The modern global researcher:
How can libraries support today's technological community?

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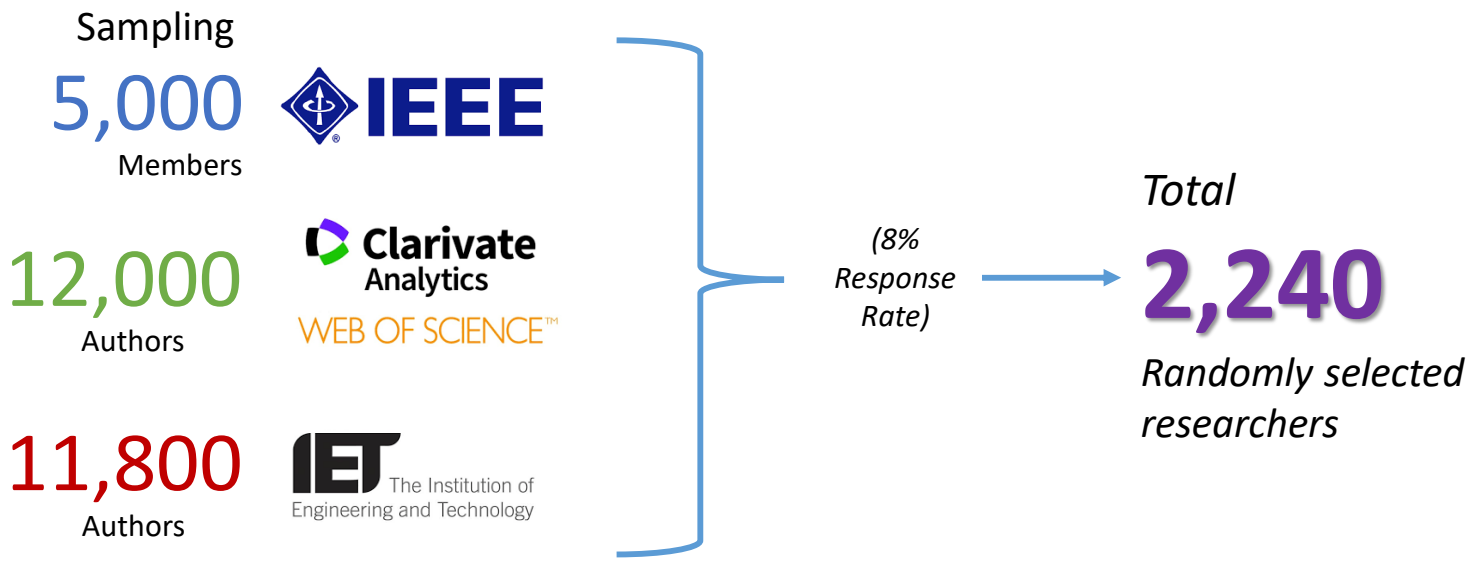
If we understand how research is changing, we could. . .

- Understand the needs of researchers and support a changing population
- Predict what library services are essential and which have become outdated
- Support scholarly communication now and in the future within our university or research community
- Attract and retain the next generation of outstanding authors, students and faculty

In late 2017, IEEE and IET initiated a study

Over 2,200 randomly selected researchers responded to the survey on behaviors



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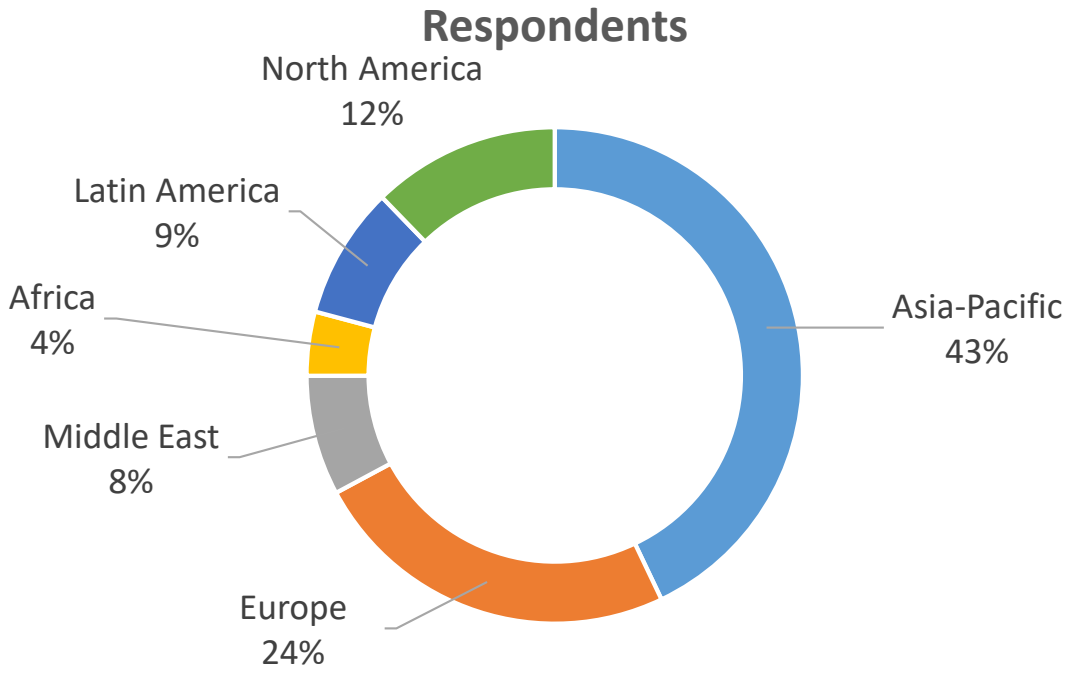
Two-thirds of respondents were from Europe or Asia-Pacific

