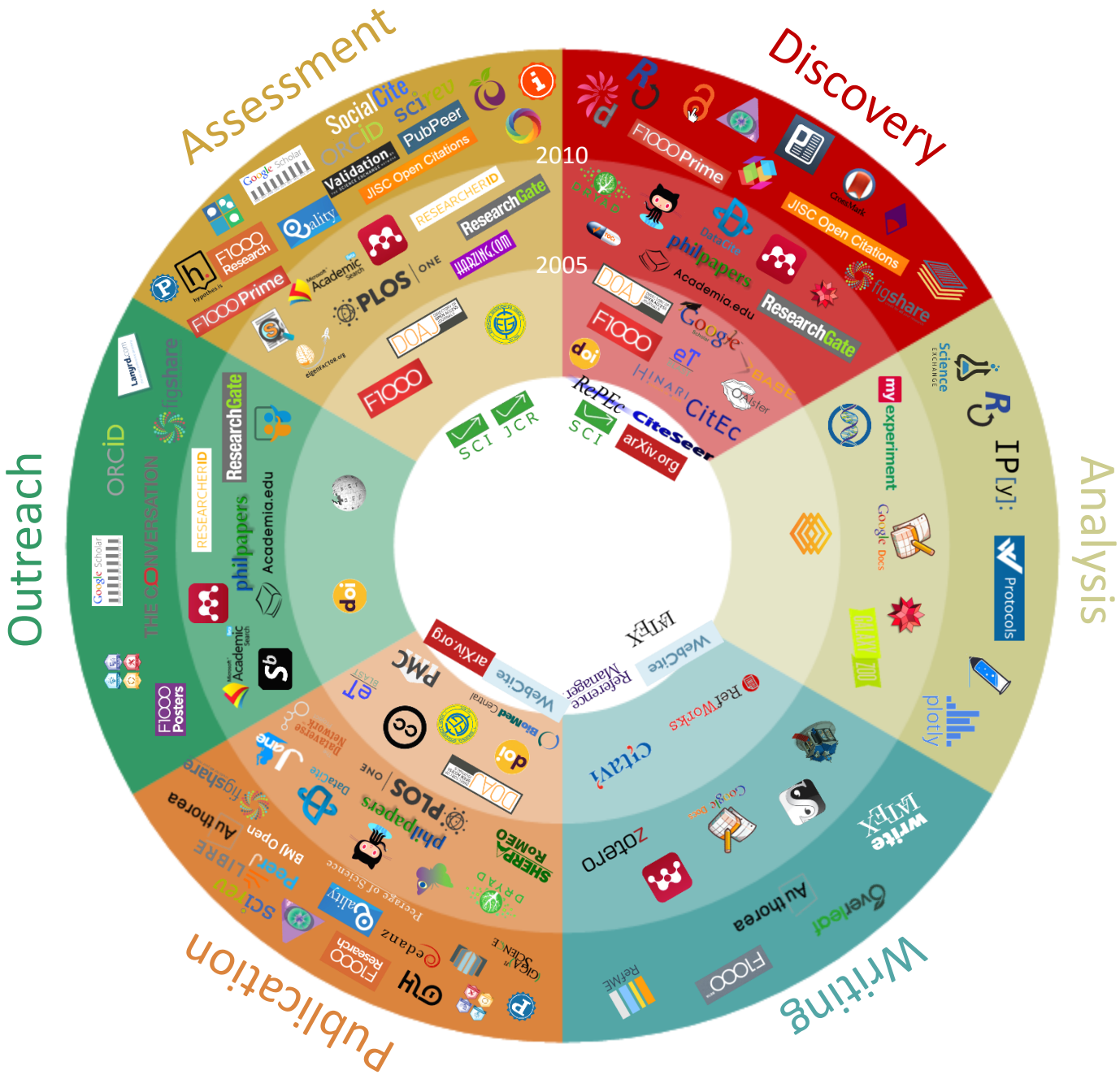
The slow revolution in scholarly communication and how libraries can adapt their perspective

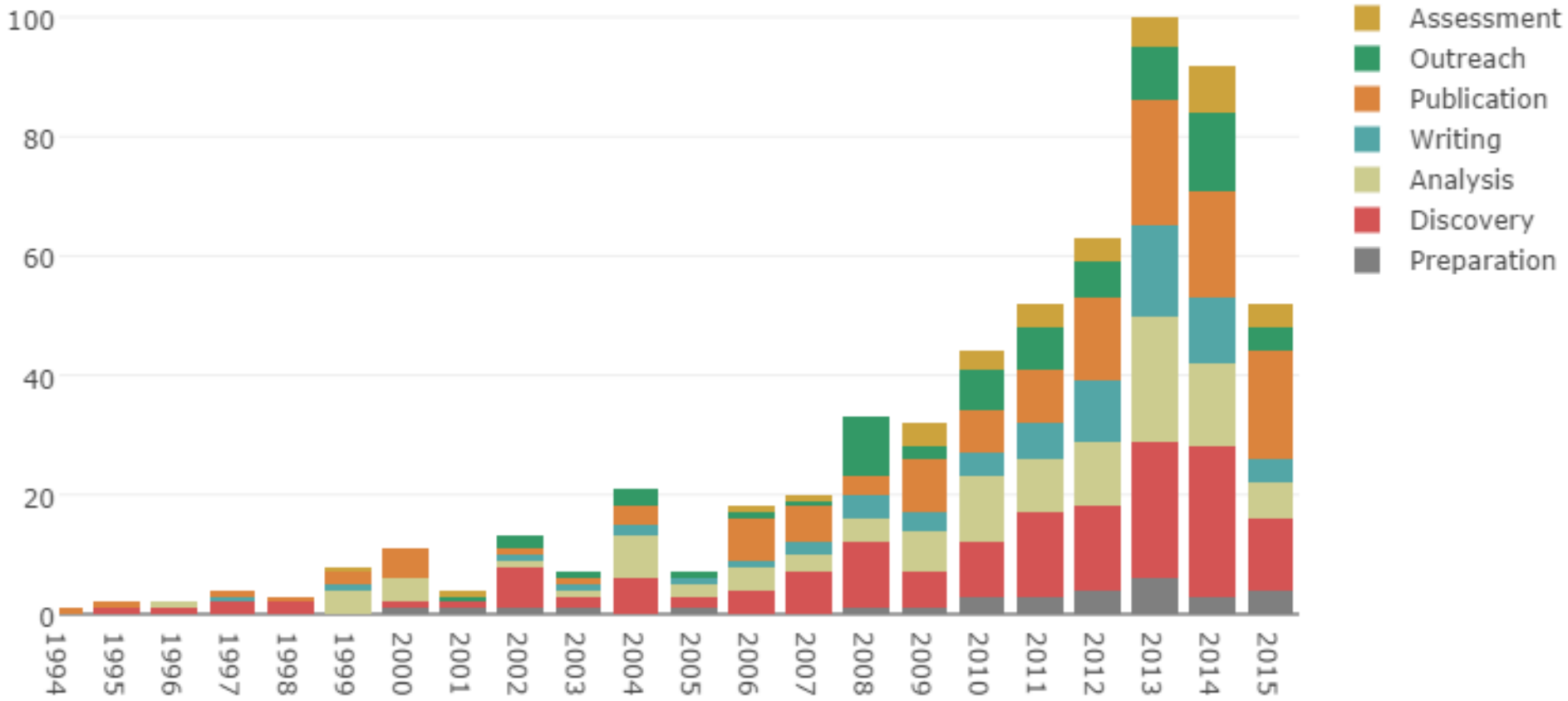
Jeroen Bosman & Bianca Kramer

SPARC Japan, Tokyo, January 19, 2016

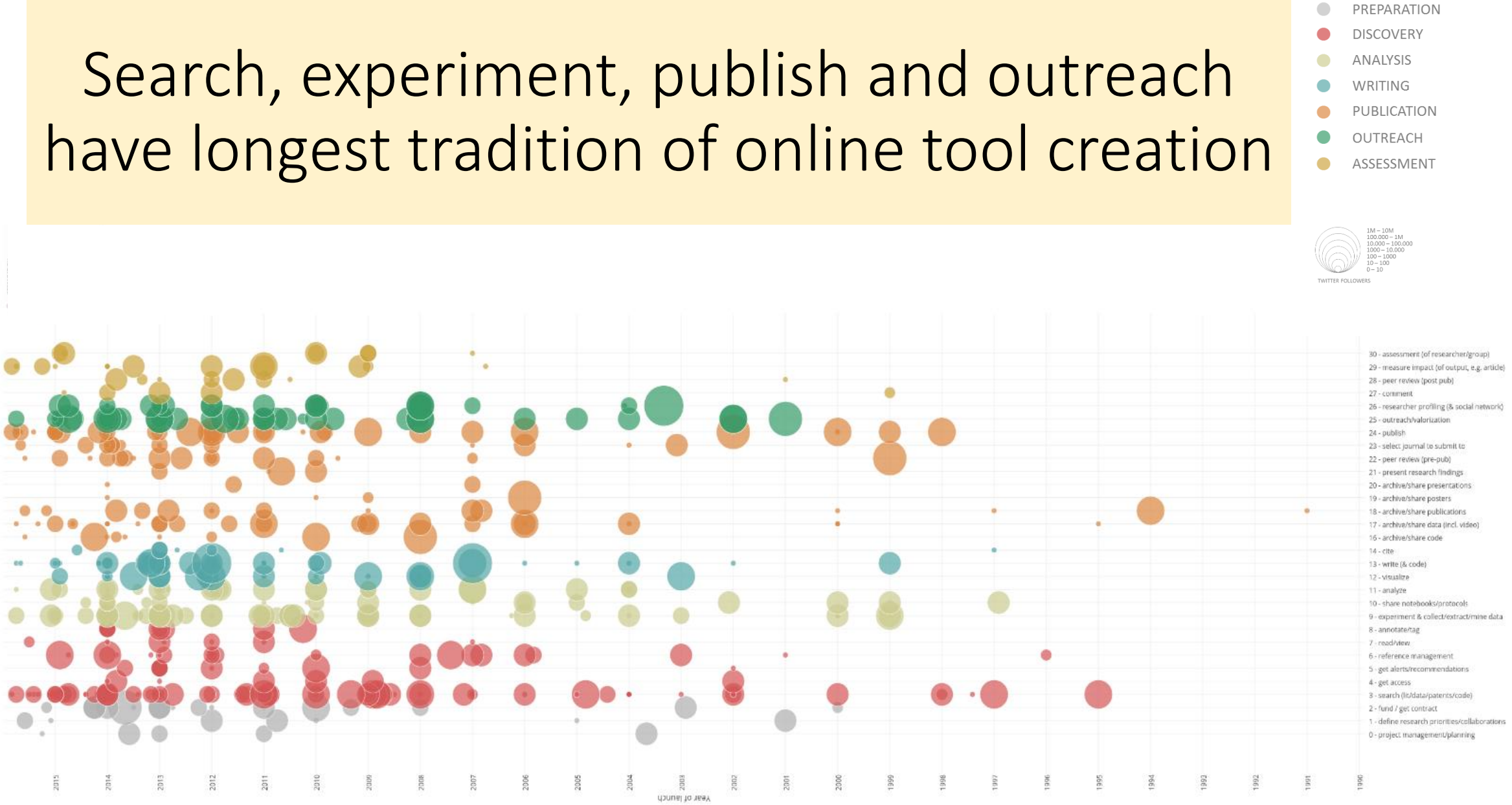
@MsPhelps
@jeroenbosman


Assessment
Discovery
Analysis
Writing
Publication
Outreach
2010
2005

Avalanche of new tools for all research phases since about 2006



Search, experiment, publish and outreach have longest tradition of online tool creation



What people **can** use

Database: web based scholarly communication&research tools

400+ Tools and innovations in scholarly communication

	web based tools a researcher can use
authors:	Bianca Kramer & Jeroen Bosman (and you?)
contact:	@MsPhelps & @JeroenBosman, both at Utrecht University Library
url:	https://docs.google.com/spreadsheets/d/1KUMSeq_Pzp4KveZ7pb5rddcssk1XBTiLHniD0d3nDgo
friendly url:	http://bit.ly/innoscholcomm-list
related to poster:	http://dx.doi.org/10.6084/m9.figshare.1286826
related to website:	https://innoscholcomm.silk.co/
accompanying survey:	https://101innovations.wordpress.com/
background:	This is a shared database that grew out of the "101 innovations in scholarly communication" project. When we published the 101 list of selected innovations our database already contained some 200 innovations/tools. The 101 selection was strictly on innovativeness and thus did not contain recent tools if they where not innovative compared to older ones with the same functionality, even if the more recent ones were more popular or well-known. The database shared here has dropped that strict innovativeness criterion and thus contains multiple tools offering basically the same functionality. The masterfile that this database is derived from is still being worked on. Additional fields may become available here in a later stage.

