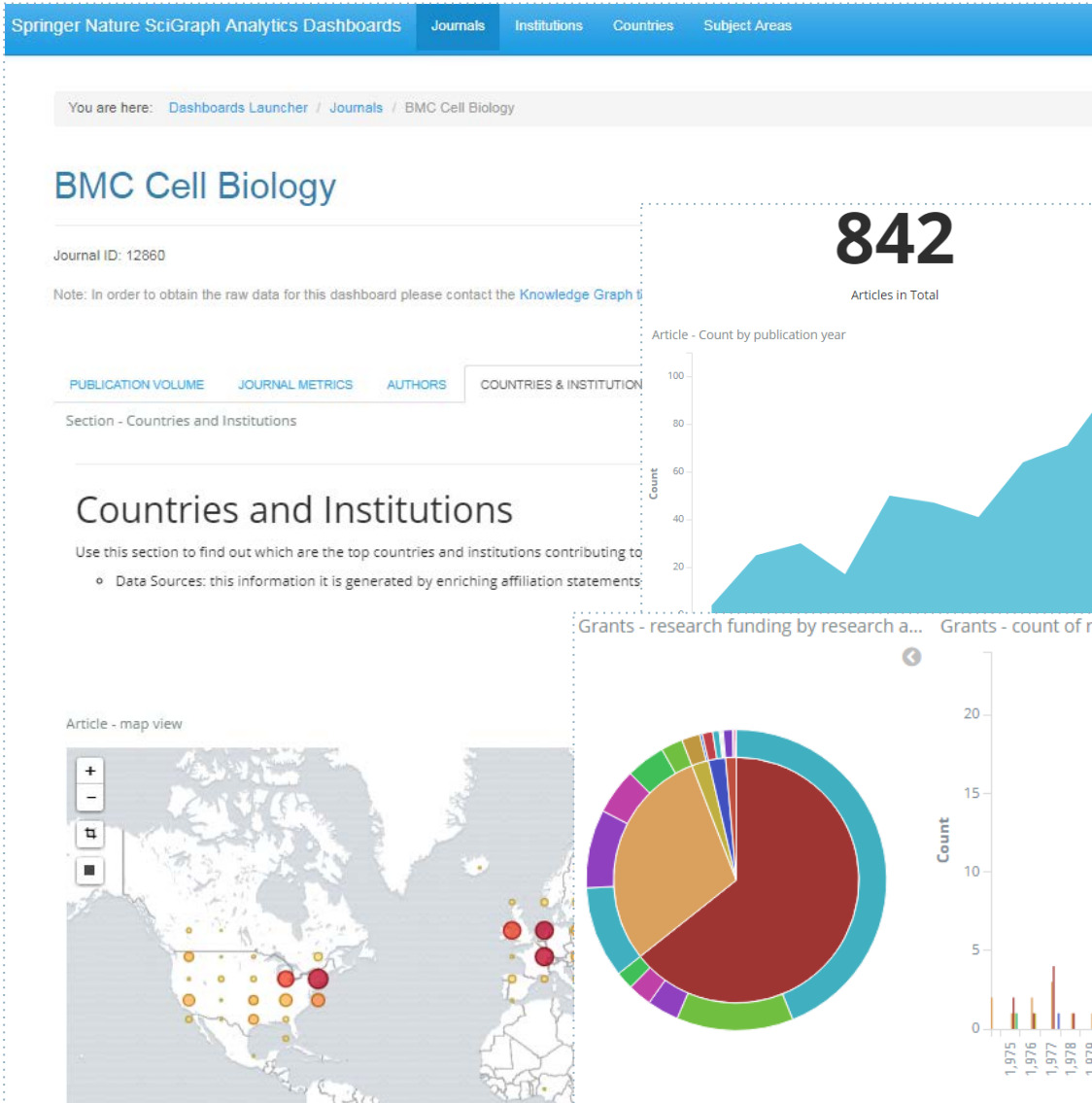


The SN Insights Product Proposition

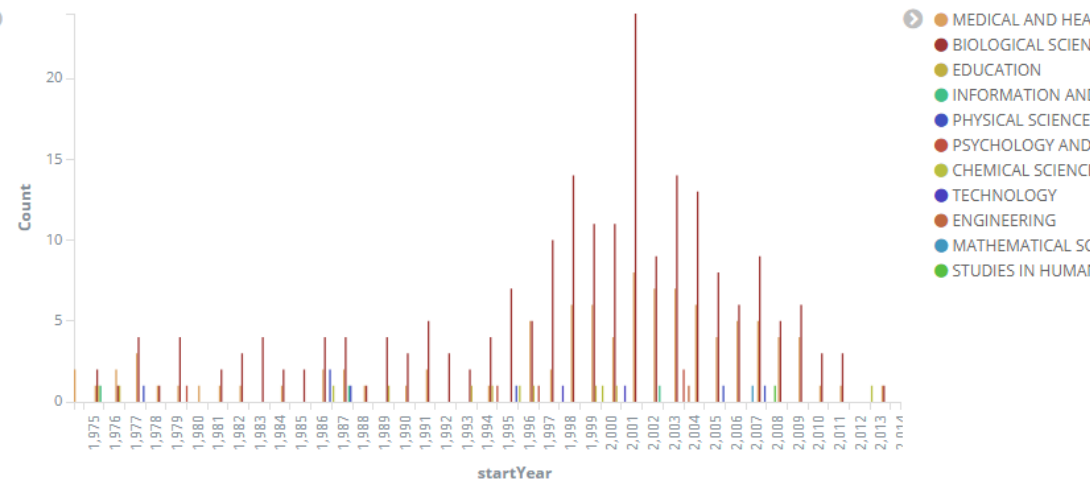
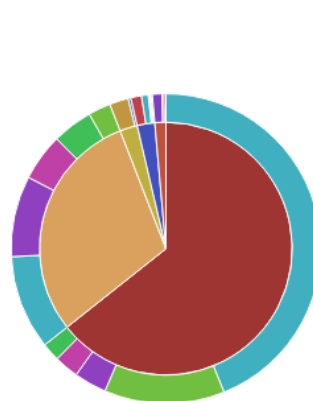
- Understand how a customer **uses, accesses, and relates** to Springer Nature content
- Connections between data points - in particular, the **influence Springer Nature has on a customer's** development pipeline, patents, grants and clinical trials
- A **rich understanding of a customer's research output** in some of the world's top publications, and how this leads to better research outcomes - in particular, realising ROI, value or revenue from publications
- Key stats on journals and books, OA and subscription data, to help librarians, and their key users, **make more informed and better publication decisions**
- A tool **enabling researchers** to measure their output in the SN world

SN Insights: **Powered by Dimensions**

Steps towards an SN SciGraph Analytics platform



Grants - research funding by research a... Grants - count of research grants per year and subject area



Partnering up with Digital Science to create 'SN Insights'

Scientific Reports

Free text in full data

Save / Export

Support

Sara Grimme

FILTERS

