The Curtin Open Knowledge Initiative: Sharing data on scholarly research performance

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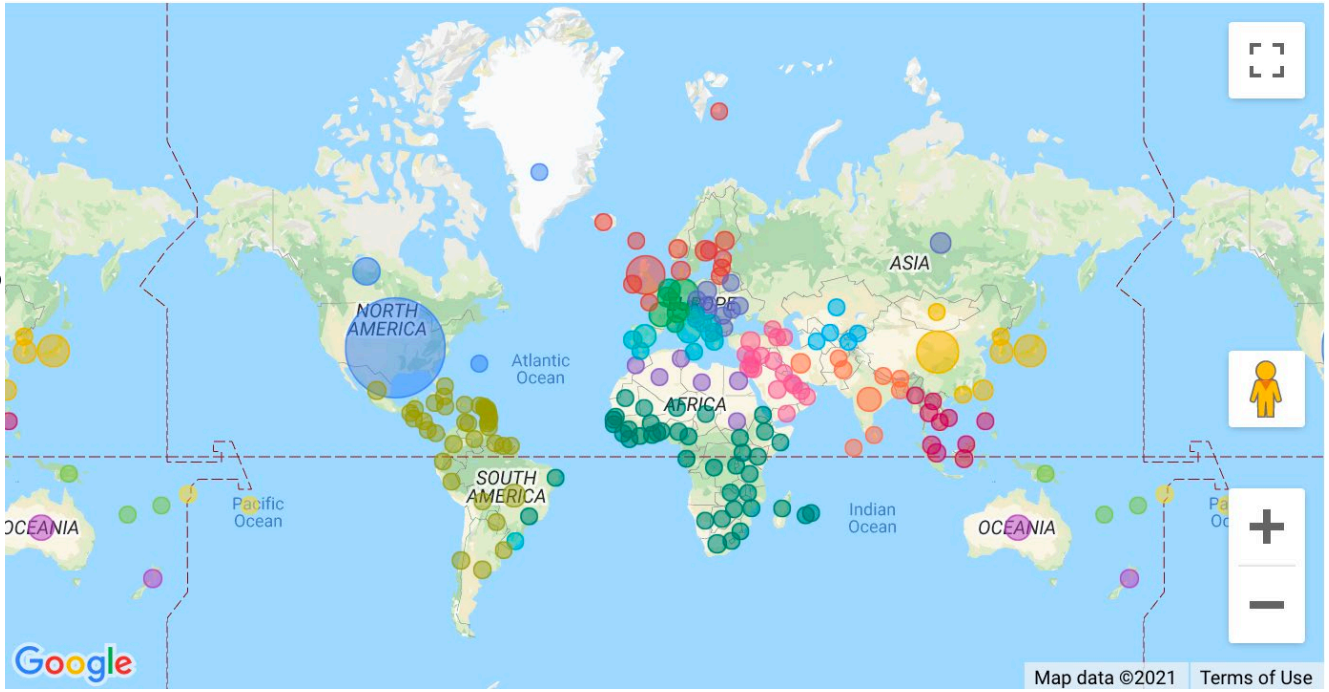
Curtin Open Knowledge Initiative (COKI)

A strategic research project at Curtin University, Australia

Aggregate, analyse global data

Open access output: publishers collaboration, citations, funders

Demographic & geographic diversity (workforce, research)



Working with libraries and other stakeholders to build community coalition

Openness and diversity in research production

- Move beyond dominant global rankings, focus on multiple sources, open access

Microsoft Academic

GRID

Data sources include Microsoft Academic, Unpaywall, Crossref, Open Citations, ORCID, GRID

ROR .community

OpenCitations

We are Crossref Metadata User

ORCID

unpaywall

The COKI data warehouse

12 trillion item dataset of scholarly research output

Capturing, analysing output data at large scales, from different organisational/geographic perspectives

Publications	Institutions	Countries	Funders	Publishers	Journals
108,784,900	18,694	192	23,870	43,958	609,806

Explore Different Views of the Data

Institution View | Country View | Funder View | Publisher View | Group View

Project goals

Institutional cultural change through communication, co-ordination, diversity

Diverge from rankings, existing assessment, evaluation practices and attitudes through focus on openness