http://bit.ly/innoscholcomm-list

1	crowdsource/define research priorities/ideas/collaborations	preparation
2	fund / get contract	
3	search (lit/data/patents/code)	discovery
4	get access	
5	get alerts/recommendations	
6	reference management	
7	read	
8	annotate/tag (during/after reading)	
9	experiment & collect/mine/extract data	analysis
10	share notebooks / protocols / workflows	
11	analyze	
12	visualize	writing
13	write (+ code)	
14	cite	
15	translate	
16	archive/share code	publication
17	archive/share data	
18	archive/share publication	
19	archive/share posters	
20	archive/share presentation	
21	present research findings	
22	peer review and commenting/recommending (pre-pub)	
23	select journal to submit to	
24	publish	
25	outreach/valorization	outreach
26	researcher profiling (& social network)	
27	comment	assessment
28	peer review (post-pub)	
29	measure impact (of output, e.g. article)	
30	assessment (of researcher/research group)	

2	NAME	URL	WEBLAUNCHYEAR	PRIMEPHASEALPHA	EPHASENUM	FUNCTIONFREE	UI_FUNCTIONFREE	FUNCTIONCONTROLLLED
3	name (blue ones were added last month)	link	year of weblaunch / introduction / founding	primary phase of workflow targeted	phase order	what is/does it? (free text)	user input for "what is/does it?"	what is/does it? (controlled)
509	Frontiers for Young Minds	http://www.kids.frontiersin.o	2013	outreach/valorization	25	web-based scientific journal with an editorial board of children (8-15yr)		citizen review, by children
510	I Am Scientist	http://imascientist.ie/	2008	outreach/valorization	25	outreach to students through chat contest		debating/discussing
511	Open Science Showoff	http://www.scienceshowoff.(	2011	outreach/valorization	25	Open mic night for science lovers		debating/discussing
512	Pint of Science	http://pintofscience.co.uk/	2012	outreach/valorization	25	Discussing science in a local pub		debating/discussing
513	Sense about Science	http://www.senseaboutscier	2002	outreach/valorization	25	activities and publications to change public discussions about science and evidence		debating/discussing
514	Voice of Young Science (part of Se	http://www.senseaboutscier	2004	outreach/valorization	25	encourages early career researchers to an active role in public debates about science		ebating/discussing
515	redditscience AMA (a.o. PLOS Sci	https://www.reddit.com/r/sc	2012	outreach/valorization	25	Discuss your science with broader community		scussion
516	AskforEvidence	http://askforevidence.org/in	2014	outreach/valorization	25	Tool to ask for evidence, or to share experience asking for evidence NB this part of Sense About Science (ID1047)		ct-checking
517	Fact Check Central	http://factcheckcentral.org/	2015	outreach/valorization	25	aggregated list of blogs from a selection fact checking organisations		act-checking
518	SciCheck	http://www.factcheck.org/sc	2015	outreach/valorization	25	fact checking scientific claims made by U politicians to influence public policy		fact-checking
519	Draw Science	http://drawscience.blogspot	2014	outreach/valorization	25	converts research papers into easy-to-read infographics		infographics
520	JSTOR daily	http://daily.jstor.org/	2014	outreach/valorization	25	linking news stories to scholarly research, with free access to JSTOR articles		innovative journal
521	Limn	limn.it	2011	outreach/valorization	25	free journal for communicating exciting research in the social and human sciences		innovative journal

Open for user comments and additions

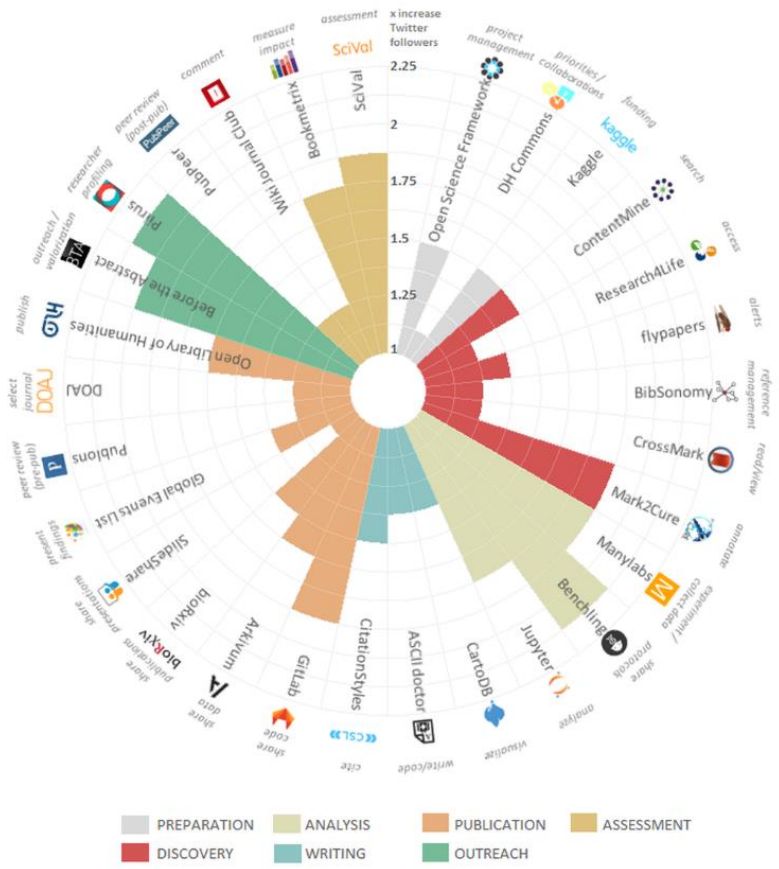
A slow revolution?

New tools are changing scholarly communication

bioRχiv beta

THE PREPRINT SERVER FOR BIOLOGY

Rising stars from the last 6 months, according to number of Twitter followers



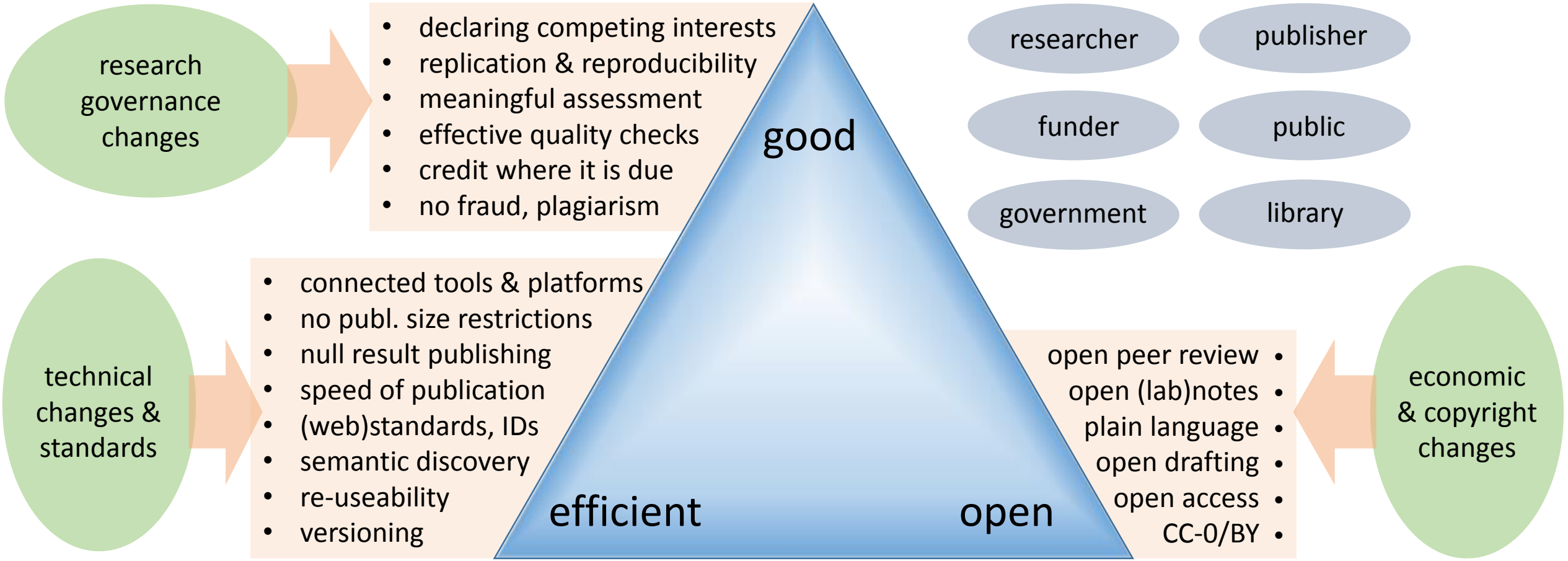
Fastest growers per activity

Rank	Tool / site	Year of launch	Research phase	Twitter followers Jan 1, 2016	Twitter followers July 1, 2015	Relative increase
1	GitLab.com	2014	Publication	22.9K	12.9K	1.78
2	Jupyter	2015	Analysis	5519	3362	1.64
3	Open Library of Humanities	2014	Publication	4964	3102	1.60
4	Reddit Science	2008	Outreach	2183	1417	1.54
5	Qualtrics	2002	Analysis	11.7K	7634	1.53
6	BioRxiv	2013	Publication	3281	2235	1.47
7	Open Science Framework	2013	Preparation	4524	3127	1.45
8	Kaggle	2010	Preparation	42.3K	29.9K	1.41
9	Import.io	2013	Analysis	14.0K	10.0K	1.40
10	The Conversation	2011	Outreach	44.5K	33.3K	1.34

Fastest growers overall with 1000+ followers on July 1, 015

How to get to grips with all these changes?

Three goals for science & scholarship (G-E-O)



