

# Introduction to The Lens

An open facility for discovery,  
analysis, metrics and mapping of  
scholarly literature and patents

May 2021

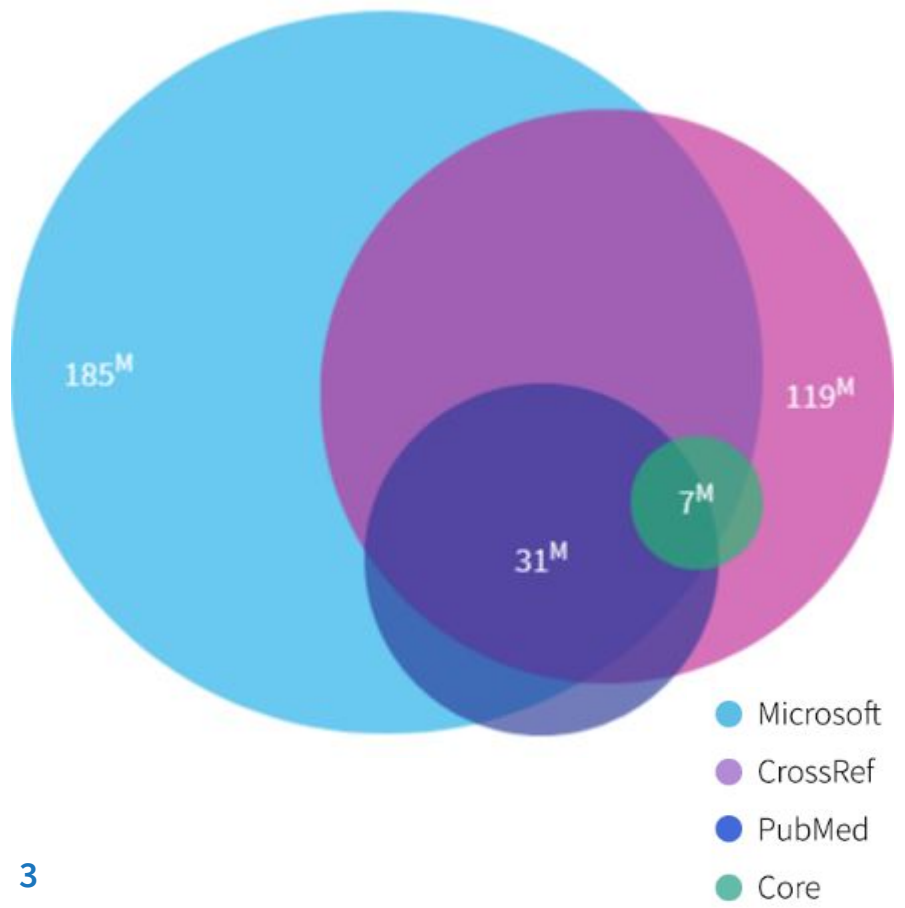




## BACKGROUND

# The Lens and Cambia

- Cambia, founded in 1991, started Patent Lens in 2001, the precursor of [lens.org](https://lens.org), the world's first free and open full text patent search capability.
- In 2006, launched the world's first public patent sequence search capability for United States patent applications.
- Since 2013, Lens.org has served the world most comprehensive public Patent Sequence platform to navigate biological patents from over 17 jurisdictions.
- In 2011, with seed money from USPTO, Cambia began extracting and resolving non-patent literature strings in collaboration with NIH-NCBI and Crossref.
- By 2014, Cambia linked non-patent literature to patents and began serving the data, created [PatCite](#) and [In4M](#) metric to map influence of research on industry and foster meaningful partnerships.
- Lens ensure privacy and confidentiality and its data is fully open, shareable and reusable.
- The platform has been up 24/7 for over 20 years.