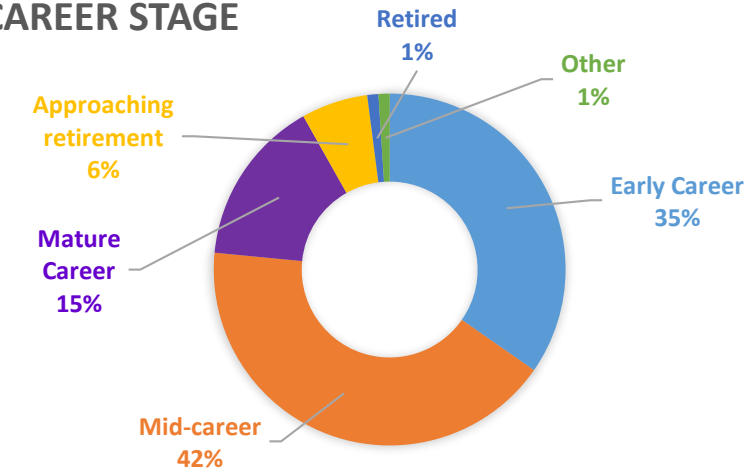
Only Africa had fewer than 90 respondents



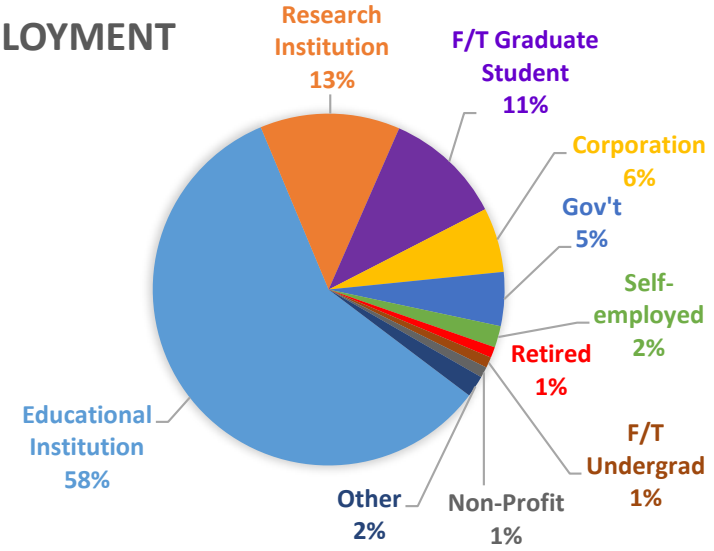
Most respondents were early to mid-career

A majority were employed by Universities or were full-time students

CAREER STAGE



EMPLOYMENT



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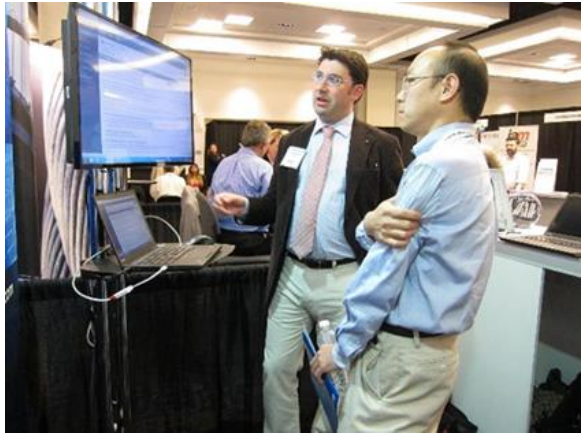
Key Findings of the Study

- Today's researcher's goals are not very different from the past:
  - get published, get cited, get tenure
- Although activity in all peer-reviewed publications is growing, activity in Open Access journals is significantly higher
- Early and mid-career researchers use tools for sharing research output other than just the article – including code and datasets
- Although there is perceived value in many of the tools created for researchers – including Altmetrics, Kudos, and pre-submission feedback tools – very few researchers actually use these tools
- Securing funding and conducting research are the areas where researchers feel they need more tools and services



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Researcher activities conducted and expected

What activities have you done this year? What do you expect to do in the next 5 years?

Traditional activities remain dominant, but substantial growth expected in newer areas

Now		2022	Variance Pts	Variance %
71%	Author / co-author traditional journal article	80%	9	13%
69%	Present / publish conference proceeding	77%	8	12%
43%	Upload your article to a scholarly sharing network	49%	6	14%
37%	Author / co-author open access journal article	52%	15	41%
24%	Place final accepted or published article in repository	35%	11	46%
18%	Place pre-print article in repository or pre-print archive	27%	9	50%
11%	Upload algorithmic code to specialized site	23%	12	109%
5%	Upload dataset with a data repository	16%	11	220%
5%	None of the above	2%	-3	-60%

Q: In the past five years, which of the following have you done? In the next five years, which of the following are you likely to do?