Facilitate dialogue, research openness, understanding of workforce diversity

Working with and for libraries

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Interactive dashboard

Develop visual dashboard tools to facilitate sharing of data analysis and dialogue

Academics/faculty, researchers, library & research staff, higher education administrators, senior executives in universities, consortia, funding organisations and publishers

Consult with academic libraries to review dashboards, understand value for researchers, to promote openness

Curtin University Research Dashboard

Curtin University

Curtin University Research Dashboard

Table of Contents and Summary

Summary Metrics 2000 - 2020

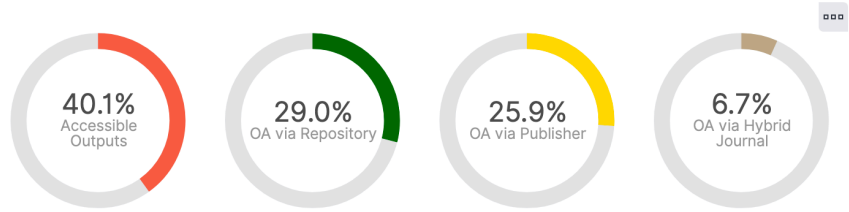
Total Outputs
38,527

Unique Publishers
691

Total Citations
850,035

Unique Funders
16,222

Metrics for 2020



Year's Outputs
3,704

Average Citations
2.7

- Home Page
- Open Access Details
- Output Types
- Publishers
- Collaborations
- Disciplines
- Funders

Explore the Detailed Dashboards

Open Access and Citations

Explore details of Curtin Open Access performance including citation advantages, selecting contributor institutions and comparisons with some other international university groupings.

Output Types

Explore the output types that Curtin publishes including trends over time and open access numbers by type of output.

Publishers

Explore the publishers that Curtin works with including trends over time and open access numbers by publisher.