FEBRUARY 2021

## Lens Scholarly Data

**227.7M scholarly works records:**

- 115.5M journal articles
- 21.4M Books and book chapters
- 7.3M conference proceedings
- 4.3M works cited in patents
- 76.8M works cited by other scholarly works
- 1.7B scholarly citations

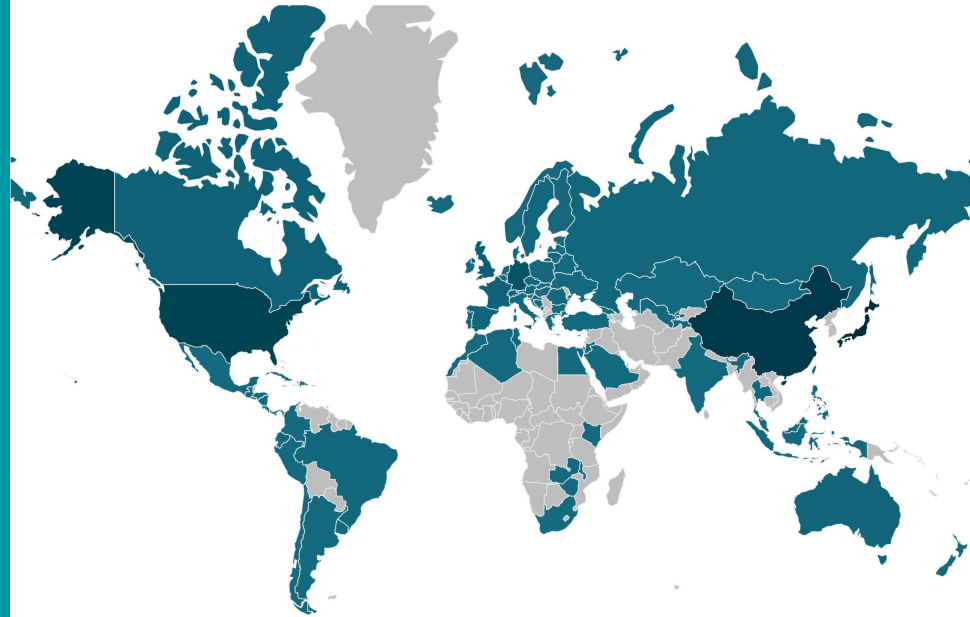


FEBRUARY 2021

# Lens Patent Data

**128.7 Million Patent Records:**

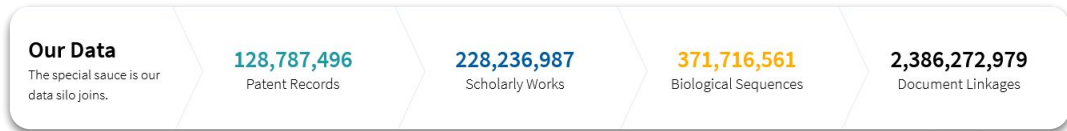
- 105 jurisdictions
- 70.9M patent families
- 741k biological patents
- 371.1M patent sequences