Ongoing discussions

researcher

publisher

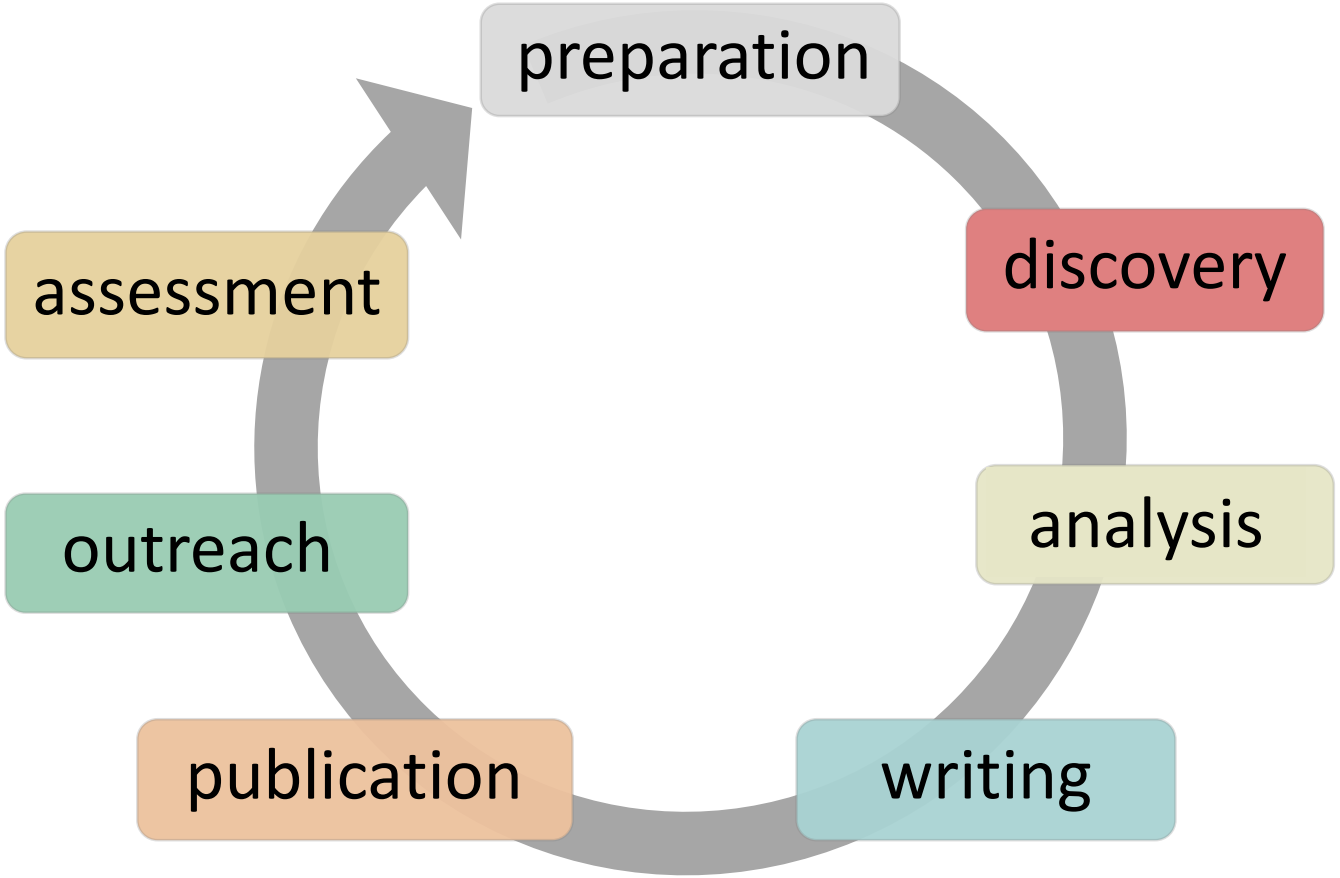
funder

public

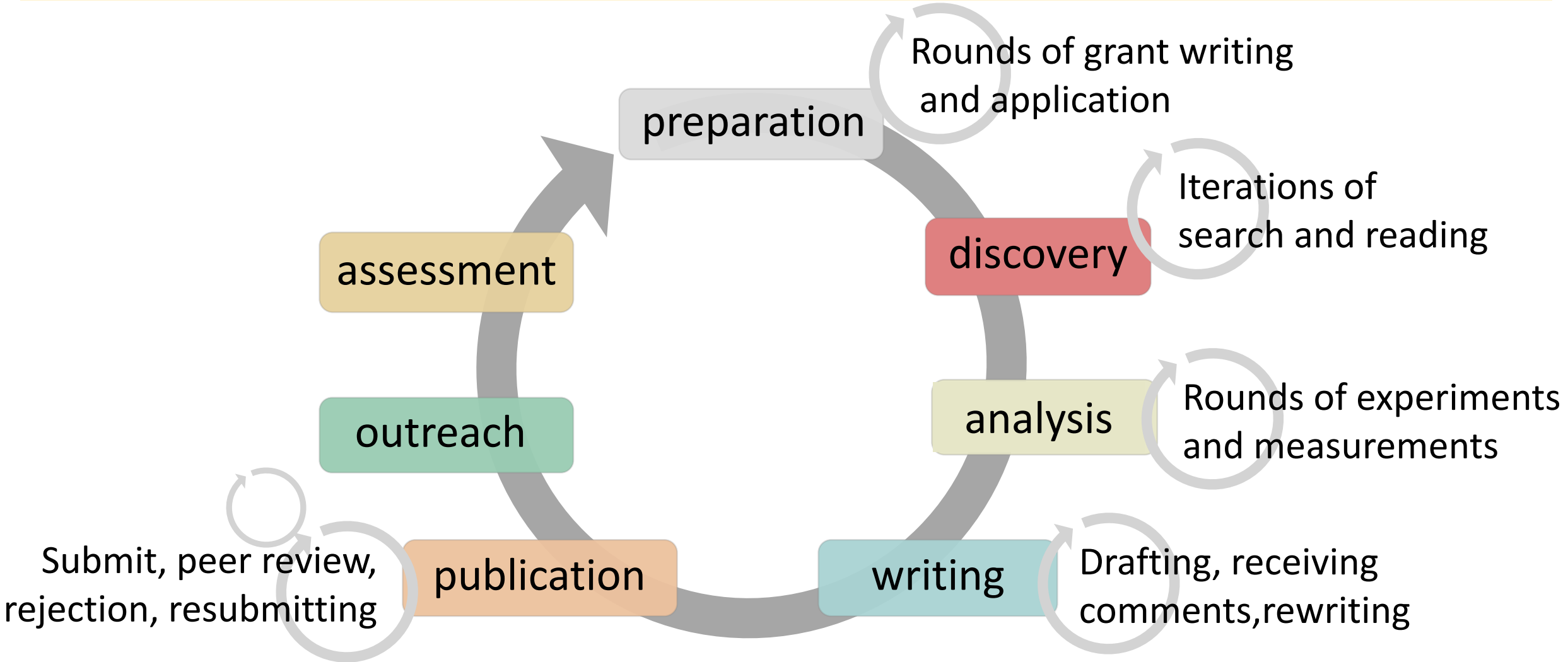
government

library

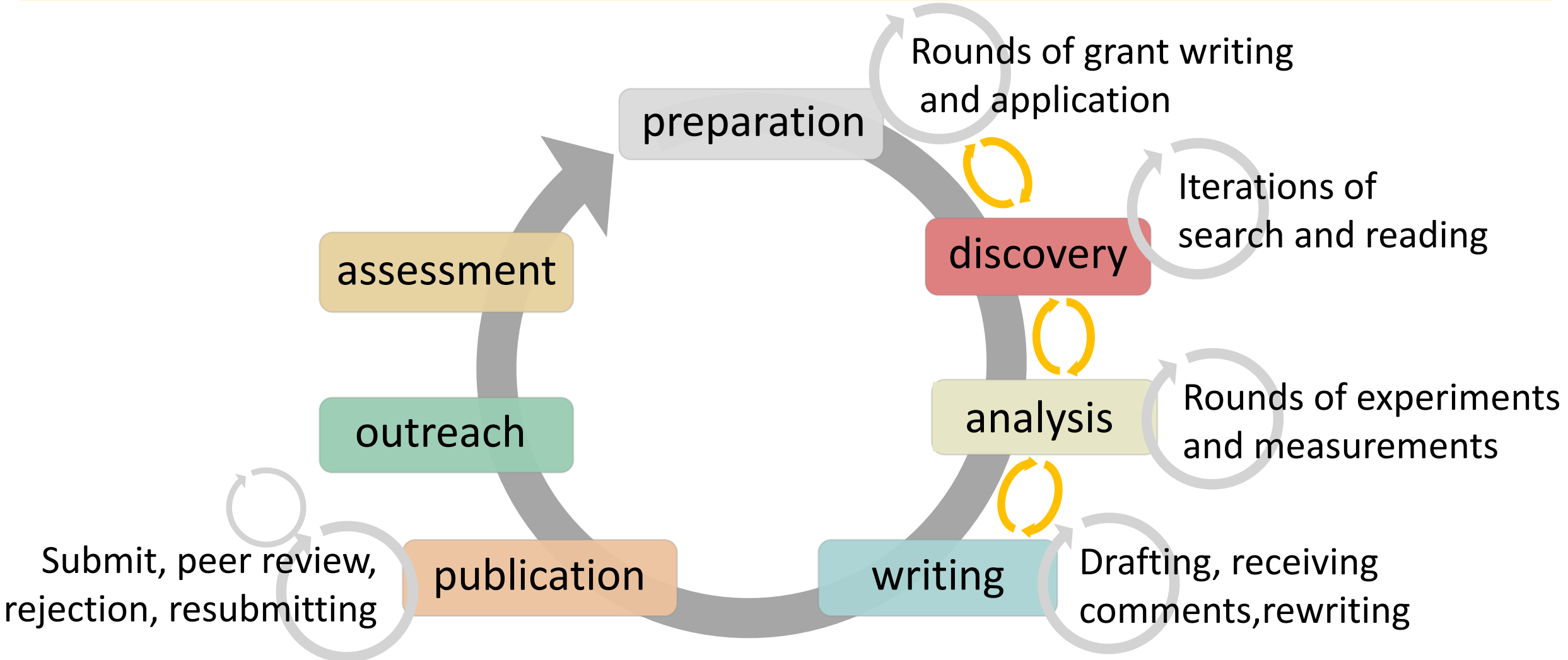
Simple cyclic model of the research workflow



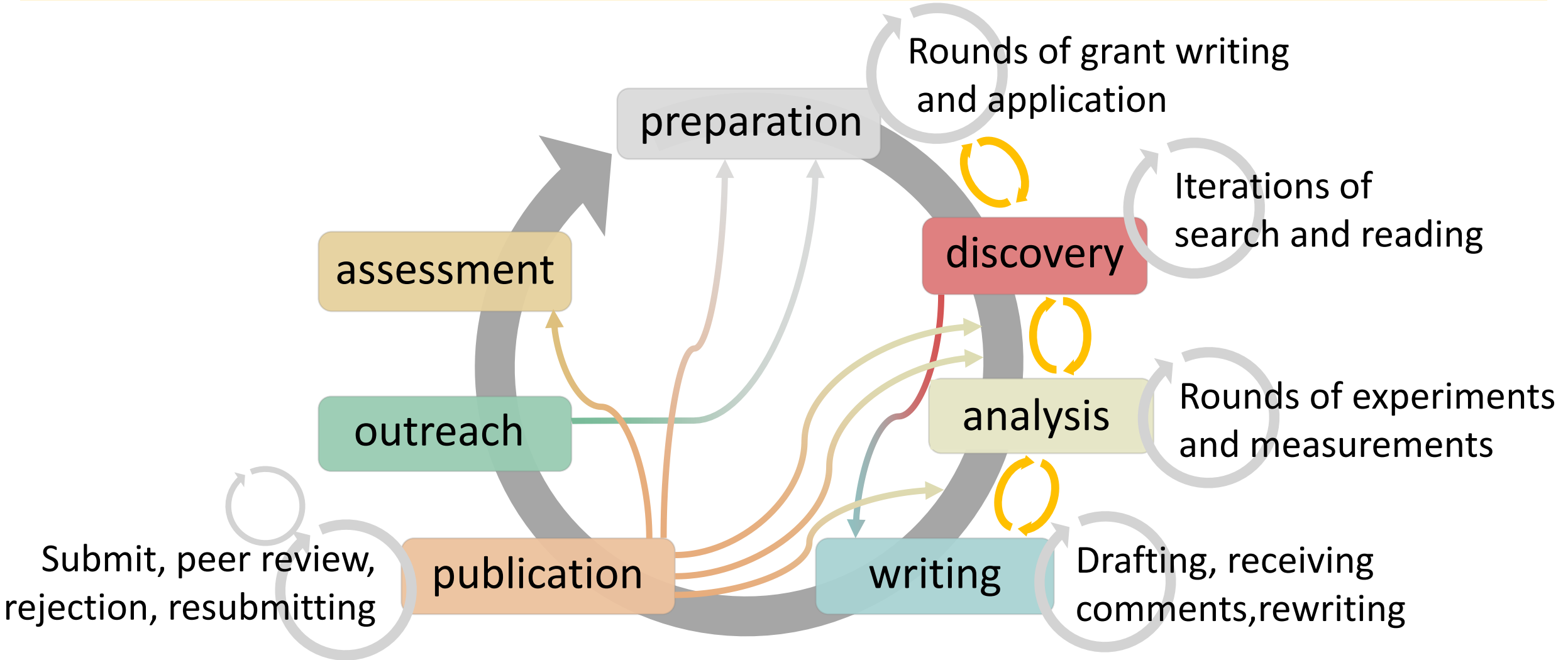
Multi-cyclic model of the research workflow



