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COMPARE

POST?
~~TWEET~~ MY PAPER
WHO HANDLES DISSEMINATION ON X (TWITTER)?

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Nicolas Robinson-Garcia

This study is part of the **COMPARE** project which aims at radically changing assessment approaches by focusing on diversity of activities and profiles rather than neglecting the complexities of the scientific ecosystem

It stands for **CO**ntextual **M**apping of academic **P**athways **A**nalysis for **R**esearch **E**valuation. Its grant reference is *PID2020-117007RA-I00* and it is funded by:

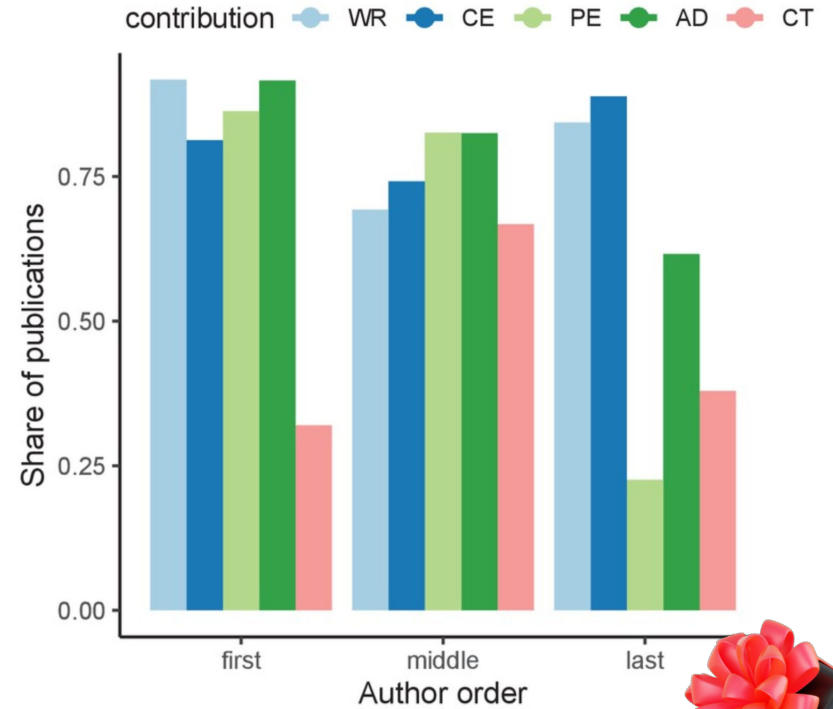Wenceslao Arroyo-Machado
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Contextual Mapping of academic Pathways Analysis for Research Evaluation

1. **INTRODUCTION**

There is an urgent need to open up the box of *authorship* if we want to understand *diversity* within the knowledge production process.

Authorship order in publications has been used to reflect these *roles*, especially for flagging leadership.

Robinson-Garcia, N., Costas, R., Sugimoto, C. R., Larivière, V., & Nane, G. F. (2020). Task specialization across research careers. *eLife*, 9, e60586. https://doi.org/10.7554/eLife.60586

1. INTRODUCTION

Open Science practices add new roles and tasks to the scientific endeavour, among others dissemination and public outreach of scientific findings.

Scientific communication is another task that is not equally distributed among authors, *is it?*
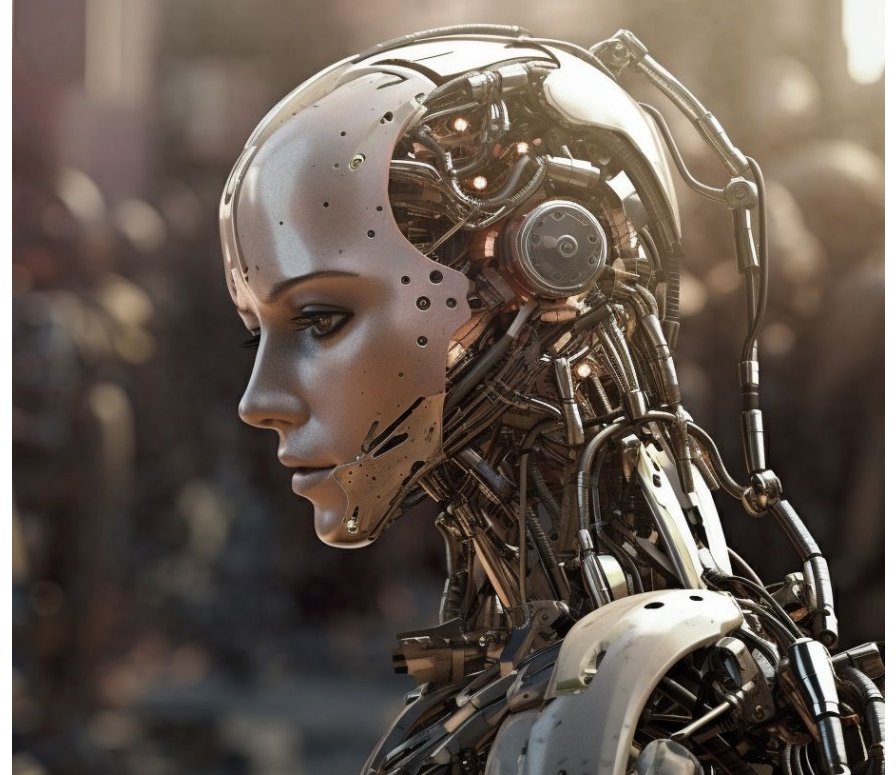
1. **INTRODUCTION**