# Our **Special Sauce**

Linkages between data silos



**128M** Patent Records

**71M** Patent Families

**16M** Applicants

**1.6M** Owners

**228M** Scholarly Works

**33M** Authors

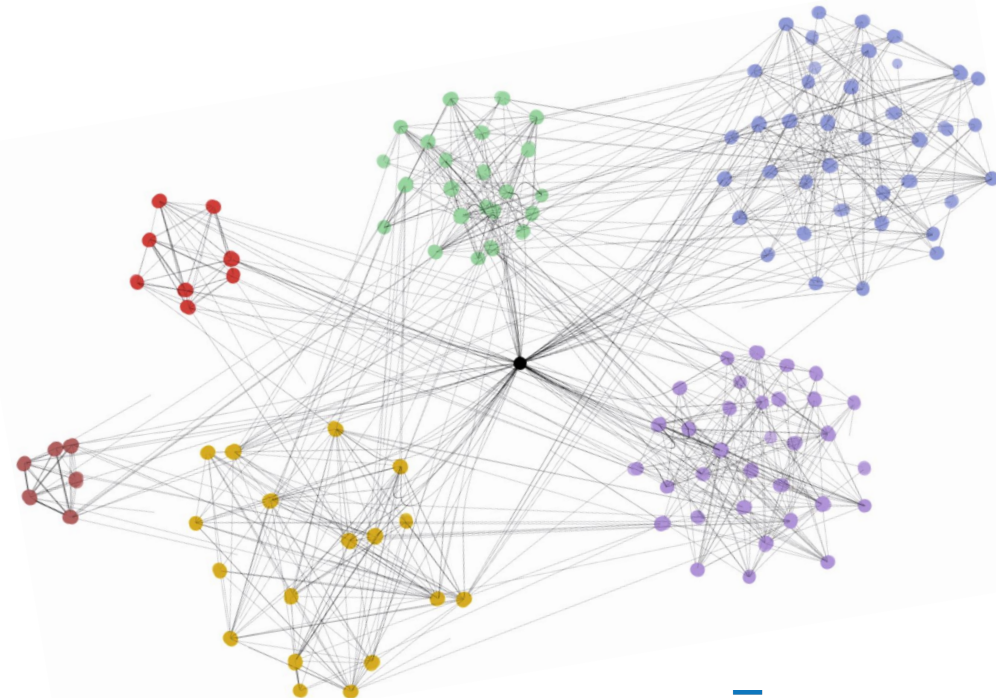
**19k** Research Organizations

**4.4M** Works cited in patents

**1.6B** Scholarly citations

**371M** Bio Sequences

**2.4B** Document Linkages

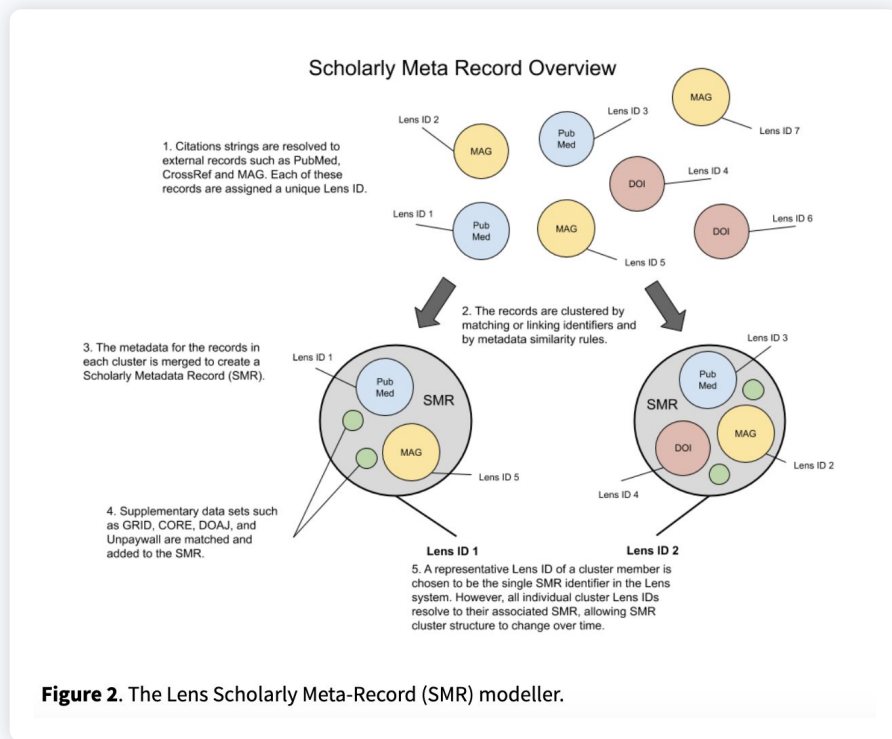


## THE LENS

# Meta Record Strategy

*Lens* use a “Meta Record” concept as a core element of our facility. We use a 15 digit open and persistent identifier, LensID, to expose credible variants, sources and context of knowledge artifacts, such as scholarly works or patents, while maintaining provenance, and allowing aggregation, normalization, and quality-control of diverse metadata.