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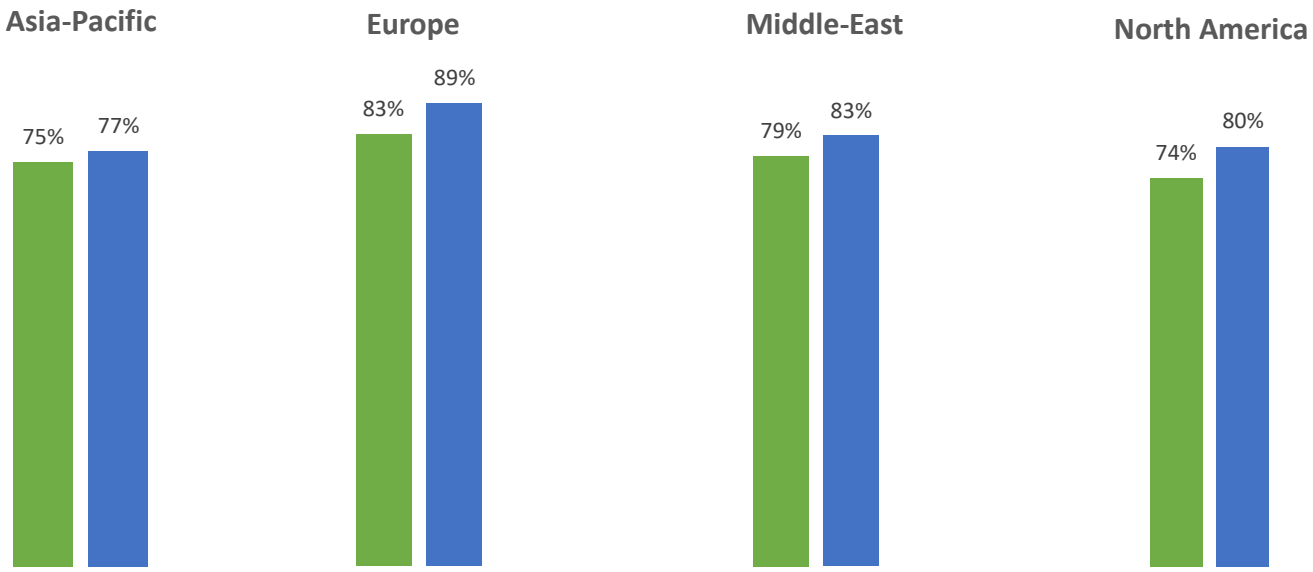
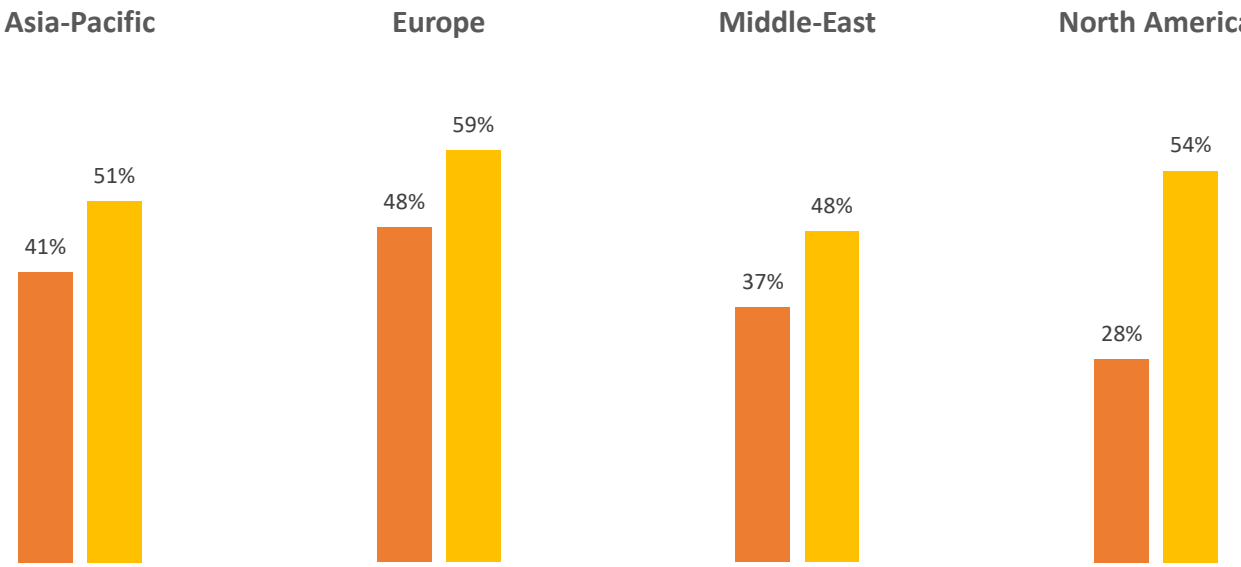
All regions said they expected to write more articles for traditional journals by 2% to 6%