Scientific communication varies among authors, with *Twitter* being a predominant platform for sharing research

Indicators	N	mean	st.dev.	min	max	25%	50%	75%
pp_authored_self_cited	124,569	0.25	0.24	0	1	0	0.25	0.46
pp_authored_self_tweeted	124,569	0.27	0.35	0	1	0	0.11	0.50

Ferreira, M. R., Mongeon, P., & Costas, R. (2021). Large-scale comparison of authorship, citations, and tweets of web of science authors. *Journal of Altmetrics,* 4(1), 1. https://doi.org/10.29024/joa.38

This mode of dissemination often sees the *first author* as the main communicator, highlighting a gender gap, yet many characteristics of this distribution remain unexplored

1. **OBJECTIVES**

The main objective is to explore how research dissemination on Twitter is handled according to authorship position

Specific objectives

1. **Determine the volume of scholars involved in Twitter discussions around scientific publications**

2. **Identify which authorship position is most associated with self-dissemination of the paper on Twitter**

3. **Examine patterns of self-dissemination across research areas**

2. METHODOLOGY

Mongeon, P., Bowman, T. D., & Costas, R. (2022). *An open dataset of scholars on Twitter*. https://doi.org/10.5281/zenodo.7013518

DATA

1 — IDENTIFYING SCHOLARS ON TWITTER
492,124
scholars with Twitter & OpenAlex IDs

2 — UPDATING OPENALEX DATASET
434,949
scholars with Twitter & OpenAlex IDs

3 — RETRIEVING TWITTER MENTIONS TO PAPERS
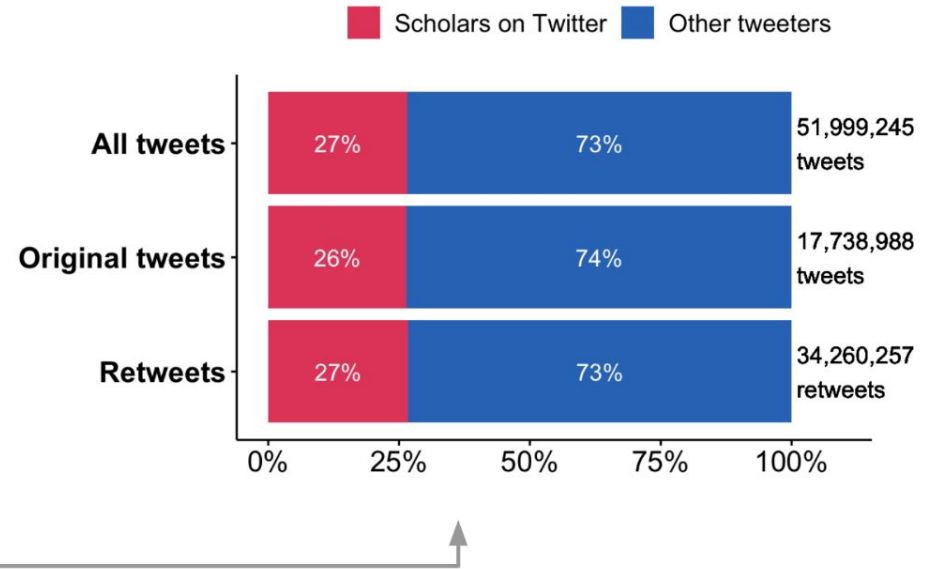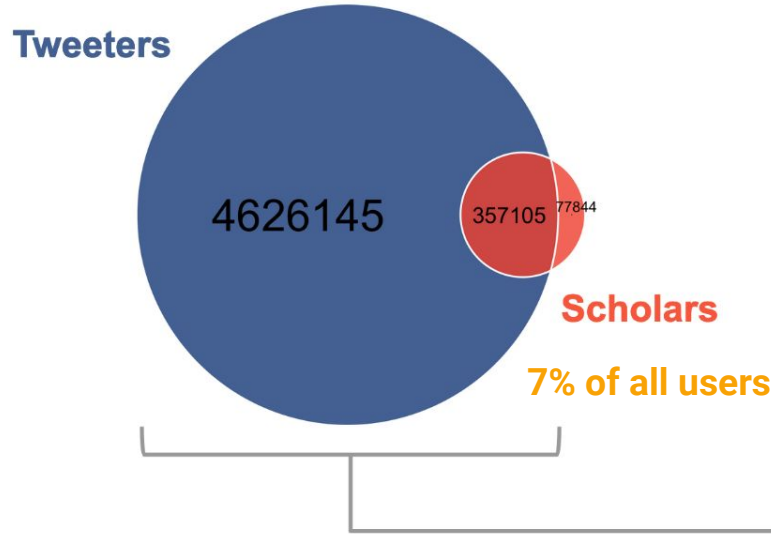3,751,267 papers with
51,999,245 mentions