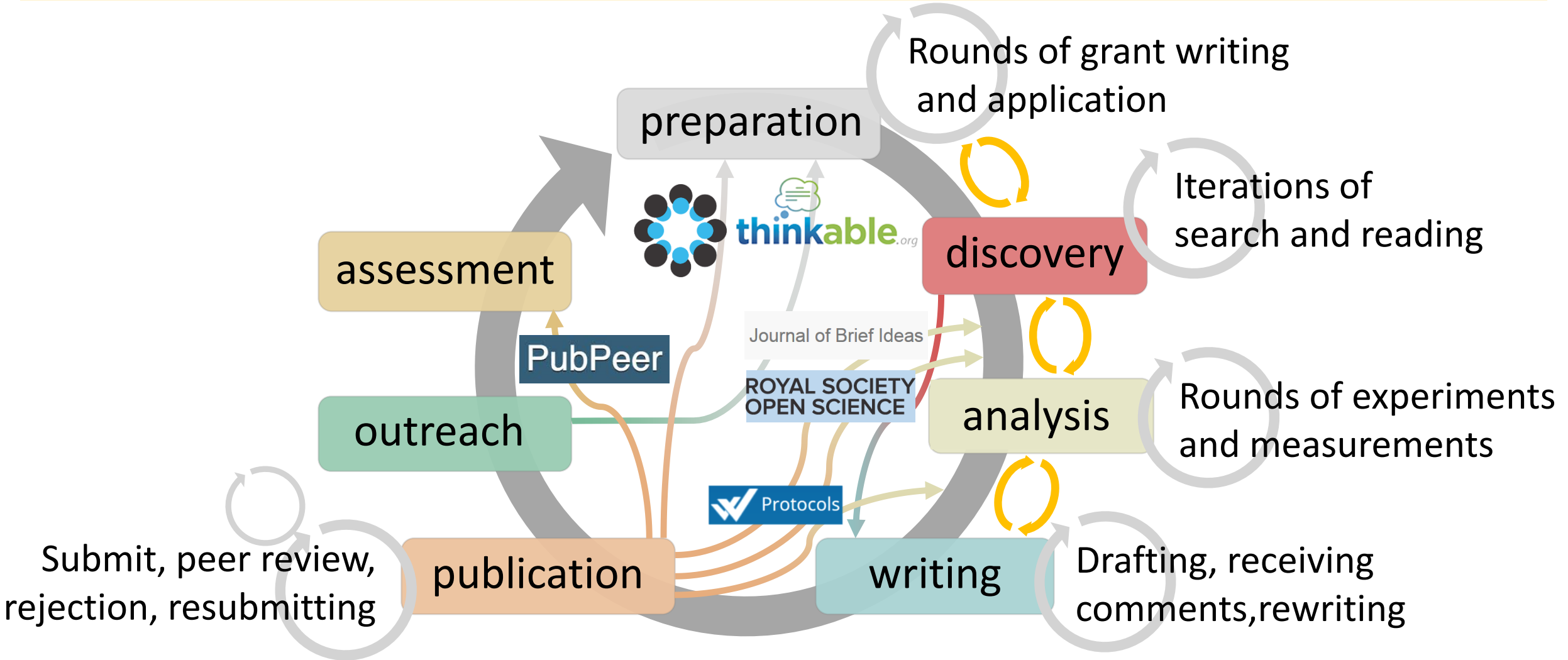
Multi-cyclic model of the research workflow, with loops



A multi-cyclic, multi-ordered model of the research workflow, with loops



A multi-cyclic, multi-ordered model of the research workflow, with loops



Example research workflows: traditional to experimental

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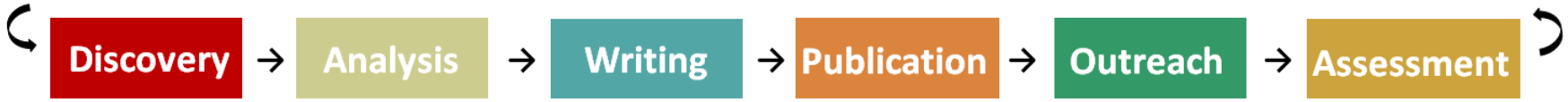


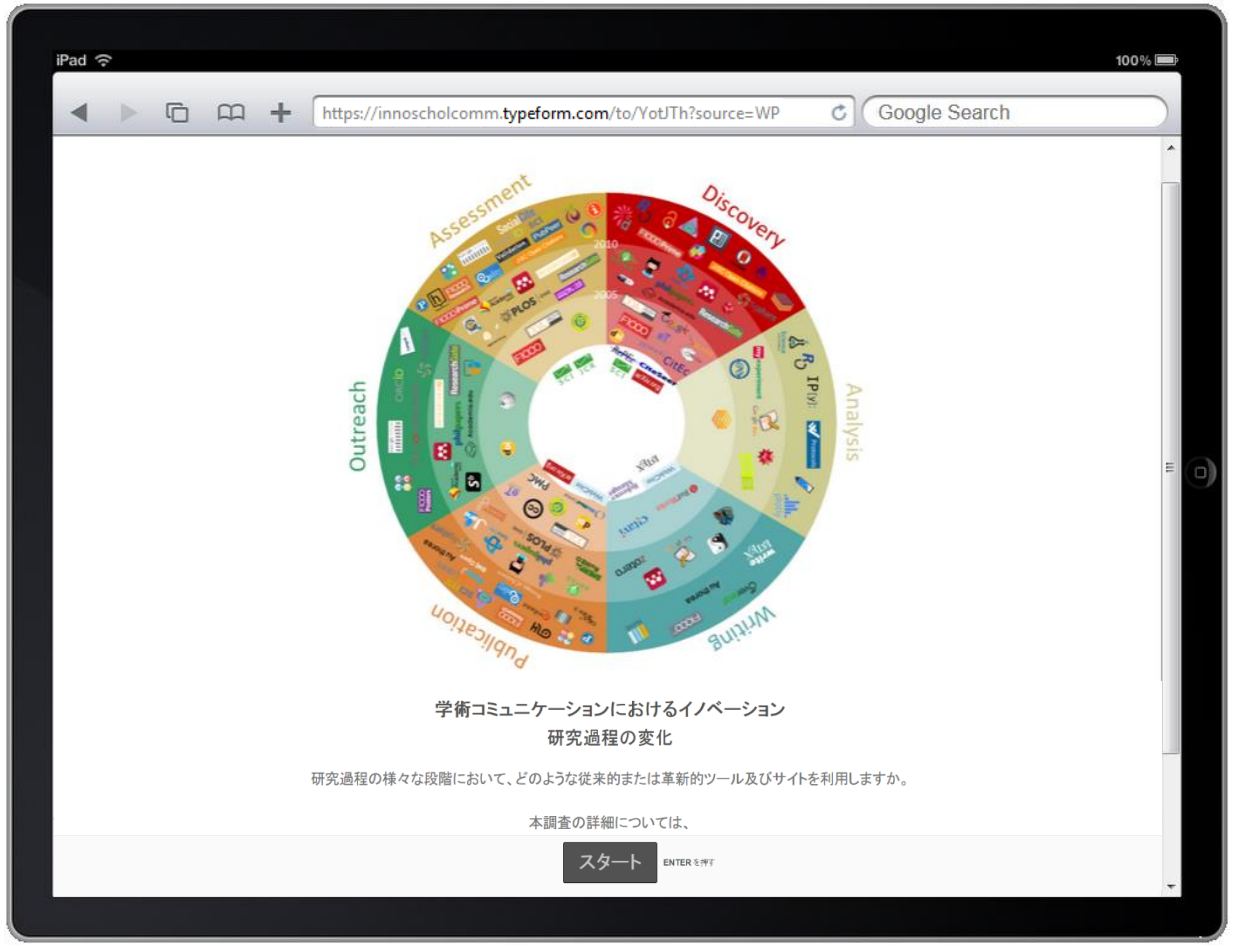
Traditional	Add no functionality compared to print era, except online accessibility
Modern	Use scale and linking possibilities of the internet to increase speed and efficiency
Innovative	Actually change 'the way it's always been done' – e.g. user-driven, different business models, changes in the sequence of research activities, shifting stakeholder roles
Experimental	Represent radical change, with sometimes uncertain technologies and outcomes; still under development

Example research workflows: company silos / open science

What people **do** use and say

学術コミュニケーション・ツールの利用に関するアンケート調査

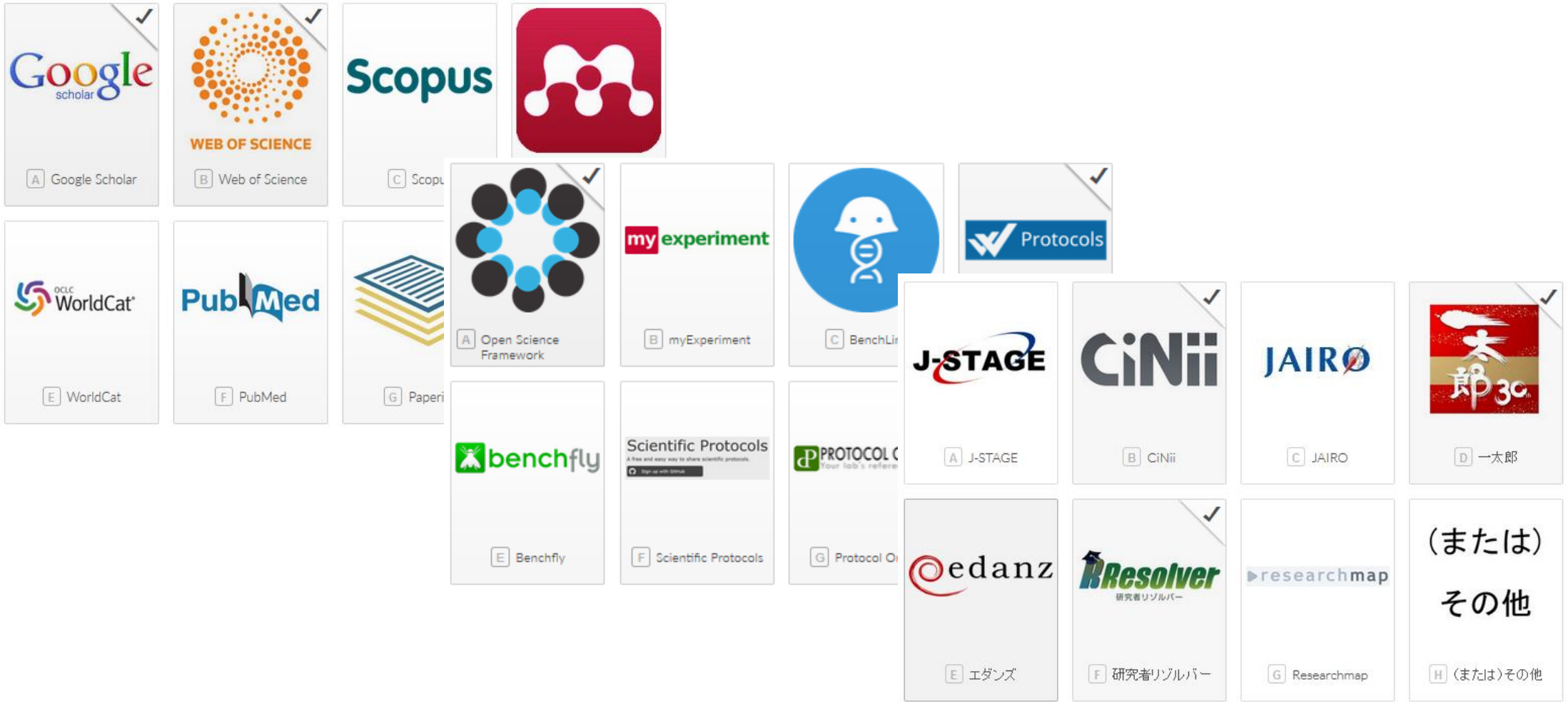
over 13,000 responses from >100 countries