FAVORITES

PUBLICATIONS

6,147,075

GRANTS

19,597

PATENTS

275,909

CLINICAL TRIALS

2,101

< ANALYTICAL VIEWS

FIELDS OF RESEARCH

2018

2017

2016

2015

2014

2013

2012

2011

2010

2009

More

RESEARCHER (BETA)

FUNDER

RESEARCH ORG

FIELDS OF RESE

SN

SciGraph Insights

Nature

Source title

Save / Export

Michele Pasin

FILTERS

FAVORITES

SOURCE TITLE

Nature

408,182

JOURNAL LIST

PUBLICATION YEAR

PUBLICATION TYPE

OPEN ACCESS

RESEARCHER (BETA)

David Cyranoski

436

Quirin Schiermeier

361

Paul Smaglik

Limit to

Erika Check Hayden

221

David Swinbanks

175

FIG Rawlins

146

Eugenie Samuel Reich

131

Erika Check Hayden

98

Zeeya Merali

88

William J S Lockyer

87

More

RESEARCH ORGANIZATION

Nature

Publications

408,182

SNIP

8.039

SJR

18.134

PUBLICATIONS

408,182

GRANTS

selected filter not applicable

PATENTS

selected filter not applicable

CLINICAL TRIALS

selected filter not applicable

Sort by: Publication Date

Title, Author(s), Bibliographic reference - About the metrics

Complete Ichthyornis skull illuminates mosaic assembly of the avian head

Daniel J. Field, Michael Hanson, David Burnham, Laura E. Wilson, Kristopher Super, Dana Ehret, Jun A. Ebersole, B...