ANALYSES

1 — SCHOLARS' PRESENCE AND PAPER MENTIONS ON TWITTER

2 — PAPER DISSEMINATION BY AUTHORSHIP POSITION

3 — PATTERNS ACROSS 22 ESI FIELDS

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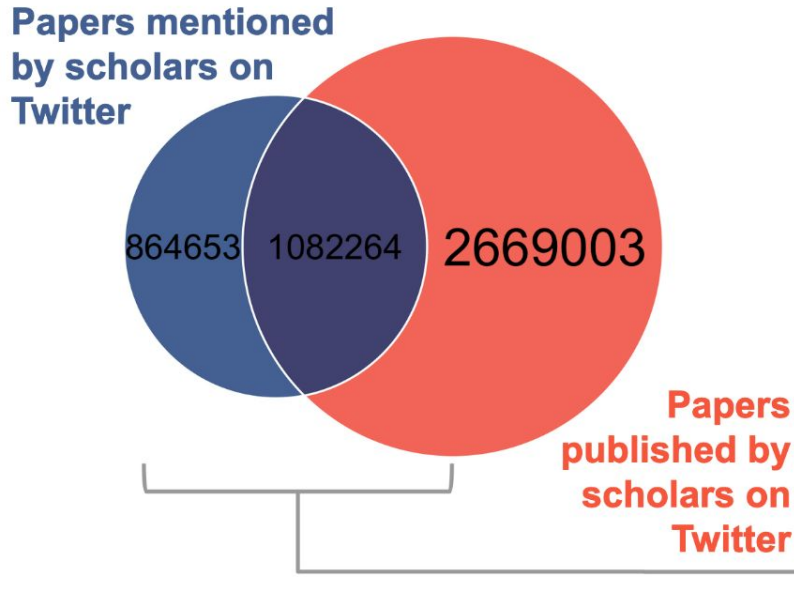3. **RESULTS//** Scholars' representation and self-dissemination on Twitter

Overlap between **tweeters** that mention papers and **scholars with a Twitter account**