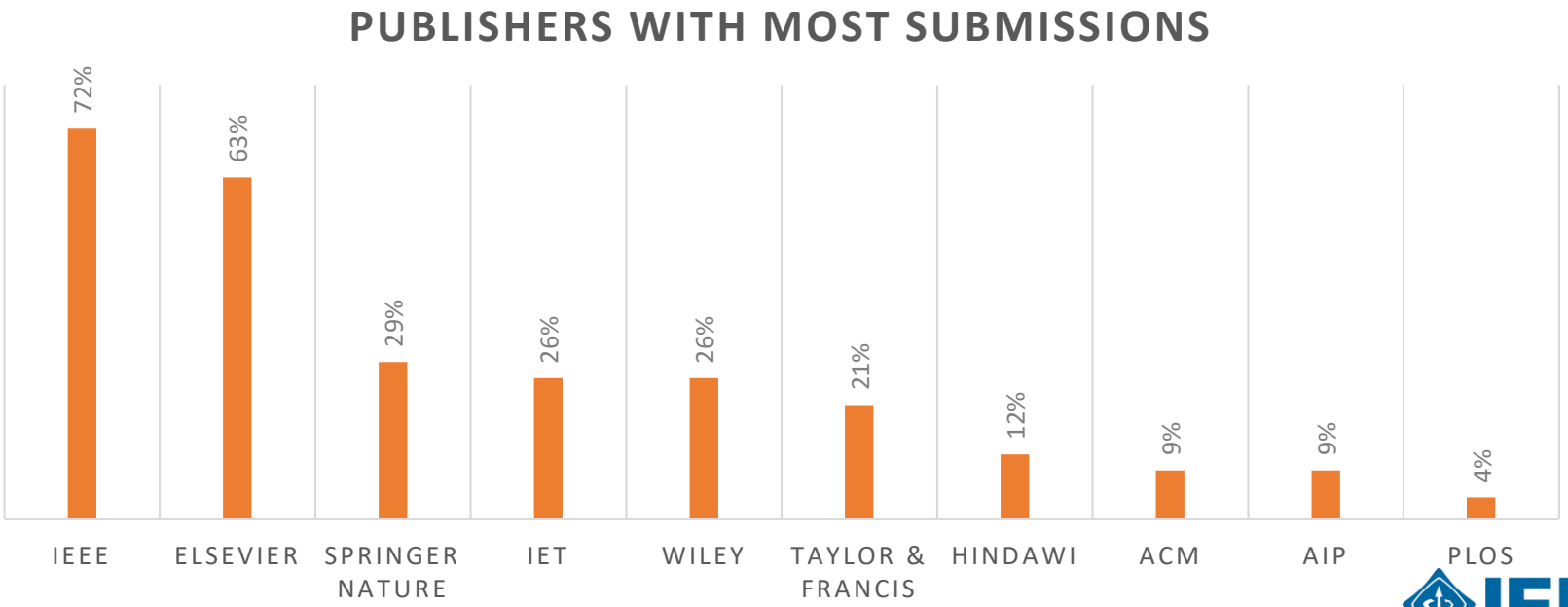
Open Access submissions expect to grow by 10% to 26%, depending on region

Although growth is higher, OA expected to be far behind traditional in 5 years



Virtually all (92%) respondents submitted a manuscript to a peer-reviewed publication in the last 5 years

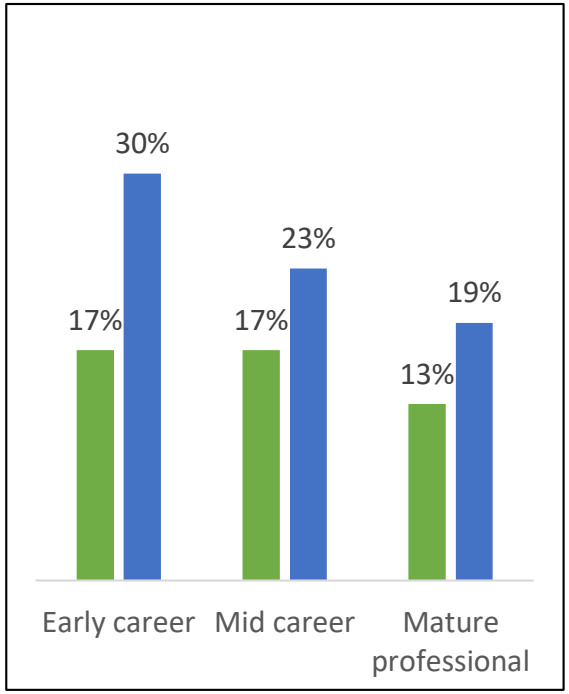
IEEE and Elsevier dominate the engineering research submission community