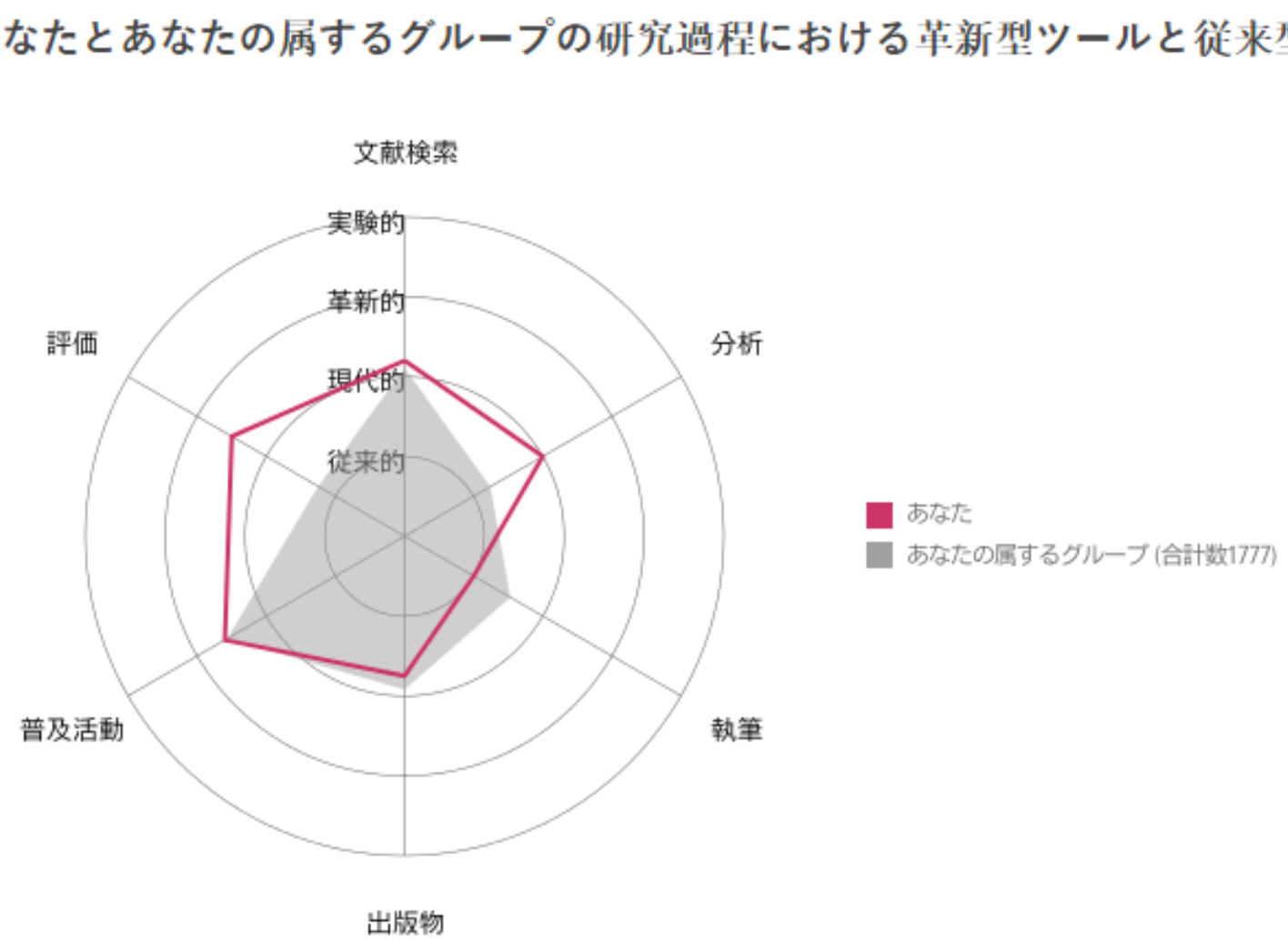
open until February 10 2016

http://101innovations.wordpress.com

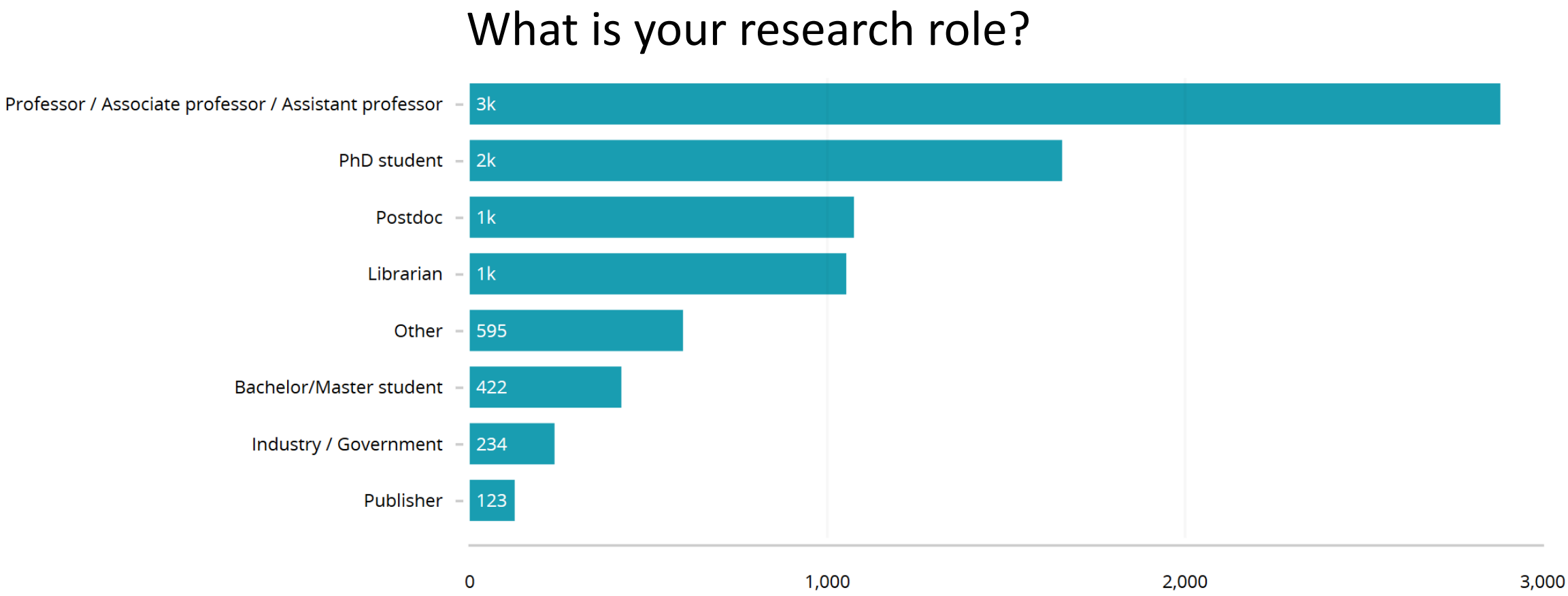
Survey: scholarly communication tools



Compare yourself to your peer group



Survey: demographics (at end 2015, 8028 records)



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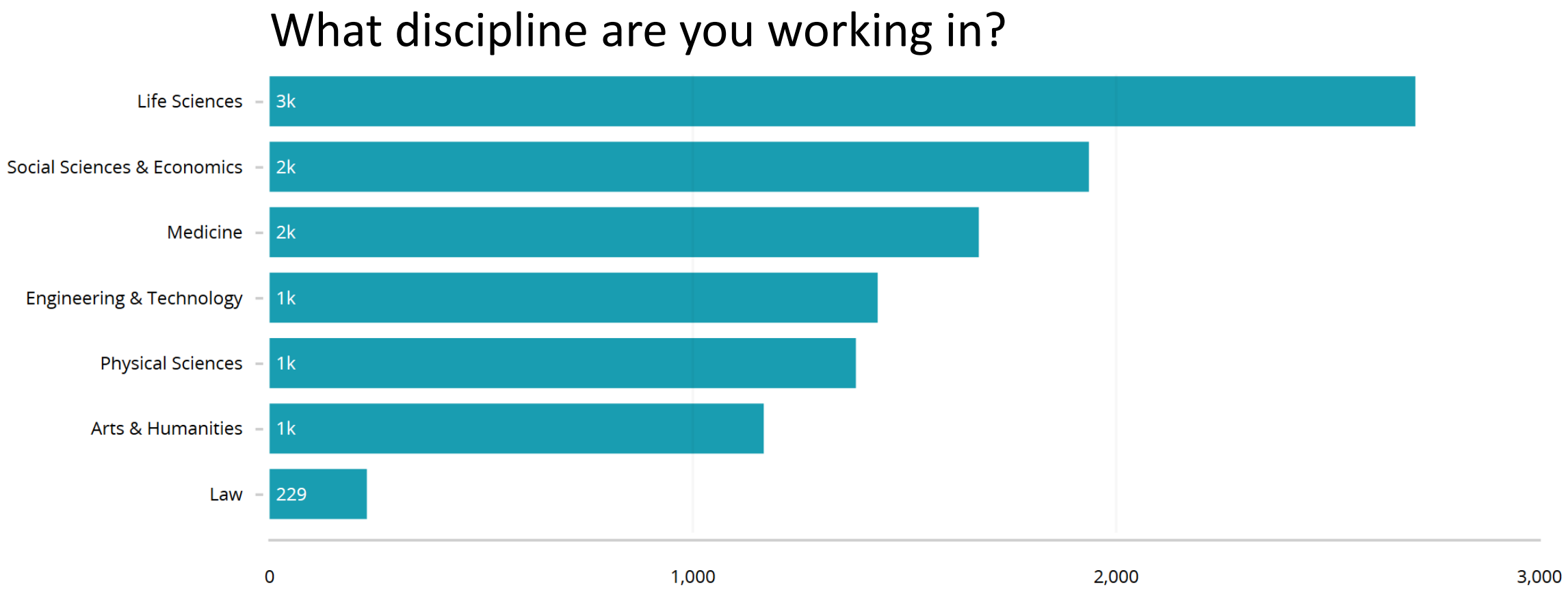
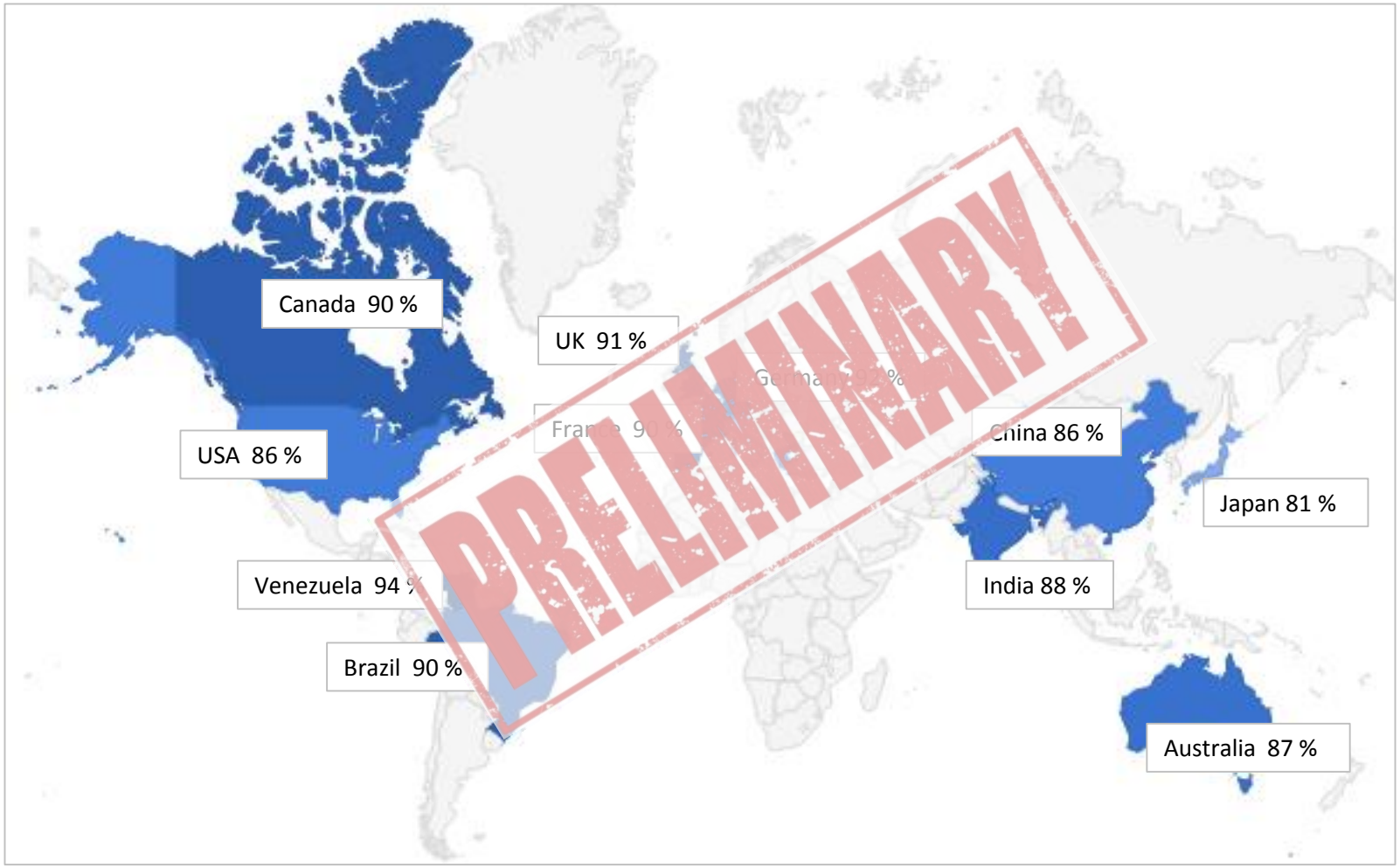


Do you support Open Access ?