2018, Nature - Article

Add to Library

Blastocyst-like structures generated solely from stem cells

Nicolas C. Rivron, Javier Frias-Aldeguer, Erik J. Vrij, Jean-Charles Boisset, Jeroen Korving, Judith Vivié, Roman K. ...

2018, Nature - Article

Add to Library

Helium in the eroding atmosphere of an exoplanet

J. J. Spake, D. K. Sing, T. M. Evans, A. Oklopčić, V. Bourrier, L. Kreidberg, B. V. Rackham, J. Irwin, D. Ehrenreich, A. ...

2018, Nature - Article

Add to Library

< ANALYTICAL VIEWS

RESEARCH CATEGORIES

0601 Biochemistry and Cell Biology

18,547

2103 Historical Studies

12,067

0604 Genetics

11,140

0403 Geology

9,118

0306 Physical Chemistry (incl. Structural)

8,379

OVERVIEW

RCR Mean

1.96

FCR Mean

13.81

5,000

2,500

0

2009

2010

2011

2012

2013

2014

2015

2016

2017

2018

Publications

RESEARCHERS (BETA)

David Cyranoski

436

Quirin Schiermeier

361

Paul Smaglik

325

University of Wisconsin–Madison, United States

FILTERS FAVORITES

- ▶ SOURCE TITLE
- ▶ JOURNAL LIST
- ▶ SN - IMPRINT
- ▶ SN - PUBLISHER NAME
- ▶ SN - REPORTING KEY
- ▶ PUBLICATION YEAR
- ▶ PUBLICATION TYPE
- ▶ OPEN ACCESS
- ▶ RESEARCHER
- ▶ RESEARCH ORGANIZATION
- ▶ COUNTRY
- ▶ STATE/REGION
- ▶ CITY
- ▶ SN - MAIN DISCIPLINE
- ▶ FIELDS OF RESEARCH
- ▶ RESEARCH, CONDITION, AND DI...
- ▶ HEALTH CATEGORY (HRCS)
- ▶ RESEARCH ACTIVITY CODES (H...
- ▶ HEALTH RESEARCH AREAS
- ▶ BROAD RESEARCH AREAS
- ▶ FUNDER
- ▶ FUNDER GROUP
- ▶ COUNTRY OF FUNDER
- ▶ SN - PUBLISHING UNIT
- ▶ SN - PUBLISHING DISCIPLINE
- ▶ SN - PUBLISHING SEGMENT
- ▶ SN - SALES FORMAT

Powered by Dimensions

PUBLICATIONS GRANTS PATENTS CLINICAL TRIALS

94,919,474

4,110,724

35,511,031

399,757

Sort by: Downloads ▼

Title, Author(s), Bibliographic reference - About the metrics

Vanishing time in the pursuit of happiness

Aekyoung Kim, Sam J. Maglio

2018, Bulletin of the Psychonomic Society - Article

349 27 Open Access Add to Library

Alcohol increases inattention blindness when cognitive resources are not consumed by ongoing task demands

Alistair J Harvey, Sarah J Bayless, Georgia Hyams

2018, Psychopharmacology - Article

38 154117 Open Access Add to Library

How much protein can the body use in a single meal for muscle-building? Implications for daily protein distribution

Brad Jon Schoenfeld, Alan Albert Aragon

2018, Journal of the International Society of Sports Nutrition - Article

552 44752 View PDF Add to Library

Serum thymidine kinase 1 activity as a pharmacodynamic marker of cyclin-dependent kinase 4/6 inhibition in patients with early-stage breast cancer receiving neoadjuvant palbociclib

Nusayba Egegn, Shana Thomas, Ning Liu, Jingqin Luo, Jeremy Hoog, Donald W. Northfelt, Matthew P. Go...