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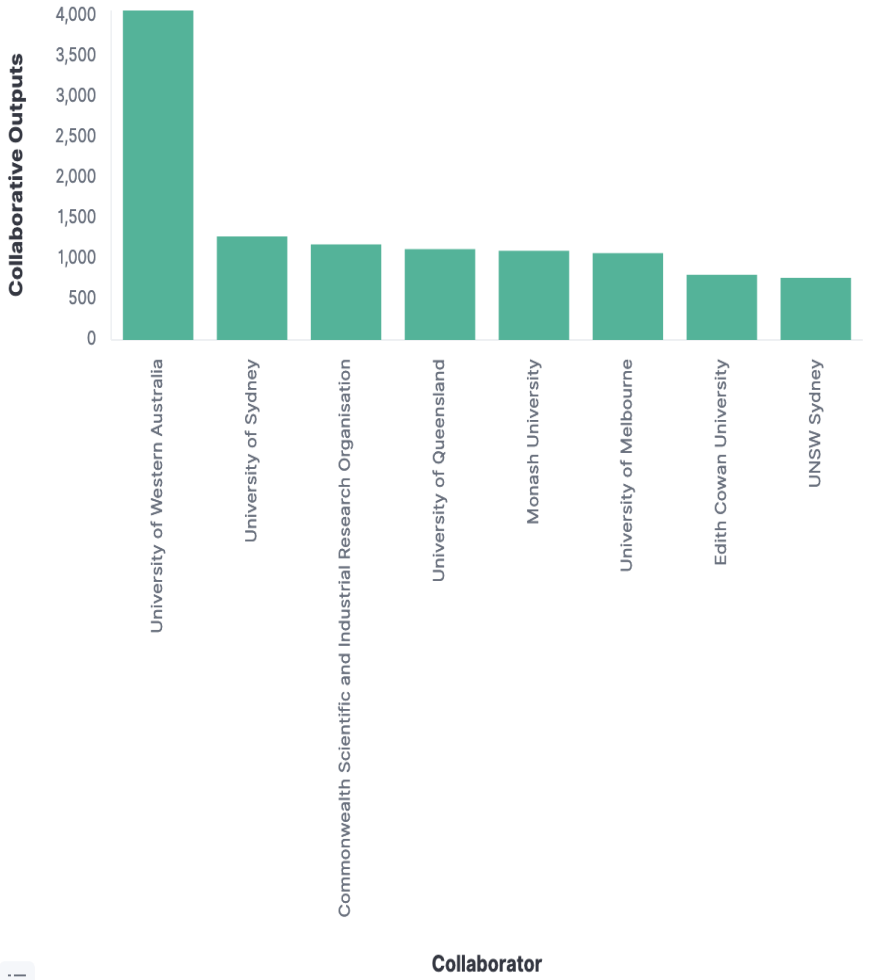
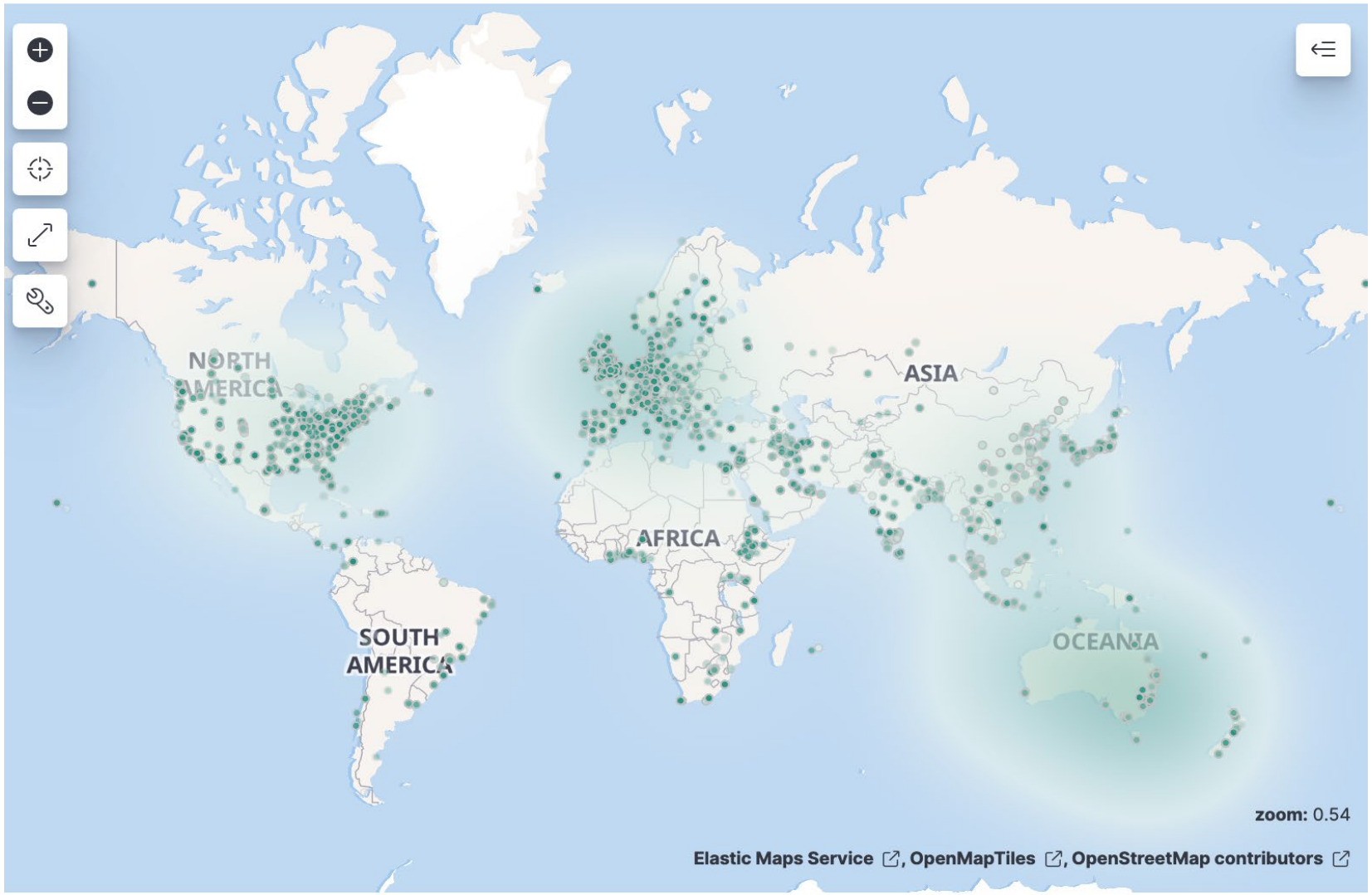
Map of Collaborators by Organisation

Top Collaborators Over Selected Time Range





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Dashboard users research survey 2020

Evidence of uniqueness, value of data, visual format.