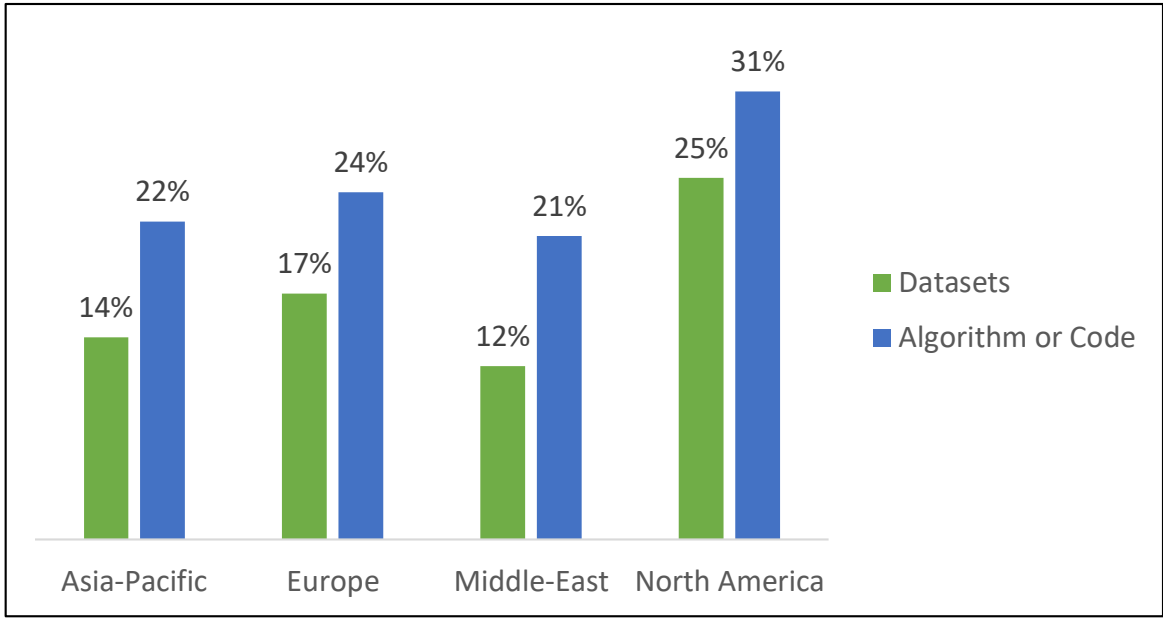


Q: Which of the following scholarly publishers have you submitted a manuscript to, if any?

Sharing of data/code with the article is emerging

Future uploading of datasets and code/algorithms in specialized sites?

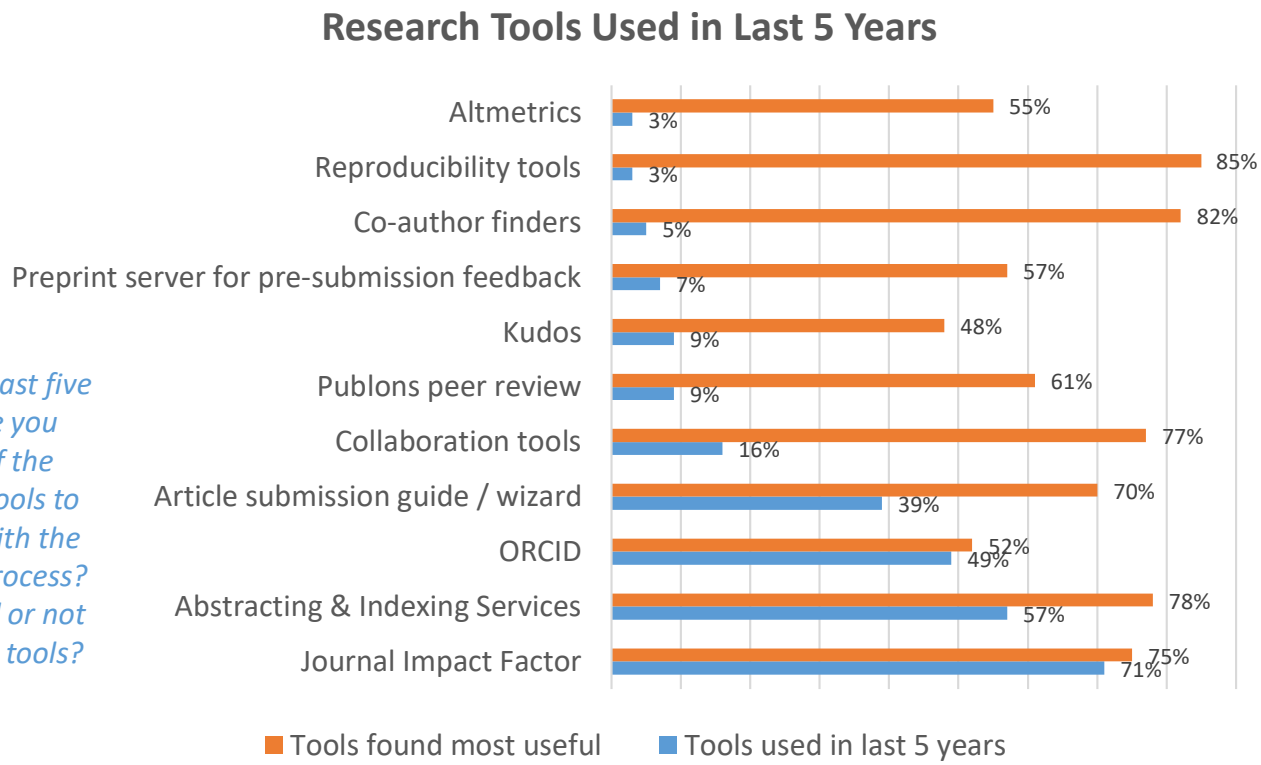




Tools and services used

Journal Impact Factor still heavily used

Q: In the past five years, have you used any of the following tools to help you with the research process? How useful or not were these tools?