<https://osf.io/preprints/lissa/t56yh/>



**Figure 2.** The Lens Scholarly Meta-Record (SMR) modeller.



## CURRENT OFFERINGS

# Discovery, Analytics, And Management Tools

### **API & Data Facility:**

Scholarly API, PatSeq bulk data, Patent API

### **Reports:**

Assemble your saved queries and collections with other knowledge in a dynamic and interactive report\*

### **Collections:**

based on Scholarly Works and Patents Lens searches and analyses.

### **In4M:**

International Industry & Innovation Influence Mapping

\* coming soon



# LENS.ORG

Solving The Problem Of Problem Solving™



LENS PROFILES BETA

# Introducing Lens Profiles

Unique to open data, Lens Profiles are auto-generated author and inventor profiles based on public ORCID records.

Compiled from publicly available data sources using the ORCID iD as the linking identifier.

Lens Profiles can be used to update your ORCID record with scholarly works or patents from the Lens in just a few steps.

EiFL ORCID seminar:  
<https://www.eifl.net/resources/eifl-webinar-how-train-students-and-researchers-topic-researcher-identifiers-and-orcid>

The screenshot displays a detailed Lens Profile for David McClelland. At the top, it identifies the user as David McClelland and provides a search bar for works. The profile is divided into several sections:

- Summary Stats:** Lists 455 Scholarly Works, a 70% OA Ratio, a 70% Collaborative Ratio, 53 Works, 41,072 Scholar Citations, and 55 Patent Citations.
- Scholarly Works Over Time:** A bar chart showing the number of works published from 2000 to 2024, with a significant increase starting around 2018.
- Fields of Study:** Lists various academic disciplines.
- PERSONAL BIO:** A biographical note stating that David McClelland received his PhD from the University of Otago in 1987 and was awarded a Beery Research Fellowship in 1989 at the Australian National University.
- Scholarly Works:** A list of research articles, each with a title, authors, journal name, and ORCID record link. Examples include:
  - "Observation of Gravitational Waves from a Binary Black Hole Merger"
  - "GW170817: observation of gravitational waves from a binary neutron star inspiral"
  - "GW151226: observation of gravitational waves from a 22-solar-mass binary black hole coalescence"
  - "GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2"
  - "Multi-messenger observations of a binary neutron star merger"
  - "Gravitational Waves and Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A"

Lens Profile for [Prof. David McClelland, ANU](#)