Council of Australian University Librarians (CAUL), Council of Aotearoa New Zealand University Librarians (CONZUL):

- *Very useful to have all the data together in one place and presented visually*.
- *Reports like these are difficult to get from the IR* [institutional repository]*, and cannot get visualisations like these.*
- *Funder OA/non-OA data useful...The [funder] compliance data is very interesting, especially to some Senior Executives*
- *Citation data OA/non-OA, averages collated visually in this way very useful for showing OA reluctant researchers the benefit of OA in terms of citations*.

Higher OA citation average

Curtin University 2000-2018: Open access, non-open access article citation data

OA Status / Articles / Citations / Average Citations

	Open Access			Not Open Access			Grand total		
years.publish...	Articles	Citations	Average Citations	Articles	Citations	Average Citations	Articles	Citations	Average Cit...
2007	250	3,188	12.75	557	6,941	12.46	807	10,129	12.61
2008	373	5,040	13.51	672	7,779	11.58	1,045	12,819	12.54
2009	476	6,551	13.76	680	7,137	10.5	1,156	13,688	12.13
2010	574	8,050	14.02	890	9,288	10.44	1,464	17,338	12.23
2011	605	7,392	12.22	1,013	9,682	9.56	1,618	17,074	10.89
2012	686	7,265	10.59	1,074	8,900	8.29	1,760	16,165	9.44
2013	1,098	12,173	11.09	1,156	7,711	6.67	2,254	19,884	8.88
2014	1,263	10,889	8.62	1,213	6,935	5.72	2,476	17,824	7.17
2015	1,419	9,396	6.62	1,431	6,773	4.73	2,850	16,169	5.68
2016	1,635	8,497	5.2	1,749	4,809	2.75	3,384	13,306	3.97
2017	1,692	3,904	2.31	1,929	2,562	1.33	3,621	6,466	1.82
2018	1,473	416	0.28	2,069	411	0.2	3,542	827	0.24
Grand total	12,323	96,964	12.67	16,755	109,078	9.12	29,078	206,042	10.89

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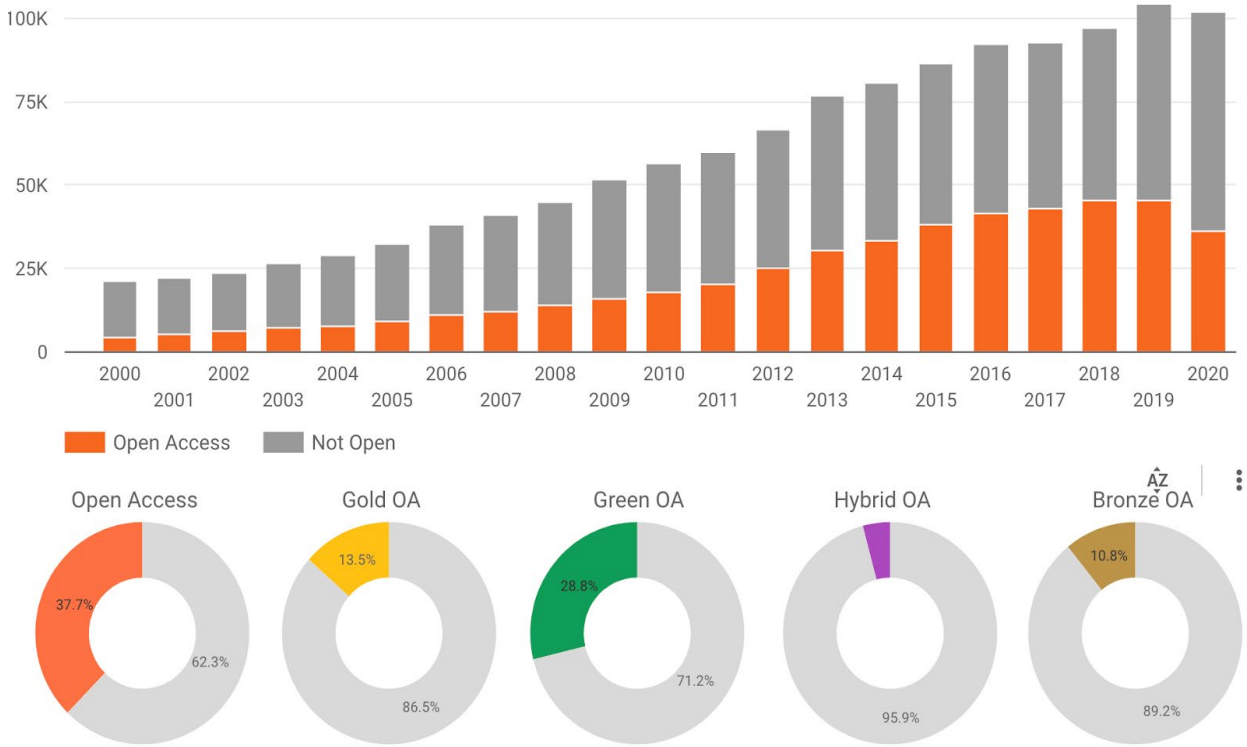
COKI public dashboards