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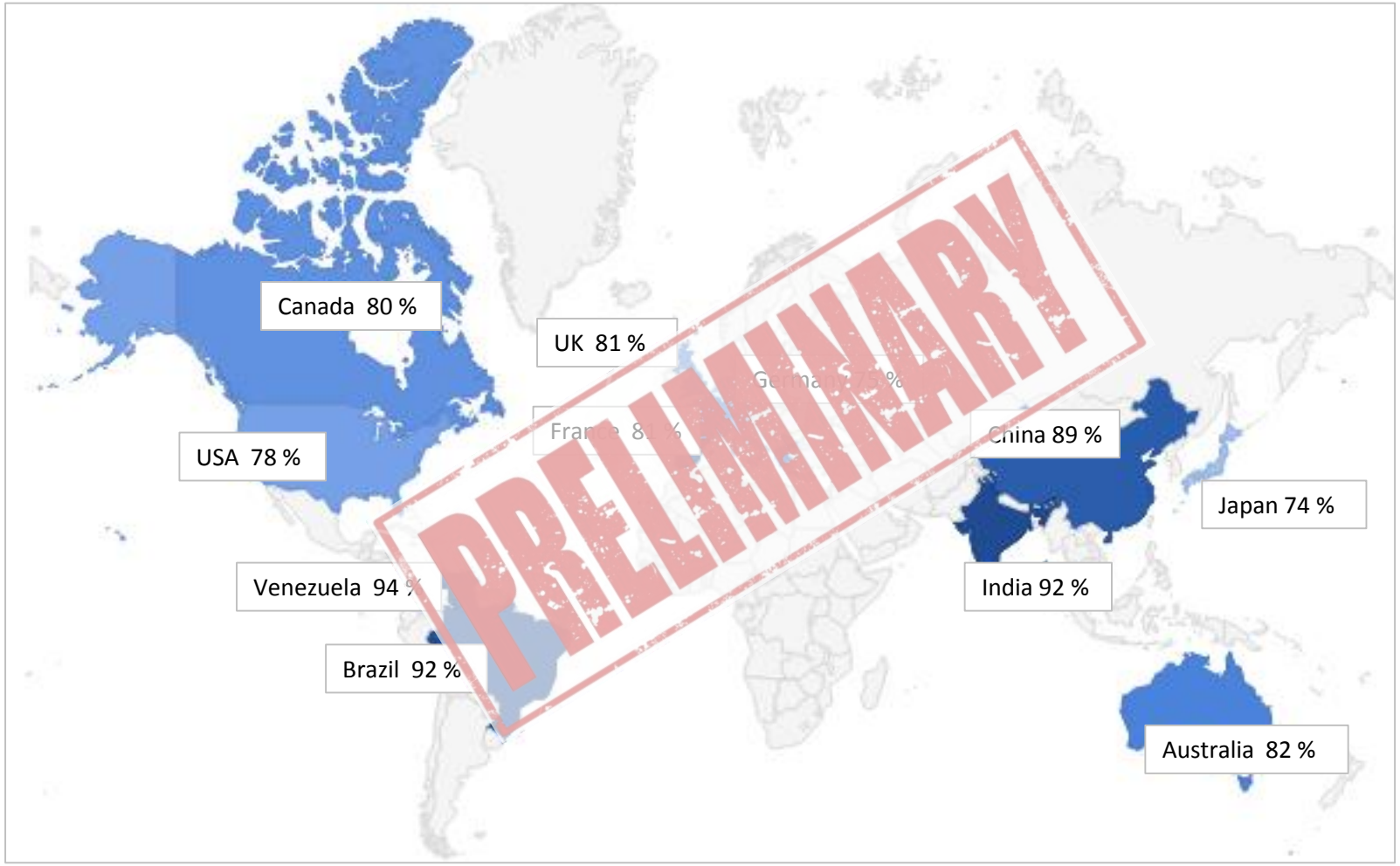
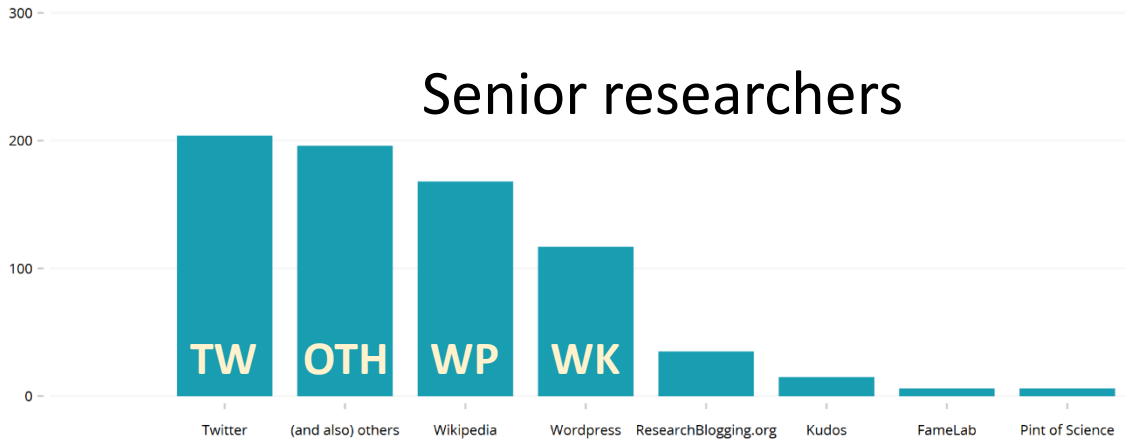
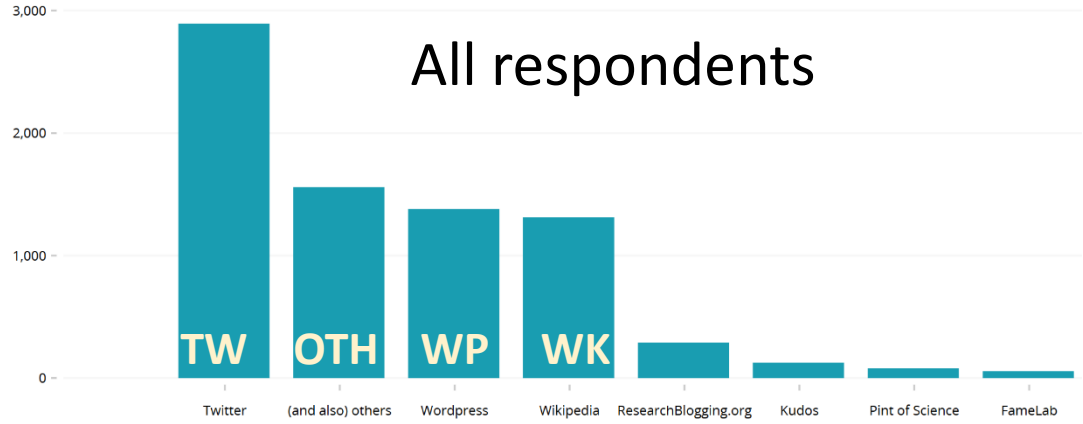
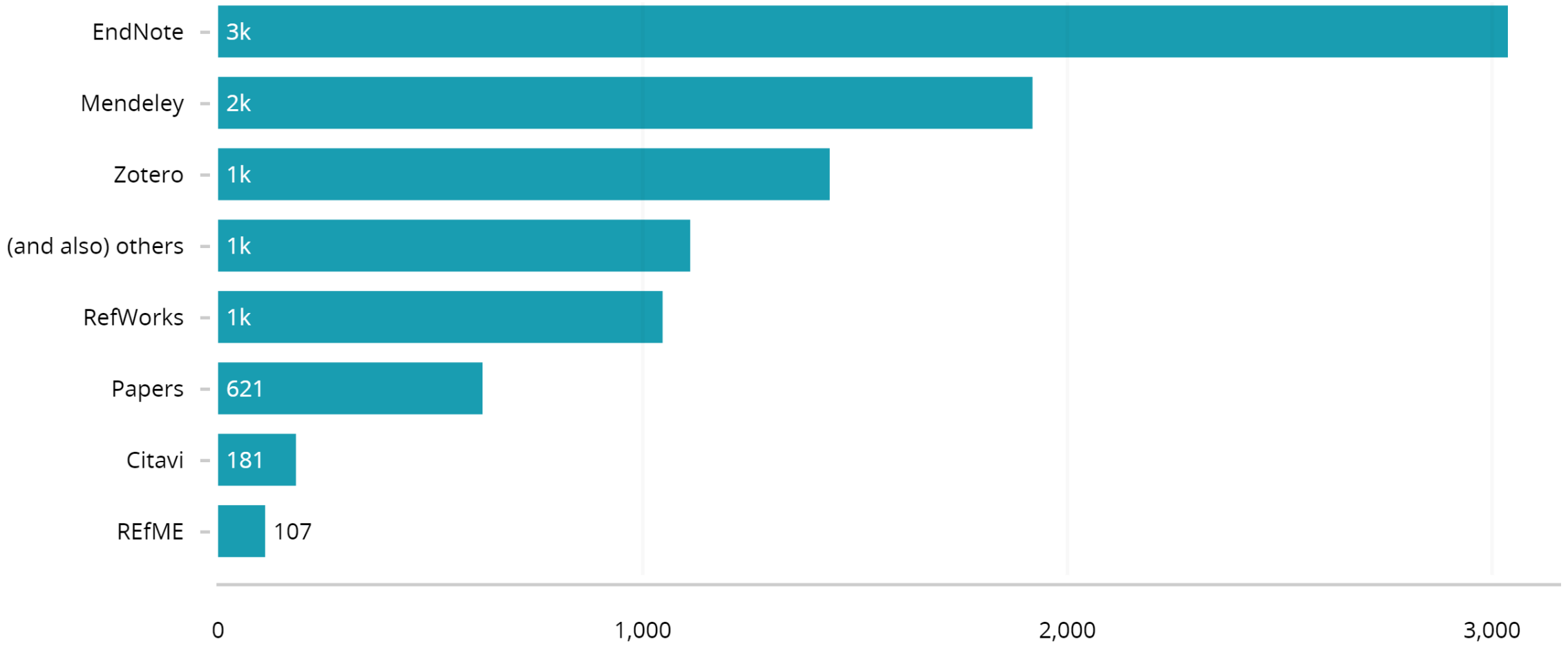