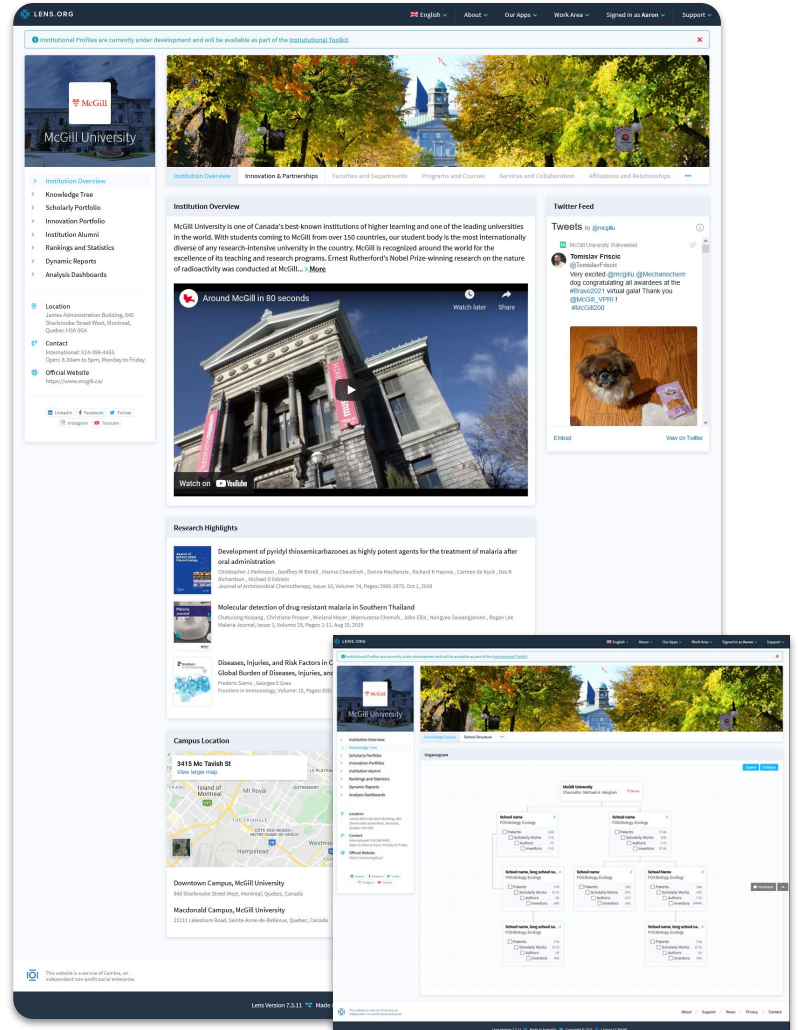


## INSTITUTIONAL PROFILES

# Profiles for Institutions: Showcasing Capabilities

*Precision Partnering*: a unique feature of open data from The Lens.

Showcase the capabilities of your organization on a FAIR, dynamic, open and transparent platform.



### MRC Linsen4M Report

The Medical Research Council of the UK uploaded to the Lens, an open list of scholarly work that resulted from their funding, to create a draft In4M Report. Upload a list of your institution's scholarly work, and get a fully navigable, open & shareable collection of worldwide patents that cite your publications.

[Request In4M Report](#) [View MRC Report](#)

#### Top 200 Institutions

- Institution / University Name
  - The Scripps Research I...  
Lens Ranks: RD: 1 / FOU: 2
  - Rockefeller University  
Lens Ranks: RD: 2 / FOU: 3
  - Massachusetts Institute...  
Lens Ranks: RD: 3 / FOU: 1
  - University of Massachu...  
Lens Ranks: RD: 4 / FOU: 39
- [Quick Compare](#)



# In4M

International Industry & Innovation Influence Mapping

## Carnegie Mellon University

Lens Rank RD: 71 Lens Rank FOU: 4 ARWU: 68 Nature: 241 Lendis: 322  
Grid: grid.147455.6 ISBN: ID: 0000 0001 2097 0344 Ringgold ID: 6612  
Info: [Home](#) [Private](#)

- Patents Citing Scholarship
- View Profile Information
- Track Institution Patent Portfolio
- Claim ownership of these details



CARNEGIE-MELLON UNIVERSITY

### In4M Report (v2017.1)

Relative to the other Global institutions, Carnegie Mellon University (Carnegie Mellon Univ) ranked #71 when the In4M metric was normalized by scholarly research disciplines (RD) and #4 when normalization by technology fields of use (FOU) was performed. The inferred economic influence by normalized RD seems to favour institutions with strong life sciences disciplines whereas influence based on normalized FOU seems to highlight special institutional scholarship strengths as relevant to particular industry.

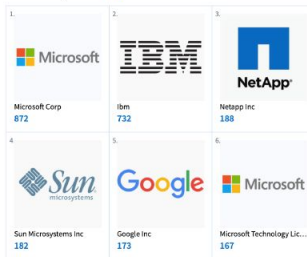
Besides self citations, in the patent literature, major actors citing Carnegie Mellon Univ scholarly work from 1980-2015 have included Microsoft Corp (872), Ibm (732) and Netapp Inc (188).