Country OA output, eg Australia 2000-2020

Open Access Dashboard : includes publication research output, open/non-open access analysis, open/non-open article citation analysis by country



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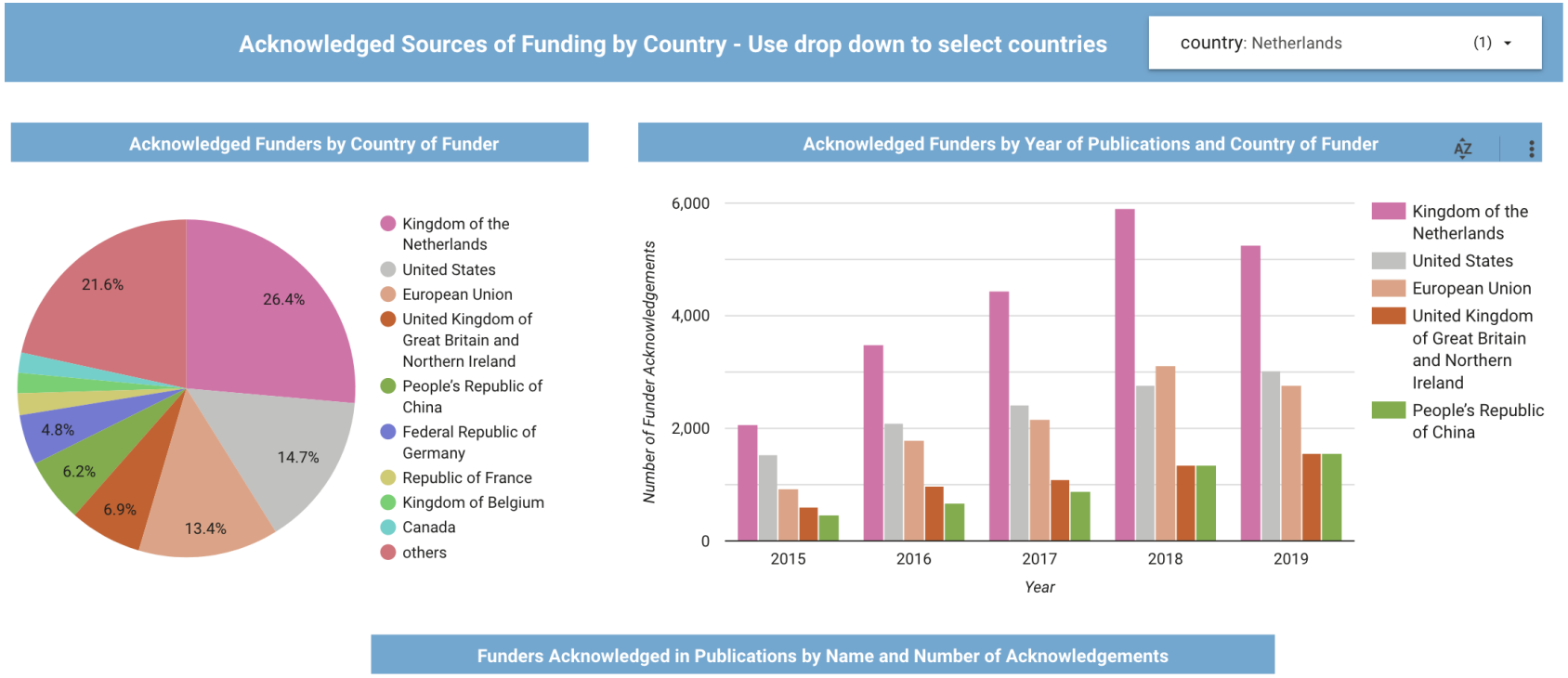
COKI Public dashboards

