
Entre Pares

CITATION IDENTIFICATION & SCIENTIFIC PRODUCTION METRICS TOOLS FOR RESEARCHERS

WORKSHOP

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Elsevier

AGENDA

LEARNING OBJECTIVES

- Introductions and motivation
 - Set expectations for the workshop
- Author and affiliations
 - Profiles in different systems
- Citations and h-index
- Advanced IT tools (analytics, visuals & SciVal)
- Altmetrics
- Questions + Hands-on

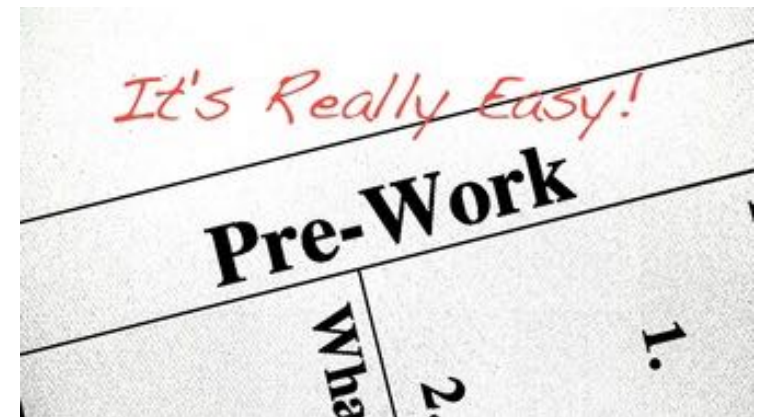


WORKSHOP

PRE-WORK

PRE-WORK REVIEW

- ▶ Bring a laptop (or similar) capable of connecting to the web via WiFi
- ▶ Check the WiFi credentials
- ▶ Bring lots of enthusiasm



ENTRE PARES - WORKSHOP

INTRODUCTIONS & MOTIVATION

ABOUT US

- ▶ Welcome to the Bibliometrics Tools Workshop
- ▶ (for short)
- ▶ Here's a bit about us:



Rosario Rogel Salazar



Jesús Rogel-Salazar



Daniel Calto

ABOUT YOU

- Before we dive in, let's talk a bit about you!
- Name
- What brings you to this workshop
 - Current activities
 - Goals
- Fun fact

ALL
ABOUT
YOU

OUR EXPECTATIONS

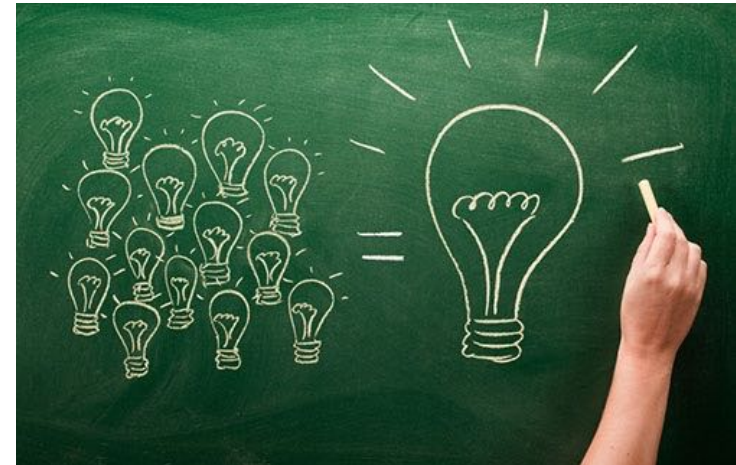


expectations

- ▶ You're ready to take charge of measuring your own research output impact
- ▶ You're interested to learn about new tools to manage your research/author profile and output
- ▶ After the workshop, you will know how to navigate your author profiles and publications
- ▶ Continue your exploration well after the workshop

THE BIG PICTURE

- ▶ What we'll cover:
 - ▶ Why measure impact and how to do it
 - ▶ What bibliometrics is
 - ▶ Explore some well-know impact measures
 - ▶ Obtain your own stats using popular tools
- ▶ Why this topic matters:
 - ▶ A requirement from institutions and funding bodies
- ▶ Why this topic rocks:
 - ▶ You can take the pulse of your research outputs and your research area



INTRODUCTION

MEASURING IMPACT: WHY AND HOW?