Carnegie Mellon Univ is an influential contributor to Computer technology, with over 30,500 citing patent families in 2017. In addition, Carnegie Mellon Univ has influenced Biotechnology and Pharmaceuticals sectors with 14,980 and 11,195 citing patent families respectively.

[Read More...](#)

TOP LEGAL ENTITIES INFLUENCED BY

### Scholarly Work



Research Disciplines **Fields of Use** Applicants of Citing Patents Citations

### Fields of Use

In what technology sector is CMU having the biggest influence per scholarly output relative to the other institutions?

4.1 Analysis of biological materials	17.2 Audio-visual technology	7.7 Basic communication processes	3.4 Basic materials chemistry	3.2 Biotechnology
4.0 Chemical engineering	5.4 Civil engineering	20.1 Computer technology	13.1 Digital communication	4.5 Electrical machinery, apparatus, energy
4.9 Engines, pumps, turbines	4.1 Environmental technology	1.1 Food chemistry	13.8 Furniture, games	21.8 Handling
20.4 Instruments-Control	31.3 IT methods for management	5.1 Machine tools	8.1 Macromolecular chemistry, polymers	2.9 Materials, metallurgy
6.1 Measurement	3.2 Mechanical elements	3.6 Medical technology	5.3 Micro-structural and nano-technology	4.3 Optics
2.2 Organic fine chemistry	14.2 Other consumer goods	2.1 Other special machines	1.9 Pharmaceuticals	5.9 Semiconductors
4.2 Surface technology, coating	7.3 Telecommunications	8.0 Textile and paper machines	3.2 Thermal processes and apparatus	11.8 Transport



In4M

# International Industry & Innovation Influence Mapping

An open, transparent and granular tool to explore, expose and showcase the degree to which research works, scholars' work product, or whole institution's capabilities influence outcomes for society, in myriad forms.



# LENS.ORG

Solving The Problem Of Problem Solving™

To learn more, watch Richard Jefferson, founder of The Lens, at the Skoll World Forum for Social Entrepreneurship:

<https://www.youtube.com/watch?v=of8ai1HhqK4>

Check out support for tips for using Lens.org: <https://support.lens.org/>

# Musings about Librarianship: Open Access analysis

ure | musingsaboutlibrarianship.blogspot.com/2020/10/oa-week-2020-creating-free-and.html

Musings about librarianship

(by Aaron Tav - Subscribe now)



OCT  
21

## [OA week 2020] - Creating a free and beautiful auto-updating dashboard for tracking Open Access rates for your institution using Lens.org

So it is Open Access Week 2020, while I write quite a bit on [Open Access](#) and [Open Data](#), I don't often post specifically for Open Access Week.

One exception was 2017's [My reflection on my journey in open access or Can you be a librarian without being an open access advocate?](#) where I shared my fears about how the rise of open access might slowly reduce part of the importance or value of academic librarianship (the part that focuses on providing access to resources behind paywalls what Lorcan Dempsey's calls outside-in) and the difficulties of adjusting to a post OA world and wondering if I should feel guilty about that.

I concluded by saying that

In any case, my thinking currently is open access is inevitable now, so arguing whether you are an advocate or not is pointless. As a librarian we need to prepare now for it's coming and influence it in a way that leads to the maximum benefits for our users and maybe even with a little bit of consideration for ourselves.

It's 2020, and my views haven't changed that much, though I have become more and [more aware of the innovation that can be unleashed the more open data \(metadata and full text\) is available](#) particularly in the research tools space.

[\[OA week 2020\] - Creating a free and beautiful auto-updating dashboard for tracking Open Access rates for your institution using Lens.org | Musings about librarianship](#)



## Company Analysis: Sasol, South Africa

Patent Portfolio: <https://www.lens.org/lens/dashboard/3486>

Scholarly research Output: <https://www.lens.org/lens/dashboard/3491>