Acknowledged Funders by Country

COKI Research funding dashboard: Funders acknowledged in publications by country



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Diversity

Geographic and higher education workforce diversity

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Institutions Open Access over time by region shows geographic diversity

Each bubble represents an institution; size indicates output

Evolution of Green (repository) and Gold (publisher) Open Access 2010-2020

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Diversity a key element of Open Knowledge Institutions

Understanding *who* is involved in knowledge creation and research

How knowledge is shared within and across disciplines, between universities and wider communities

Address systemic biases within academic research practices and institutional management

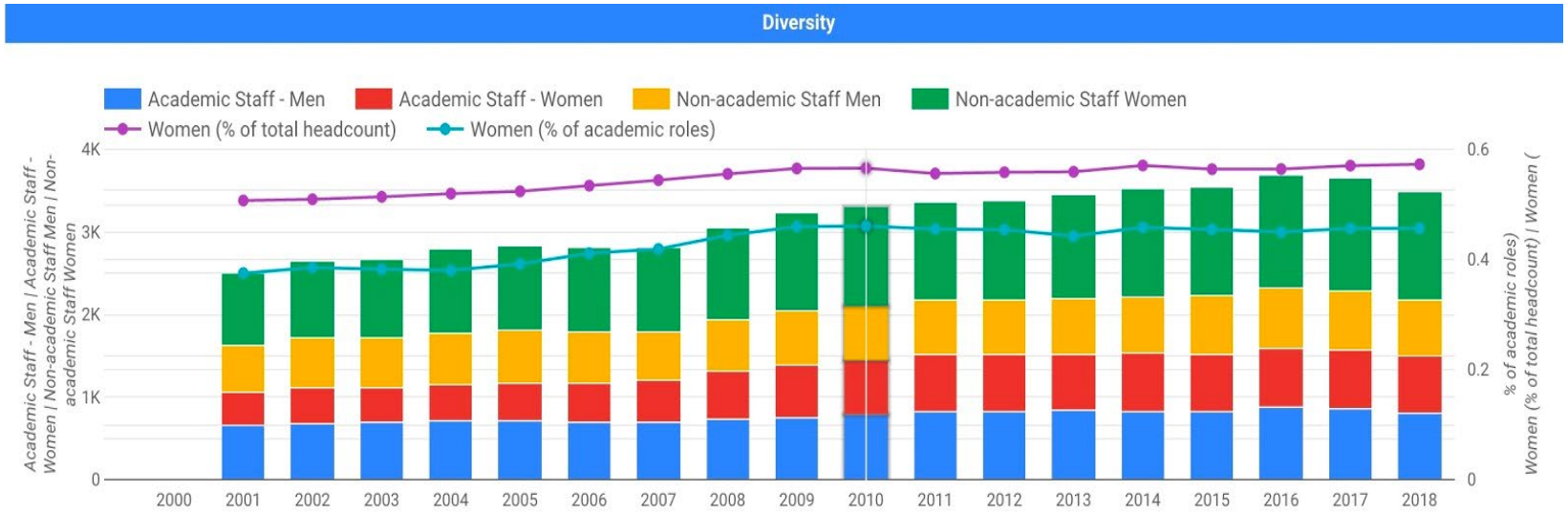
Institutional staff diversity data in interactive visual dashboards

Curtin University workforce gender (w, m) analysis, 2018.

Data: Australia Department of Education, Skills and Employment

Women and men in academic and non-academic positions at Curtin University, from 2001 to 2018.