Percentage of **tweets mentioning papers** by **scholars**

Tweeters

4626145   357105 77844

Scholars

7% of all users

Scholars on Twitter   Other tweeters

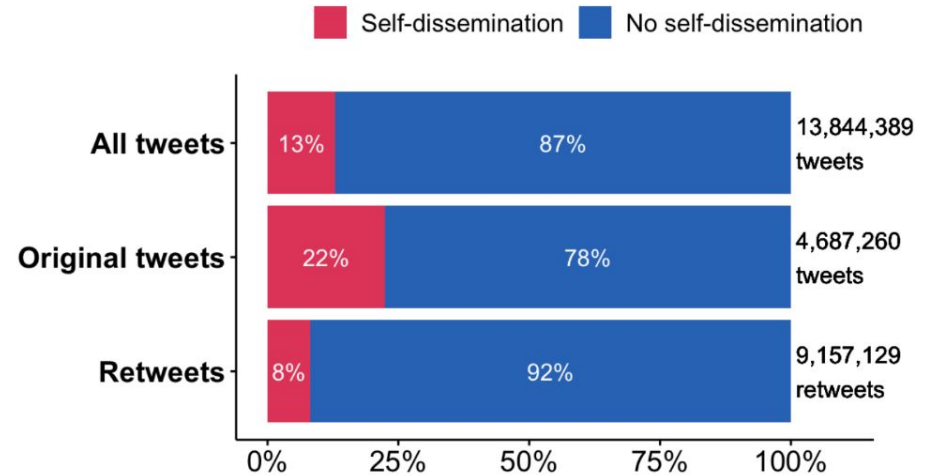|	Scholars on Twitter	Other tweeters	
All tweets	27%	73%	51,999,245 tweets
Original tweets	26%	74%	17,738,988 tweets
Retweets	27%	73%	34,260,257 retweets

0%   25%   50%   75%   100%

3. **RESULTS//** Scholars' representation and self-dissemination on Twitter

Overlap between **papers mentioned by scholars on Twitter** and **all their papers** in the same period

Percentage of **mentions of scholars** that are **self-dissemination**

Papers mentioned by scholars on Twitter

864653   1082264   2669003

Papers published by scholars on Twitter

■ Self-dissemination   ■ No self-dissemination

All tweets   13%   87%   13,844,389 tweets
Original tweets   22%   78%   4,687,260 tweets
Retweets   8%   92%   9,157,129 retweets

0%   25%   50%   75%   100%

9

Corresponding and **first** authors tweet most, while **middle** authors mainly retweet
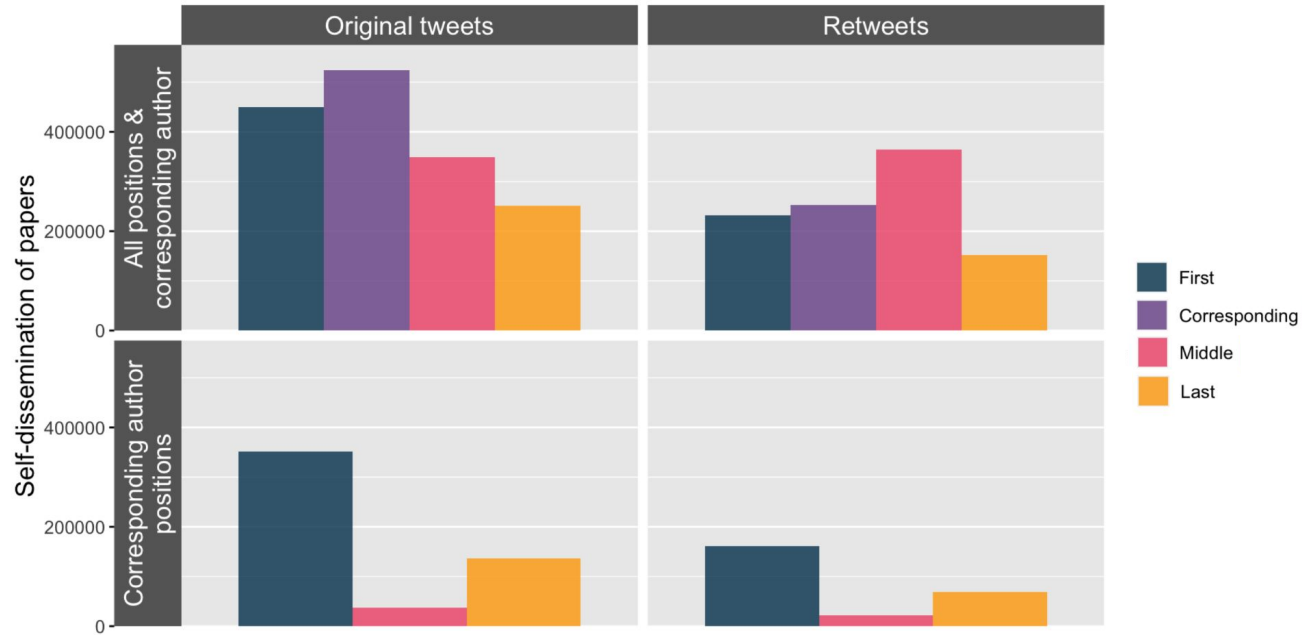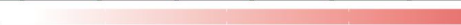