- Early and middle-career researchers were most likely to use ORCID (54% and 55% v. 41% of those in the late stage)
- Researchers in the Middle East were by far the most likely to have used an article submission guide or wizard
- US researchers were the most likely to use Publons peer review tool, preprint server, and tools for finding collaborators

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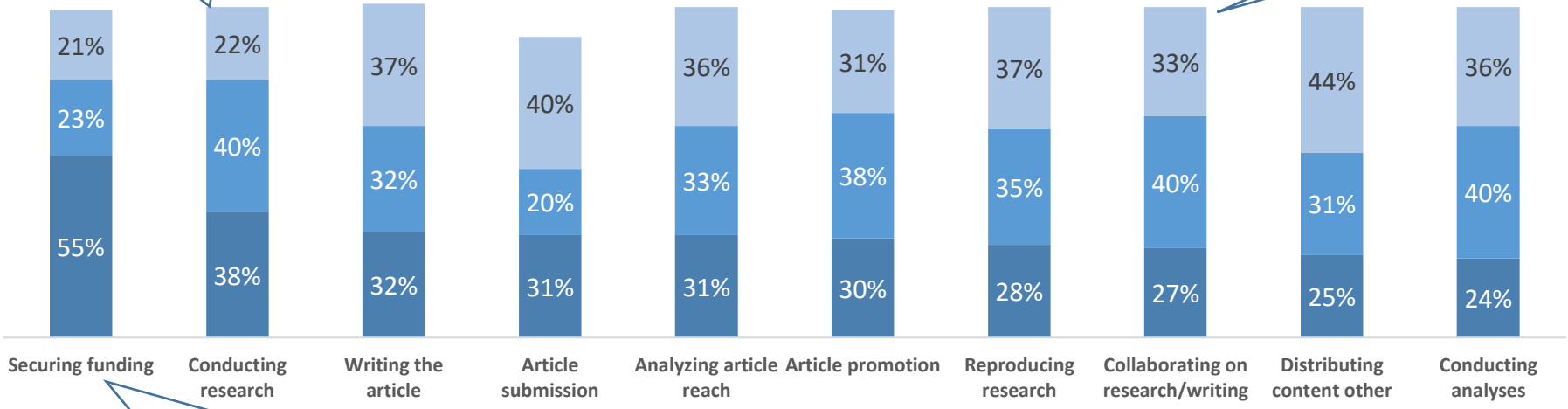
What do researchers need most?

Securing funding was by far the greatest need, followed by conducting research

Asia-Pacific and North America found the most need in conducting research

The Middle East in particular pressed the case for collaboration tools



Europe and North America particularly pressed the need for securing funding

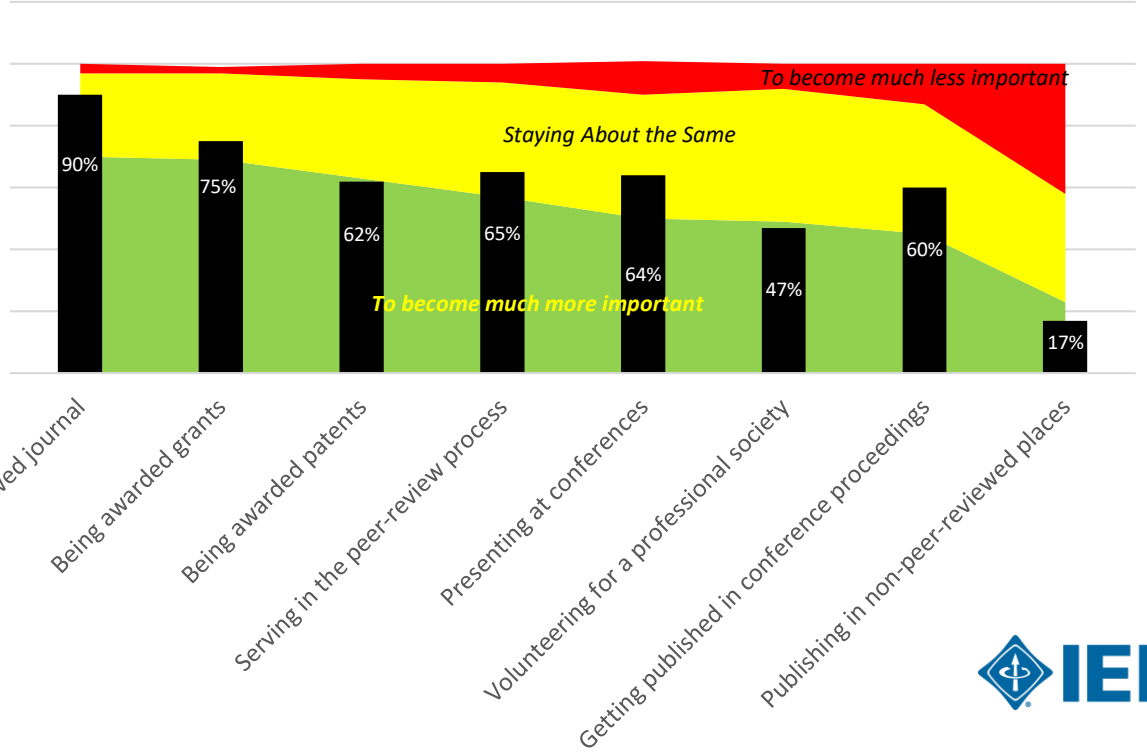
Q: Thinking about all the tools, resources, or services that could be available to you in the future, which of the following would be most useful to you?