The number of women reached 57 per cent in 2018, but only 46 per cent of academic staff were women



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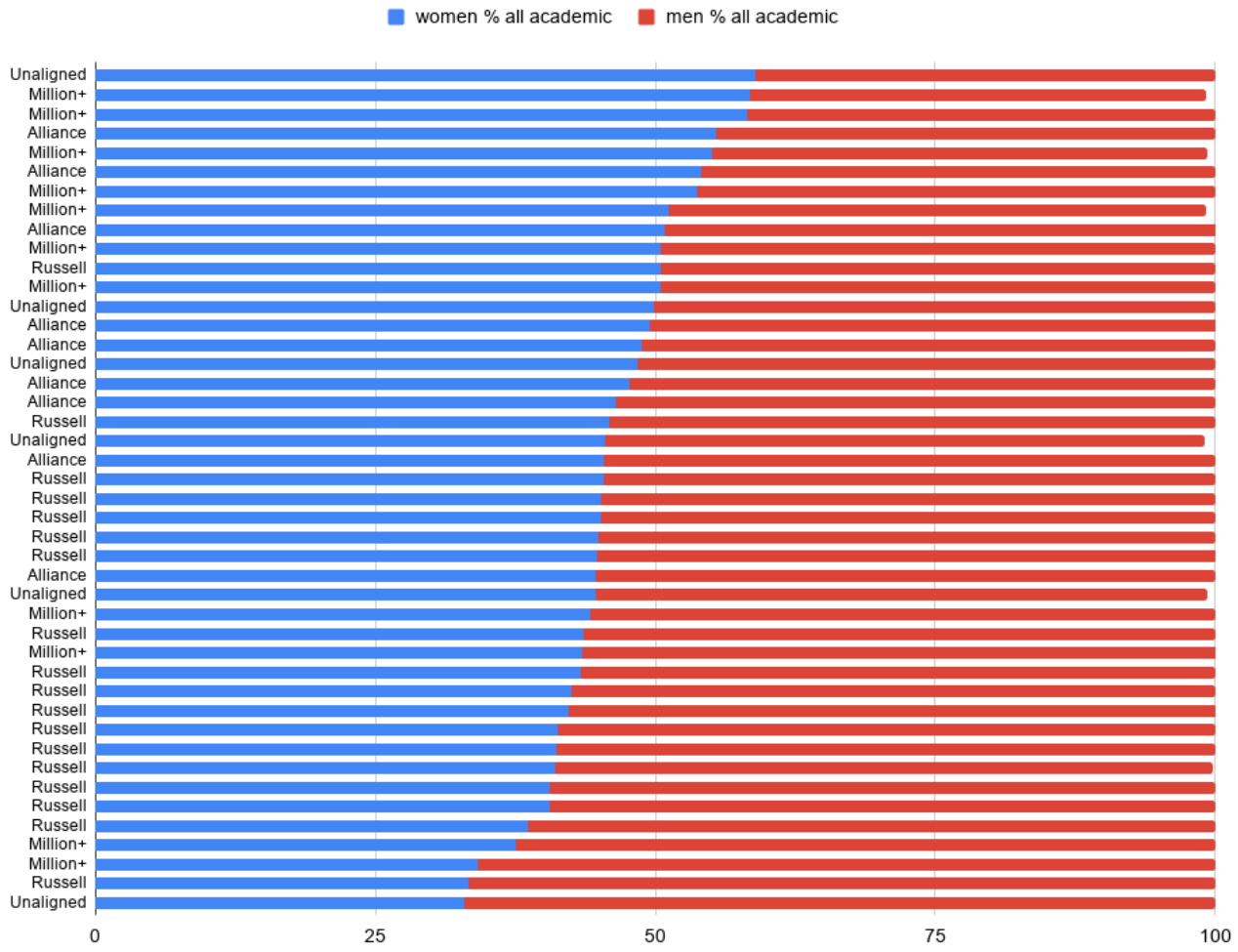
UK: 44 universities by grouping, 2017. Academic staff gender (w, m).

Data source: UK. Higher Education Statistics Agency (2018).