Early career vs. senior researchers: the example of outreach

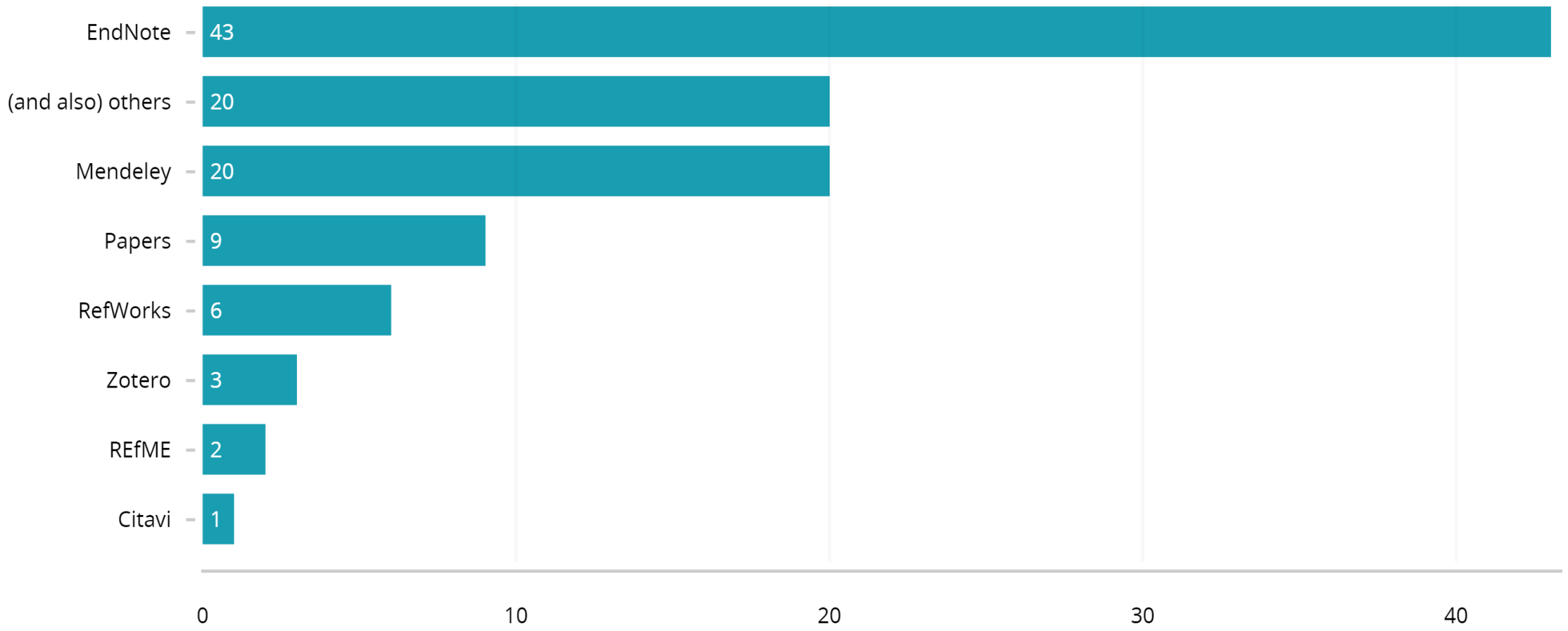




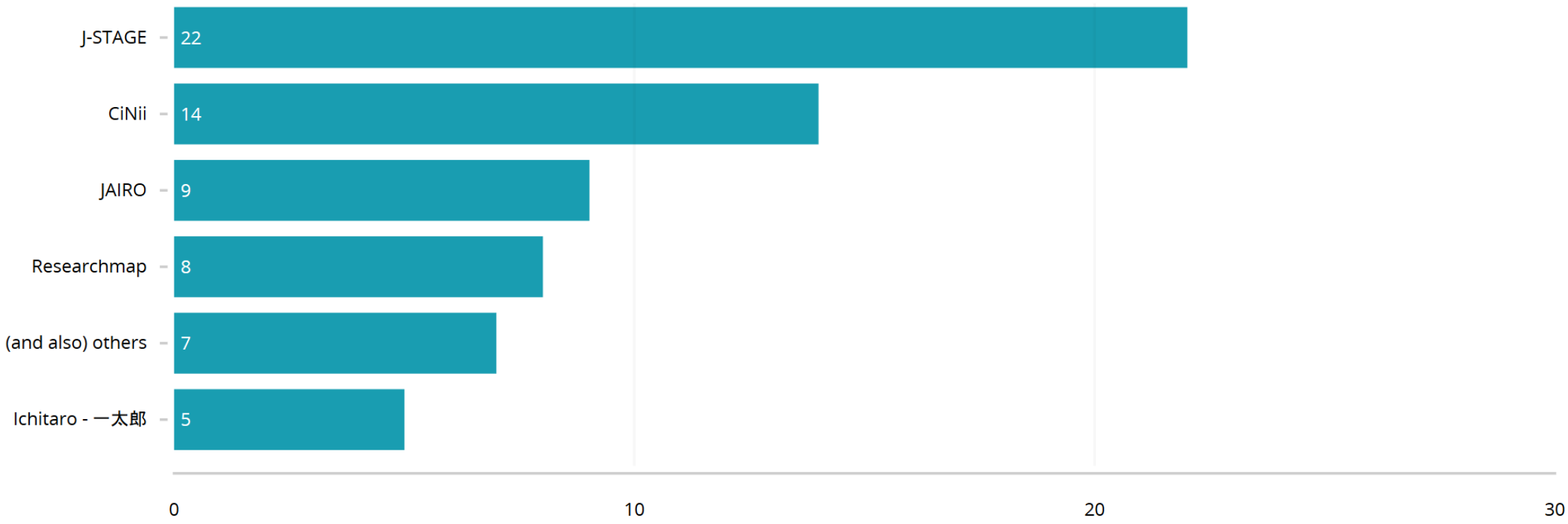
Reference management tools – global



Reference management tools – Japan

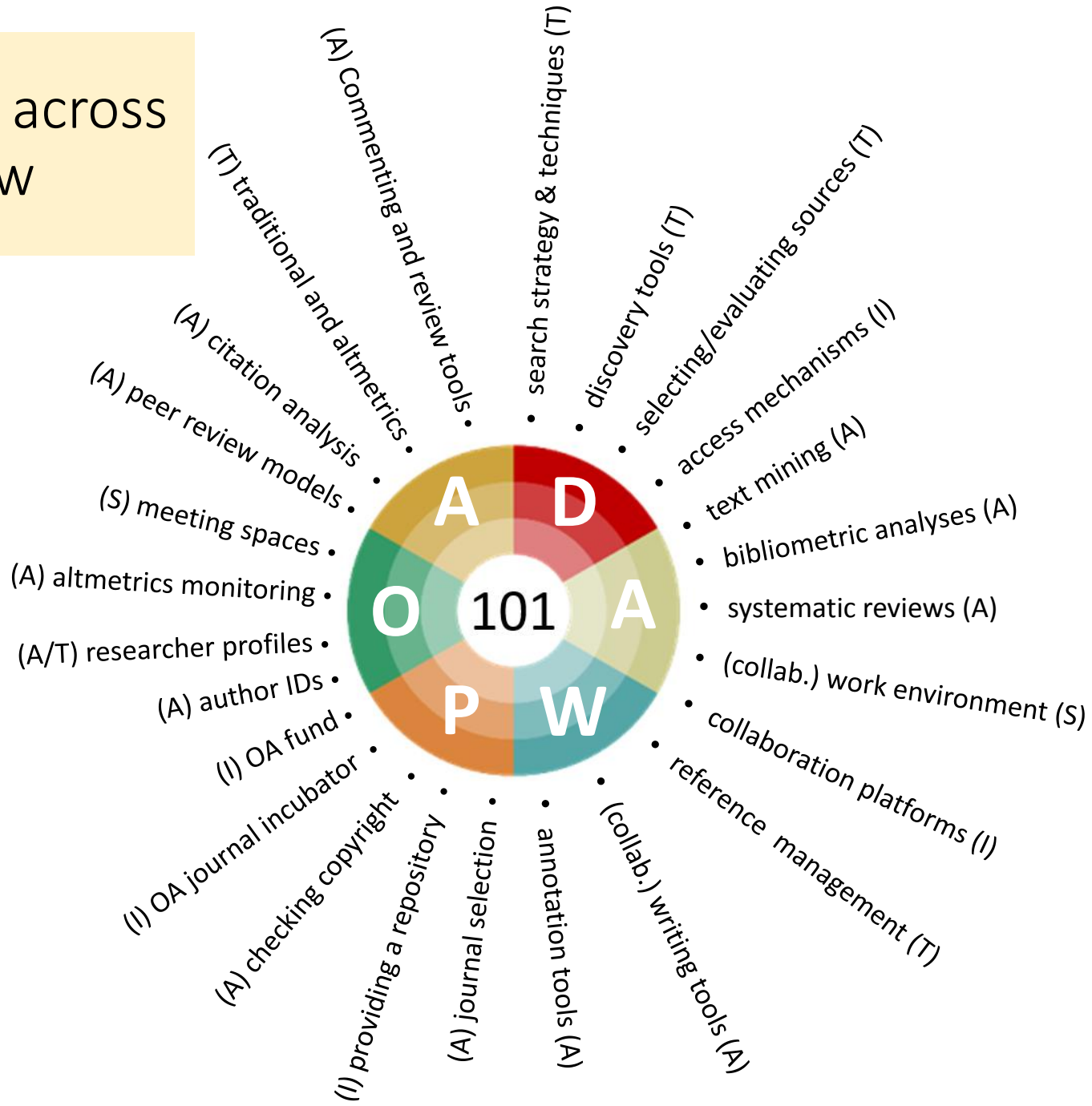


Usage of Japanese tools



How libraries can adapt their perspective?

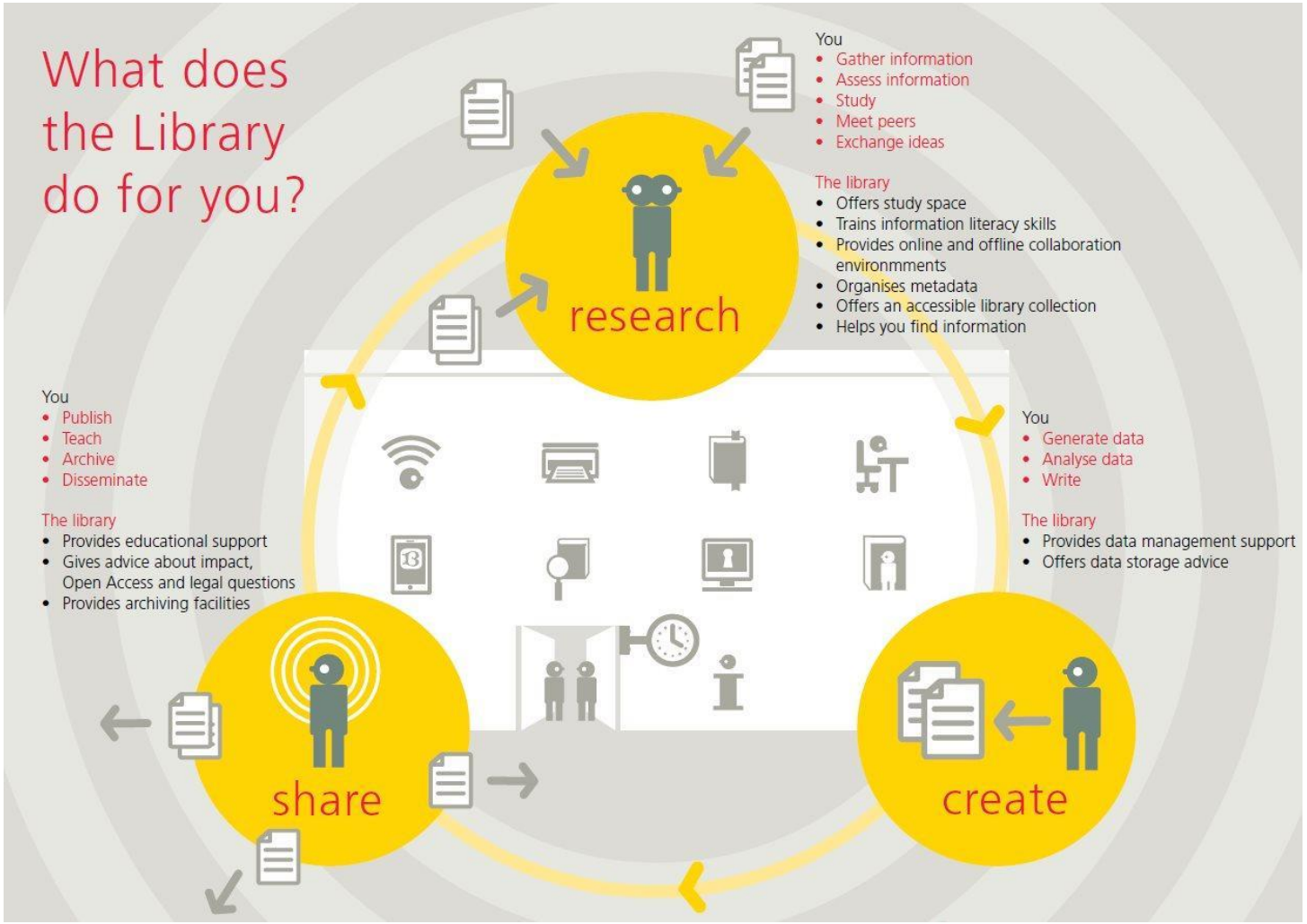
Library services across the full workflow



Service types:
A = advice
I = infrastructure
S = spaces
T = training

And in the research preparation phase:
- advice on OA funding
- advice on data requirements
- access to funding search engines

Researcher activities linked to library services



From: [mission and policy statement Utrecht University Library (at 20160111)]

Approaches for the library

Build on traditional strenghts:

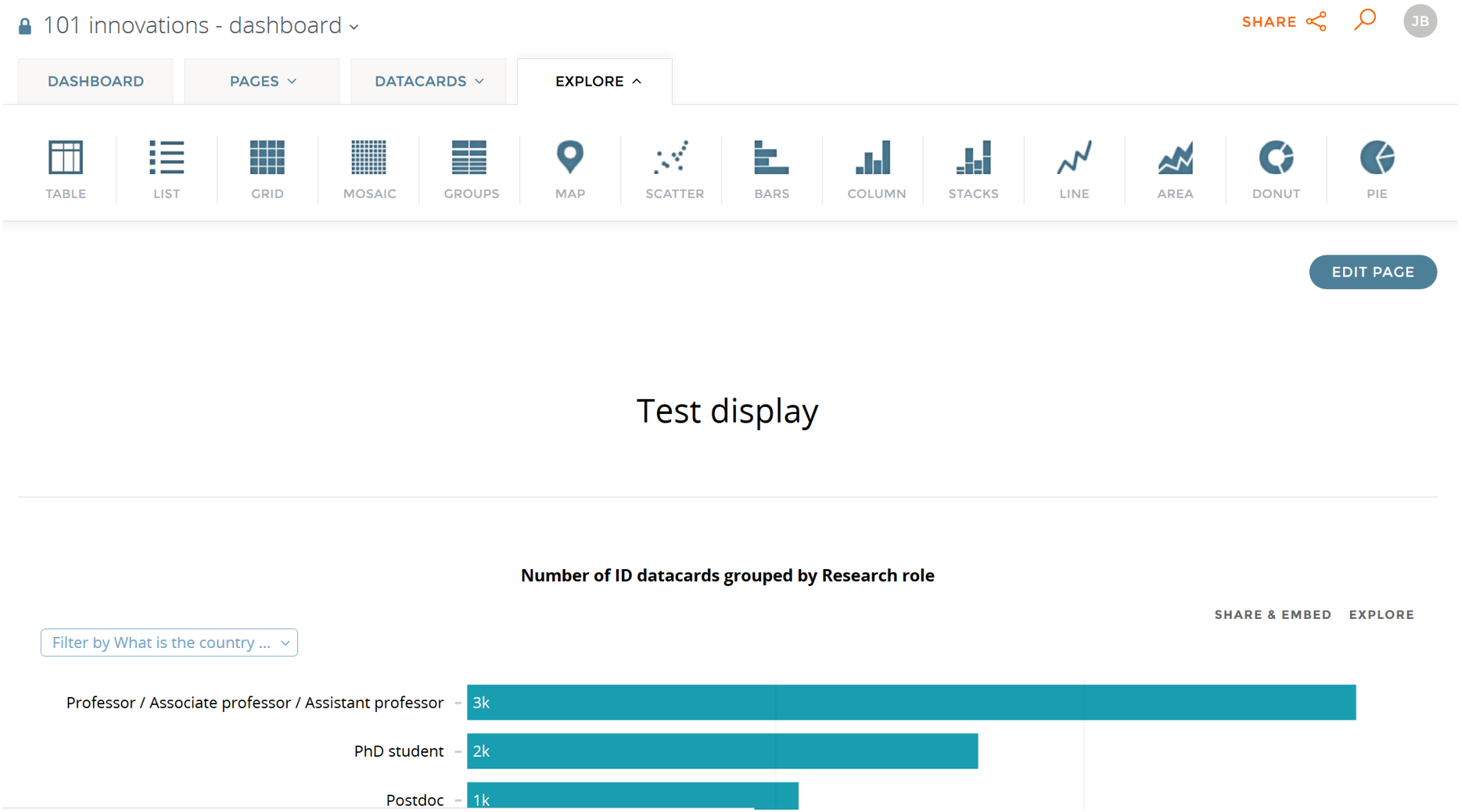
- Knowledge of information organisation
- Neutral, service oriented tradition

Develop new strenghts:

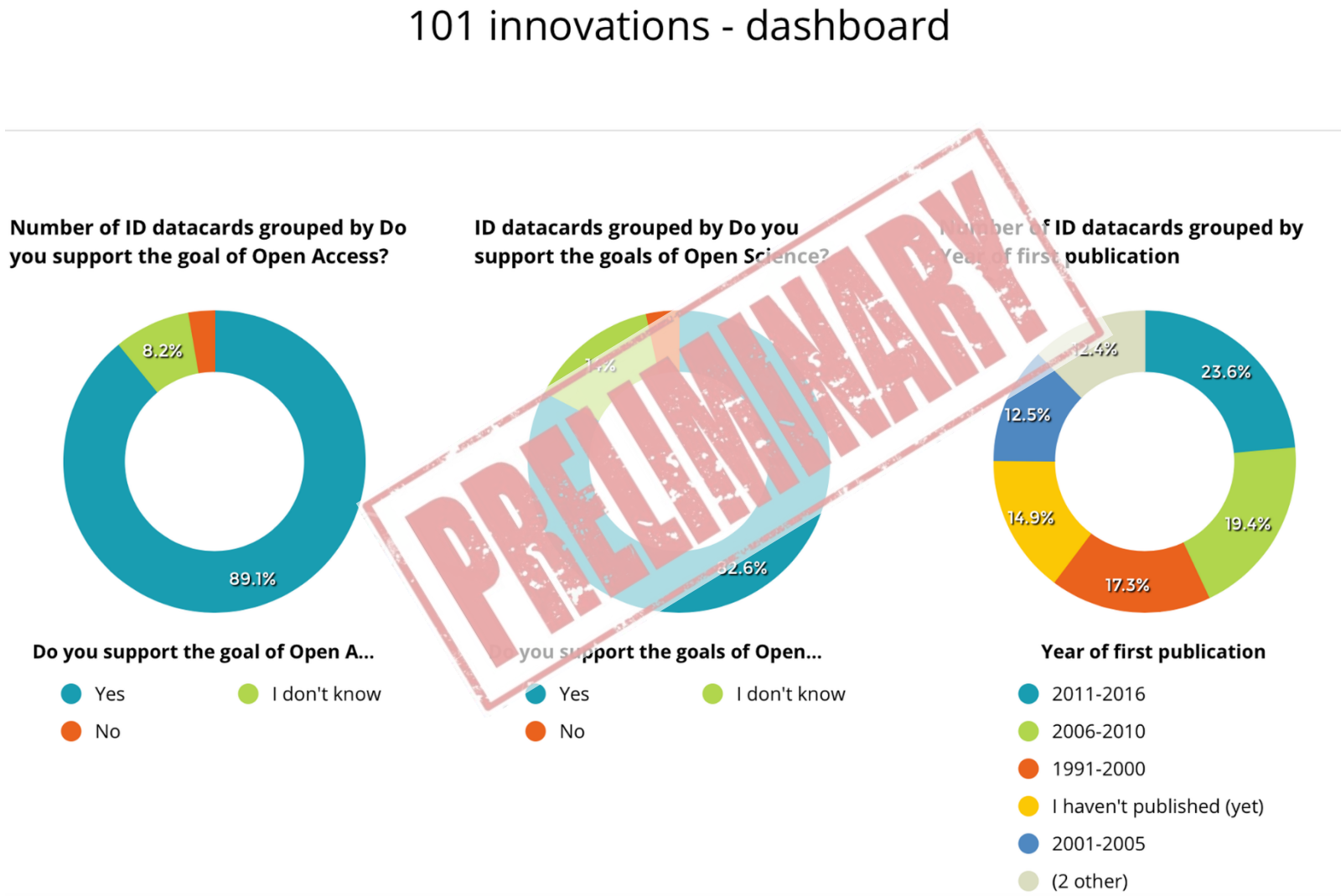
- Communication skills
- Data and code savvyness
- Learn to be comfortable with uncertainties and innovation

How **you** can cooperate and use this

Make these data work for you- Preview of dashboard



Make these data work for you- Preview of dashboard



Make these data work for you

Do Asian postdocs look more to impact factors to select a journal to publish in than their Latin American counterparts?

Make these data work for you

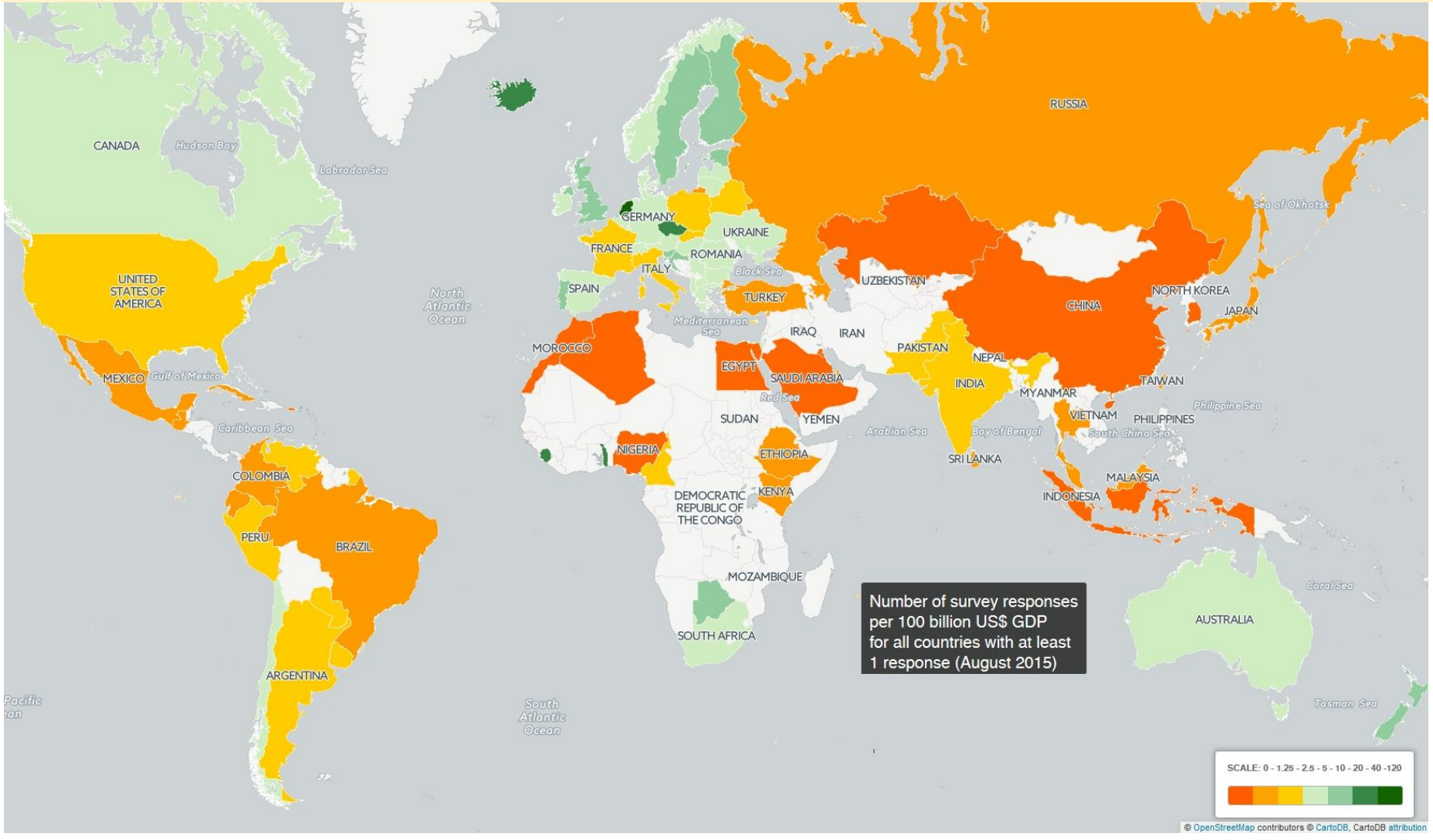
Is sharing ‘preprints’ gaining traction beyond the fields of astronomy, physics and math, and if so, what platforms are used?

Make these data work for you

Which tools are used in multiple research phases, and are they leading tools in any of these phases?

Call to action

Call to action – help distribute our survey



English
français
Español
Русский
简体中文
日本語
العربية

Japanese reponses so far

- Year end 2015: ~100

Now:

- Japanse version 162
- English version ~90

Custom URL - get data from your institution

we've got >90 institutional partners worldwide

Vrije Universiteit Amsterdam

Institut Pasteur, Paris

Universidad Simón Bolívar, Caracas

Technische Universität Dresden

BIU Santé, Paris

Wake Forest University, Winston-Salem

SciELO

University of Salford, Manchester

INRA, Paris

PLOS

Technische Universität Hamburg-Harburg

F1000

How to help distribute the survey in your institution and stimulate Japanese responses

1. Decide whether your institution wants to participate
2. Get in contact: j.bosman@uu.nl
3. We will create a custom URL
4. Invite researchers to the survey, using the custom URL
5. We will send you your institution's results
6. In the data we make public your institution will not be recognisable

End date: Februari 10

And/or spread the general survey URL: 101innovations.wordpress.com

101innovations.wordpress.com

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Jeroen Bosman @jeroenbosman, j.bosman@uu.nl

http://www.slideshare.net/hierohiero/sparcjapanslowrevolutioninscholarlycommunication