RESEARCH IMPACT?



- Researchers must find a way to estimate the seemingly immeasurable impact of their research efforts
 - The United States currently spends about 2.7% of its GDP on R&D. Approximately about half of it comes from federal sources.
 - Comparable to annual expenditures on transportation and water infrastructure (3 percent of GDP) and on education (5.5 percent).
 - The magnitude of the investments required calls for a quantitative assessment of the impact of the contributions of individuals and institutions
 - Policy makers to be persuaded that resources are being used effectively.

RESEARCH IMPACT!



▸ Despite its importance, whether and how to quantify scientific impact remains a source of controversy within the research community.

▸ For example, the San Francisco Declaration on Research Assessment has promoted

“the need to eliminate the use of journal-based metrics, such as journal Impact Factors, in funding, appointment, and promotion considerations.”

MEASURING IMPACT

- ▶ Not a perfect system, but it has become a necessity.
- ▶ The right course of action is to seek to improve it, rather than to discard it.
- ▶ The research community—and especially the funding agencies—should support the development of better bibliometric evaluation and training in their use.



MEASURING IMPACT

- ▶ In this workshop we will present some of the most commonly used tools that are available to a researcher and provide information about how to use them effectively



FIRST THINGS FIRST

BIBLIOMETRICS AND CITATION ANALYSIS

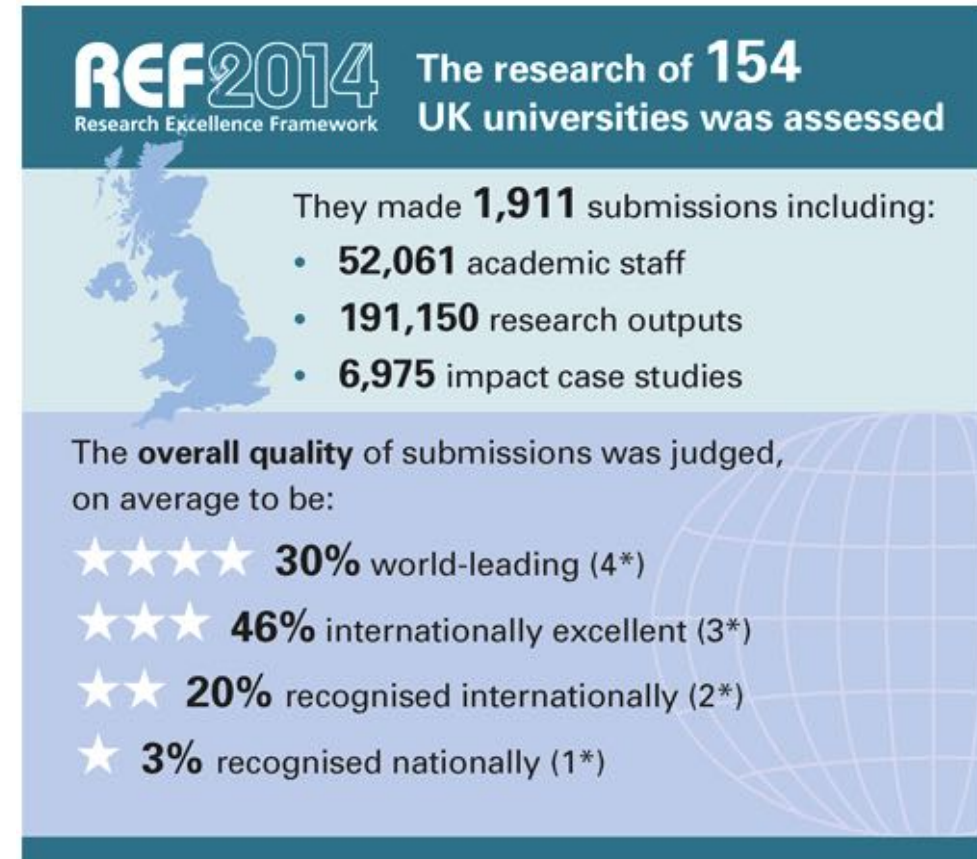
WHAT IS BIBLIOMETRICS?