Community coalition

Sharing and moving forward

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Information is an open community asset to share

- Building Open Knowledge Community coalition of stakeholders
- Mix of consortia, funders, research managers, libraries
- Growing, sustaining, and governing this open data asset
- Underpinned by shared information resources, skills, expertise
- Sharing project data, software and visual dashboard code

Links to recent work

- COKI Country Open Access dashboard http://openknowledge.community/dashboards/coki-open-access-dashboard/
- COKI Research Funding dashboard http://openknowledge.community/dashboards/funder-countries/
- Curtin Open Knowledge Initiative (2021). Institutions open access over time. https://storage.googleapis.com/oaspa_talk_files/institution_scatter.html
- Curtin Open Knowledge Initiative *Zenodo* community (2021).https://zenodo.org/communities/coki/?page=1&size=20
- Huang et al. (2021). Mapping open knowledge institutions: An exploratory analysis of Australian universities. *PeerJ,* 9:e11391 https://doi.org/10.7717/peerj.11391
- Huang et al. (2020). Meta-Research: Evaluating the impact of open access policies on research institutions. *eLife*, 9:e57067 https://elifesciences.org/articles/57067
- Huang et al. (2020). Comparison of bibliographic data sources: Implications for the robustness of university rankings. *Quantitative Science Studies,* 1(2): 445–478. https://doi.org/10.1162/qss_a_00031
- Open Knowledge user stories from the Open Knowledge Community (2021). *Zenodo* doi: 10.5281/zenodo.4915525 https://zenodo.org/record/4915525#.YMBC5zYzY8M

Our book coming out very soon

Books Journals Open Access Resources Give About Co

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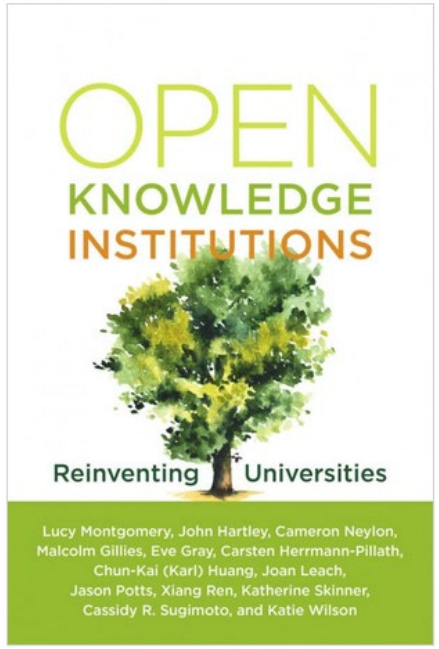

Open Knowledge Institutions

Reinventing Universities

By Lucy Montgomery, John Hartley, Cameron Neylon, Malcolm Gillies, Eve Gray, Carsten Herrmann-Pillath, Chun-Kai (Karl) Huang, Joan Leach, Jason Potts, Xiang Ren, Katherine Skinner, Cassidy R. Sugimoto and Katie Wilson

The future of the university as an open knowledge institution that institutionalizes diversity and contributes to a common resource of knowledge: a manifesto.

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Endorsements

"Can the contemporary university be reinvented with openness at its core, developing and sharing knowledge in service to the global public interest? The authors of *Open Knowledge Institutions* argue compellingly that such reinvention is not just possible but necessary, and they provide a crucial map of the work required to make it so."

Kathleen Fitzpatrick, Director of Digital Humanities and Professor of English, Michigan State University; author of Generous Thinking: A Radical Approach to Saving the University

"This book provides nuanced discussion around the moral, logistical, and practical challenges associated with embedding open science principles in public research organizations. With every syllable, I was nodding in agreement."

Gemma Derrick, Senior Lecturer in Higher Education, Lancaster University

"Laced with incisive case studies, this welcomed manifesto amounts to a fearless application of practical wisdom to revitalize the university by having it serve as a knowledge commons."

John Willinsky, Khosla Family Professor of Education, Stanford University

"Science is like a parachute: if it is not open, it is not going to help you. This book makes the case that universities need to be parachutes of knowledge to address the challenges of today and into the future."

Eva Méndez, Universidad Carlos III de Madrid

"This book situates the long-game agenda of open scholarship alongside the challenges and opportunities facing universities. I see clearly in these pages the next decade of open advocacy, theory, philosophy, and hands-on labor."

Micah Vandegrift, Open Knowledge Librarian, North Carolina State University; 2018–2019 Fulbright-Schuman Research Fellow for Open Science Policy and Infrastructure

Thank you for attending!

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