2017, Breast Cancer Research - Article

4 1 29267 View PDF Add to Library

Judaism as a Group Evolutionary Strategy

Nathan Cofnas

2018, Human Nature - Article

1 548 38073 Add to Library

"Who's a good boy?" Dogs prefer naturalistic

Alex Benjamin, Katie Slocombe

2018, Animal Cognition - Article

476 35854 Add to Library

Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016

Andrew Rhodes, Laura E. Evans, Waleed Alhazzani, Mitchell M. Levy, Massimo Antonelli, Ricard Ferrer, Anan...

2017, Intensive Care Medicine - Article

417 466 22831 Open Access Add to Library

Functional Status and Well-Being in People with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome Compared with People with Multiple Sclerosis and Healthy Controls

Caroline C. Kingdon, Erinna W. Bowman, Hayley Curran, Luis Nacul, Eliana M. Lacerda

2018, Pharmacoeconomics - Open - Article

2 318 19699 View PDF Add to Library

< ANALYTICAL VIEWS**RESEARCH CATEGORIES**

1103 Clinical Sciences	4,989,629
0601 Biochemistry and Cell Biology	2,837,313
1117 Public Health and Health Services	2,606,055
0306 Physical Chemistry (incl. Structural)	2,517,967
0912 Materials Engineering	2,207,944

OVERVIEW**RESEARCHERS**

Roman Gladyshevskii	7,886
K Cenuzal	7,706
Ch Wohlfarth	7,013
Ivan Cibulka	6,055
H V Khablan	5,974

SOURCE TITLES

Cheminform	791,875
The Lancet	467,899
BMJ	428,473
Nature	409,143
JAMA	335,445

FUNDERS

National Natural Science Foundation of Chi...	1,327,114
European Commission (EC)	512,665
National Cancer Institute (NCI)	512,056
Ministry of Science and Technology of the Pe...	447,851

Publication metrics**About****Dimensions Badge**

220 Total citations

91 Recent citations

n/a Field Citation Ratio

n/a Relative Citation Ratio

Altmetric

Twitter (4)

Mendeley (3259)

CiteULike (9)

SN Insights

6137 Downloads

3654 Denials

The Social Responsibility of Business Is to Increase Its Profits**Milton Friedman**

2007, Corporate Ethics and Corporate Governance - Chapter

220 4 6137 3654 Add to Library

SN Insights: Use Cases & Product Model

Key customers - external

User	Use case examples
Institutions (Libraries / Universities)	<ul style="list-style-type: none"> Understanding how Springer Nature content feeds into an institute's patent pipeline & the awarding of grants A measure of the value an institution gets out of the subscriptions they have
Corporations	<ul style="list-style-type: none"> Understanding how SN content contributes to the commercialisation of research output, in particular the granting of patents and creation of drug pipelines
Government	<ul style="list-style-type: none"> Where researchers are publishing and whether or not we see benefits in OA, high impact titles (i.e. the Nature collection) etc Changing trends in publication that can be seen from the SN landscape
Funders	<ul style="list-style-type: none"> Understand where awardees are publishing, especially in the higher impact journals or Open Access titles

Key customers - external

User	Use case examples
Researchers	<ul style="list-style-type: none"> • Measure impact, how and where an academic's work has been most effective • Get key insights into Springer Nature journals, to help choose where to submit
Societies	<ul style="list-style-type: none"> • Understand how research areas are changing over time to inform society strategy • Analyse journal/book performance to drive the creation of spin off titles
Editors in Chief	<ul style="list-style-type: none"> • Access statistics for their publication, to understand how it has been performing over time and to compare with top competitors • Check if their publication is properly indexed in Web of Science, Scopus, Compendex, Google Scholar etc.

External Product Model = Freemium Approach

Free product:

- The full offering of SN data - **limited to publications** from 2016 and older*
- Taking the **Green Open Access** model that customers are familiar with, and applying the same logic (i.e. 12-18 month embargo to the most recent content)
- Ring fenced with the same content **limitations as the Dimensions free version**

Paid-for product:

- All Springer Nature publications, **updated weekly**
- All **patent, grant and clinical trials** within Dimensions that relates to that content
- Includes proprietary Springer Nature data, e.g. **downloads & denials, entitlements**



Thank you!



How to get in touch:

- SN SciGraph & SN Insights Business Owner
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- SN SciGraph Portal
<https://www.springernature.com/scigraph>
- SN SciGraph Explorer
<https://scigraph.springernature.com/explorer>