Majority of **corresponding** authors self-disseminating are first authors

3. **RESULTS//** Authorship positions in self-dissemination on Twitter by ESI field

ESI field	Avg. authors	Publ.	ORIGINAL TWEETS				RETWEETS			
			First	Mid.	Last	Cor.	First	Mid.	Last	Cor.
Agricultural Sciences	6.77	41,997	24%	23%	15%	28%	11%	19%	8%	12%
Arts & Humanities	2.45	33,894	55%	7%	8%	53%	20%	6%	6%	18%
Biology & Bioch.	8.05	134,696	18%	20%	16%	26%	12%	24%	10%	14%
Chemistry	6.43	108,820	17%	23%	21%	30%	10%	20%	9%	14%
Clinical Medicine	9.06	508,493	23%	19%	12%	26%	13%	24%	9%	14%
Computer Science	4.89	38,825	29%	18%	17%	31%	11%	16%	9%	12%
Economics & Business	3	67,349	37%	14%	16%	36%	14%	10%	9%	14%
Engineering	5.87	106,400	25%	24%	19%	32%	9%	16%	7%	10%
Environment/Eco.	6.18	208,821	25%	21%	13%	28%	13%	21%	8%	13%
Geosciences	6.39	75,979	27%	25%	11%	30%	10%	20%	6%	11%
Immunology	11.51	41,081	18%	25%	14%	24%	11%	24%	7%	12%
Materials Science	6.73	53,832	19%	25%	22%	32%	9%	18%	7%	11%
Mathematics	3.93	11,735	33%	17%	20%	39%	10%	12%	8%	11%
Microbiology	8.53	61,635	18%	23%	16%	25%	11%	24%	9%	13%
Molecular Bio. & Gen.	11.27	98,312	15%	22%	15%	23%	11%	27%	10%	14%
Neuroscience & Beh.	8.2	86,727	23%	21%	16%	27%	11%	22%	8%	12%
Pharmacology & Tox.	8.01	29,531	20%	24%	17%	28%	11%	20%	8%	12%
Physics	10.08	39,900	23%	24%	21%	34%	9%	16%	7%	11%
Plant & Animal Sci.	6.22	122,863	24%	20%	14%	27%	13%	21%	9%	14%
Psychiatry/Psych.	5.58	132,454	30%	17%	15%	33%	13%	16%	9%	14%
Social Sciences, Gen.	2.94	233,411	40%	10%	12%	41%	19%	10%	10%	19%
Space Sciences	22.32	16,316	29%	31%	8%	31%	7%	22%	3%	8%

Min.   Max.

Corresponding authors typically lead, but **first** or **middle** authors dominate depending on the discipline's average author count

4. DISCUSSION

1. This is the pioneering large-scale study investigating research dissemination on Twitter based on authorship position

2. Our findings align with previous studies indicating that many tweets from scholars about papers are self-promotions

3. It is important to note the effect of scholars' age in their behaviour

4. Our research diverges from some prior work by emphasizing the role of middle authors, suggesting methodological or temporal differences in data collection

5. Now that X has arrived, other channels of communication may increase their importance for public outreach

5. **FURTHER RESEARCH**

1. We will expand and update our dataset
2. We will explore overlooked factors related to authorship
3. ~~We will study tweet characteristics further~~

age!

Developers ✓ ✗ @XDevelopers · Mar 30
Today we are launching our new Twitter API access tiers! We're excited to share more details about our self-serve access. 🧵

💬 551   🔁 2,082   ♡ 1,488   📊 7.2M   ⬆️

Developers ✓ ✗ @XDevelopers · Mar 30
We are also launching a new Basic (v2) access for hobbyists with 10,000 GET/month and 50,000 POST/month, 2 app IDs, and Login with Twitter for $100/month.

Subscribe now: developer.twitter.com/en/portal/prod...

💬 253   🔁 1,323   ♡ 389   📊 1.6M   ⬆️

OpenAlex @OpenAlex_org   ···

We will soon roll out a new author disambiguation system that is more accurate, better aligned with ORCID, and will provide a much better experience overall! As part of this change, all existing OpenAlex Author IDs will disappear and be replaced by new ones.

6:33 PM · Jun 20, 2023 · **16.2K** Views

THANKS FOR YOUR ATTENTION

~~UNTIL~~ ~~PAPER~~

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