- ▶ The statistical analysis of publications.
- ▶ Traditionally, bibliometrics has focused on the quantitative analysis of citations and citation counts.
- ▶ Policy makers to be persuaded that resources are being used effectively.



BIBLIOMETRICS

- Why is it important?
 - Bibliometrics (impact data of publications) is being used to support decision making by some Research Excellence Framework (REF) panels in the UK.
 - These are also used in some international league tables of universities
 - They can be used as part of CVs and/or funding applications



WHAT'S IN IT FOR ME?

- ▶ Such citation analysis can be useful to researchers in:
 - ▶ Helping to identify and prioritise publications to read
 - ▶ Informing the choice of targets for planned publications
 - ▶ Contributing to the demonstration of academic impact
 - ▶ Locating potential collaborators



WHAT ABOUT MY INSTITUTION?

- ▶ Institutions can also benefit from the use of bibliometrics:
 - ▶ Help identify an institution's research strengths
 - ▶ Benchmark its performance, and inform research strategy development.
- ▶ The use of bibliometrics in the assessment of research performance is, however, not without its controversies.



REMEMBER

RESPONSIBLE METRICS:

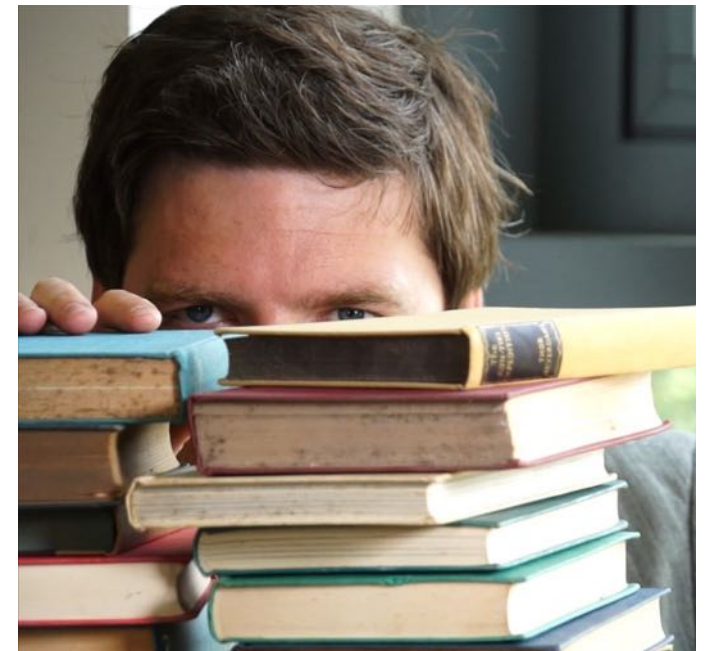
Choose your indicators with care.

Don't make inappropriate comparisons



BIBLIOMETRICS IN ACADEMIA

- ▶ The use of bibliometric analysis is widespread within the academic community
- ▶ The benefits of using bibliometric data to help assess research performance include the following:
 - ▶ It can be seen as a fair and 'objective' method (rather than relying solely on qualitative measures such as peer-review) in some disciplines
 - ▶ It may be considered cost-effective (as some data is readily available)
 - ▶ It is relatively transparent



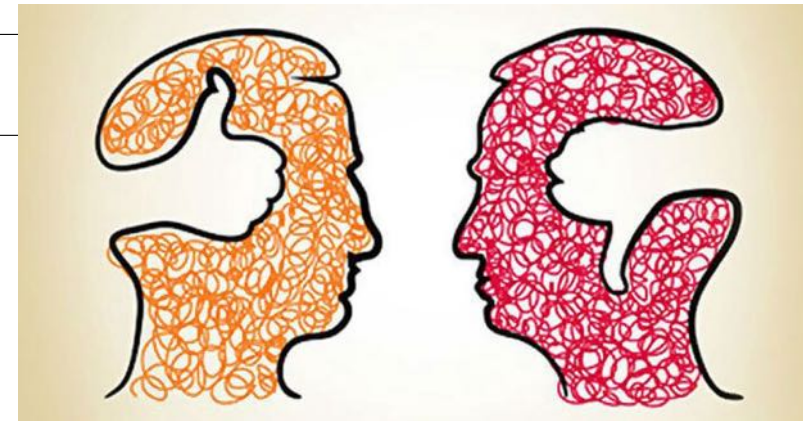
MY DISCIPLINE IS DIFFERENT FROM YOURS!