What is important to the researcher personally?

Researchers were asked what is personally important to them in their research

"Publish or perish" in peer-reviewed journals still remains very much the key factor

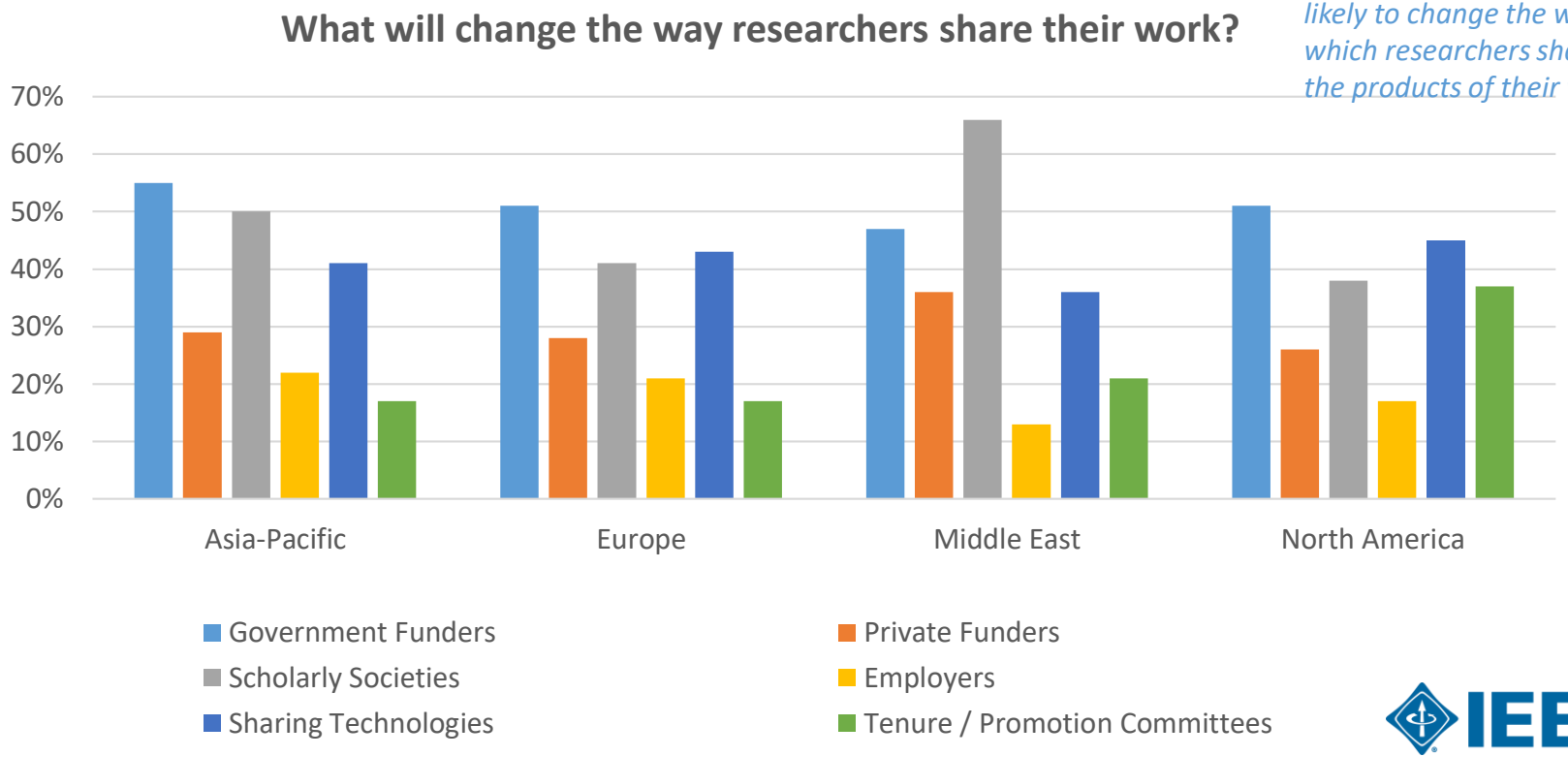
Q: How important or not are each of these in helping you moving forward professionally (with tenure, raises, promotions, recognition by senior leaders in your field, and so on)?



Influencers in researcher’s world

Influences in sharing research

Q: Who or what is most likely to change the way in which researchers share the products of their work?

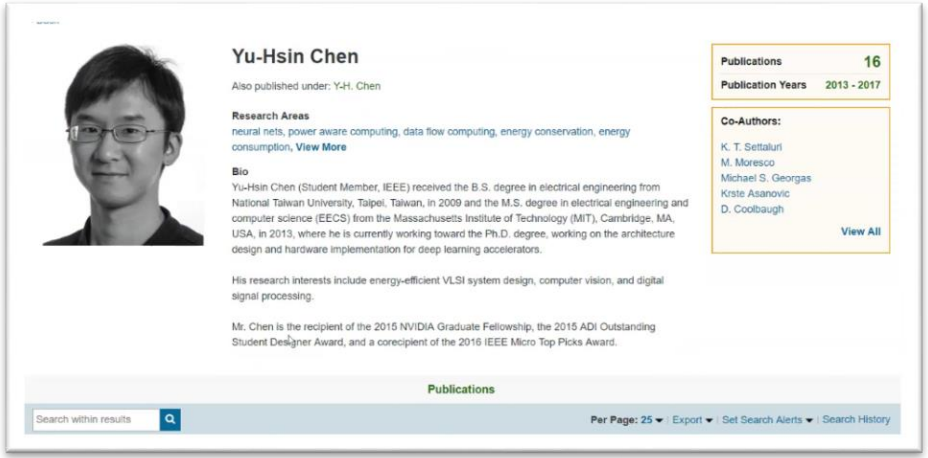


Where do libraries fit in

Libraries can shift focus to assist modern researchers

Libraries can assist with…

- Author's online presence
  - Are all author's papers indexed by A&I databases, Google Scholar, Scholarly Collaboration Networks or institutional repository?
  - Where is his/her author profile?
  - Does author have an ORCID?
- "Data Stewardship"
  - Many funding applications must have a data plan
    - Does library have a "data steward" to help researchers navigate data collection?
    - Does your university have a data repository or a plan? If not, what are the university policies and can someone in the library be the liaiason for researchers?

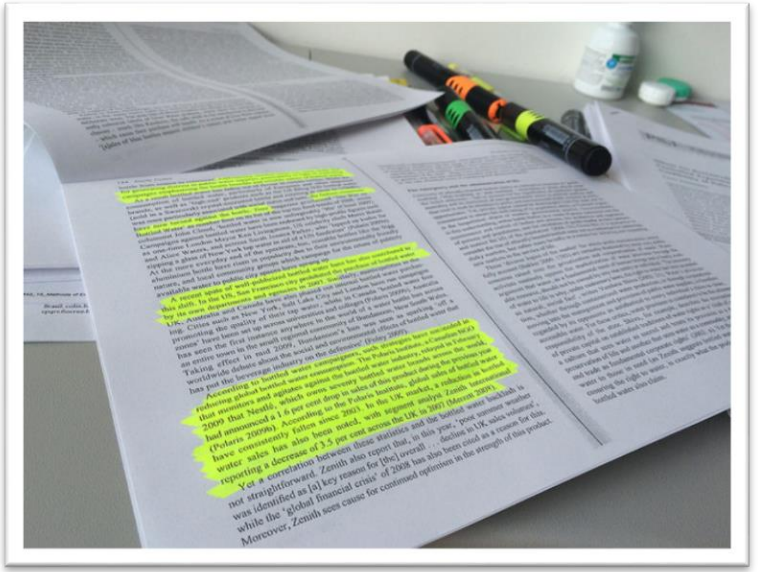


Libraries shifting focus, cont…

Libraries can assist with…

- Literature review
  - Paper can be immediately thrown out if researcher misses a core paper
  - Ensure that researcher has cited all relevant citations in funding application and manuscript submission
  - For novelty, assist with a “zero result” literature search
  - Promote usage of library databases vs. Google Scholar

- Finding co-authors and collaborators
  - Competitive Intelligence
  - Co-authors from different countries/institutions are a benefit and those papers get cited more
  - Finding co-authors who are successful at getting funding is hugely valuable



Libraries shifting focus, cont…

- Help researchers find appropriate journals and funding agencies
  - A&I Databases, Journal Citation Report still considered most important tool
  - Resources like Pivot, Mendeley, WebOfScience can be used to find funding, but have limitations
- Educate research community about effective use of bibliographic management tools
  - What does the university provide? (Refworks, Endnote, etc?)
  - What free tools are available?
  - How to convert citations from one tool to another
- Host authorship events at the library
  - Does your university have a writing lab or studio?
  - Arrange events with successful authors and the writing lab

First steps…

- Talk to your community of researchers and authors
- If you have a scholarly communication department, make connections there
  - What are your universities authorship policies?
  - What is the data plan?
- What writing resources or centers does your university have?
- Evaluate the tools that will serve your top researchers and authors and then leverage for your whole community

Thank you!