- › Citations patterns differ greatly between disciplines so direct comparisons cannot be made
- › Bibliometrics predominantly focuses on journal article citations, but some disciplines such as the arts, humanities and social sciences publish research in different types of publications
- › Different fields of research publish at different rates. For example, in biomedicine, there is generally a much stronger culture of publishing in journals and citing the work of peers than in engineering which makes more use of conference papers



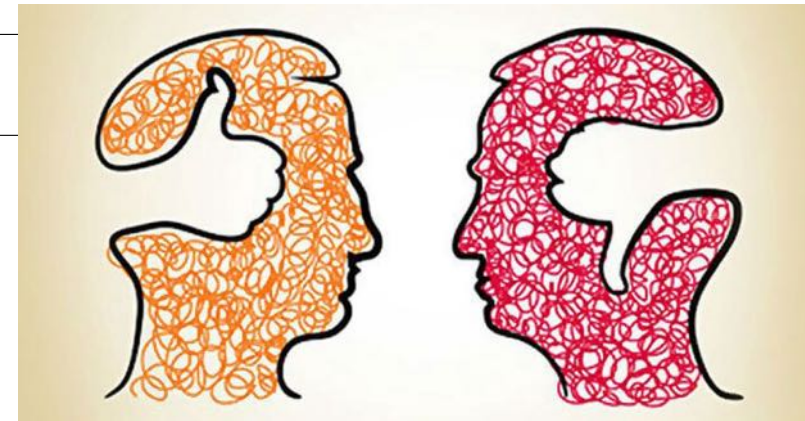
BIAS AND DISCREPANCIES

- › **Quality vs. quantity:** The number of times a work has been cited really only measures the interest of other researchers
- › **Controversial papers** may be heavily cited because other authors are refuting them
- › **Citation bias:** People may inappropriately cite their own work, their colleagues, or work from the journals in which they publish.
- › **Experienced researchers** have an advantage over **early career** researchers as they will have produced more outputs over a period of time and so will have more citations.
- › There is a bias towards **English** language material - this reflects the content of the main citation tools.



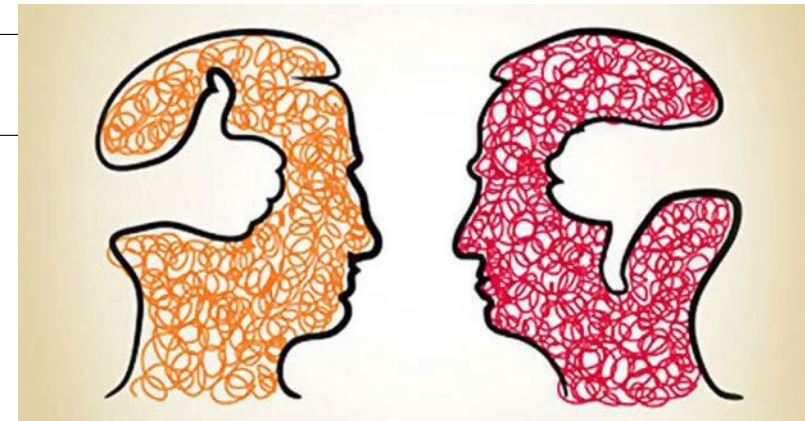
BIAS AND DISCREPANCIES

- ▶ **Time** is needed before a meaningful analysis can be made - new journals tend to fare badly
- ▶ **Bibliographic tools** cannot always differentiate between researchers who share the **same surname and initials**, meaning that citation counts may not be accurate.
- ▶ **Time-span**: on average a publication may reach its citation count peak within the first two years following publication. The timespan chosen for a citation report may skew the results.
- ▶ Only a **small percentage of articles** are highly cited and they are found in a small subset of journals. This small proportion accounts for a large percentage of citations.



BIAS AND DISCREPANCIES

- ▶ **Publication exclusion:** only research articles, technical notes and reviews are "citable" items. Editorials, letters, news items and meeting abstracts are "non-citable items".
- ▶ **Review articles:** authors and journals that frequently publish review articles tend to have their citation counts exaggerated because these types of articles are usually highly cited
- ▶ **Non-cited articles:** citation counting does not take into account articles that were used but did not get cited.



WHO WROTE THAT?

AUTHORS & AFFILIATIONS

ARE YOU THE AUTHOR?

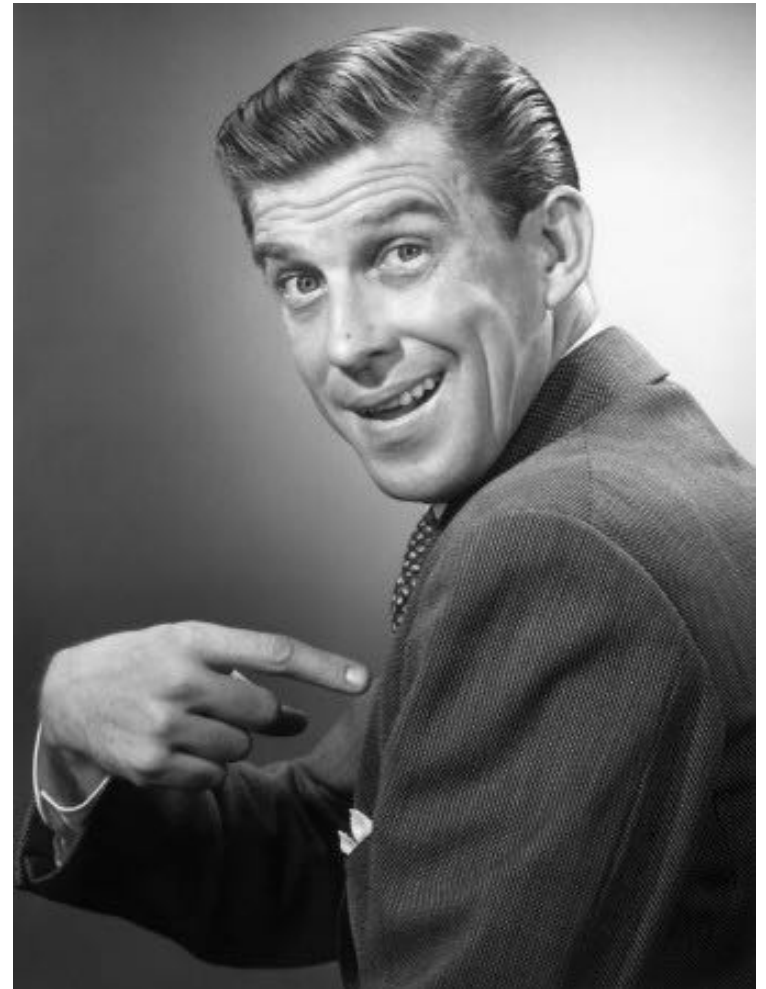
- Authors have different "authorship profiles"
 - there are several ways to refer to the name of a person who authored a research output
- Depending on the region or country researchers tend to use one, two or more names and one, two or more surnames.
- Transliteration, homonyms and simple bad spelling do not help



ARE YOU THE AUTHOR?

- Are these people the same author or different researchers indeed?
 - J. L. Diazgonzález Torres
 - José L Díaz González T
 - J Luis D Torres
 - José Diazgonzález-Torres

- Maruyama Hachiro
- Hachirou Maruyama
- Hachirō Maruyama



IS THIS WHERE YOU WORK?

- Are these the same institutions:
 - Instituto Tec. de los Altos,
Departamento de Matemáticas
 - Los Altos, Institute of Maths
 - The Heights Maths Institute
 - Mathematical Physics Group, Los
Altos, Inst. Tecnológico Los Altos





ARE YOU THE AUTHOR? IS THAT WHERE YOU WORK?

A VERY IMPORTANT FIRST STEP

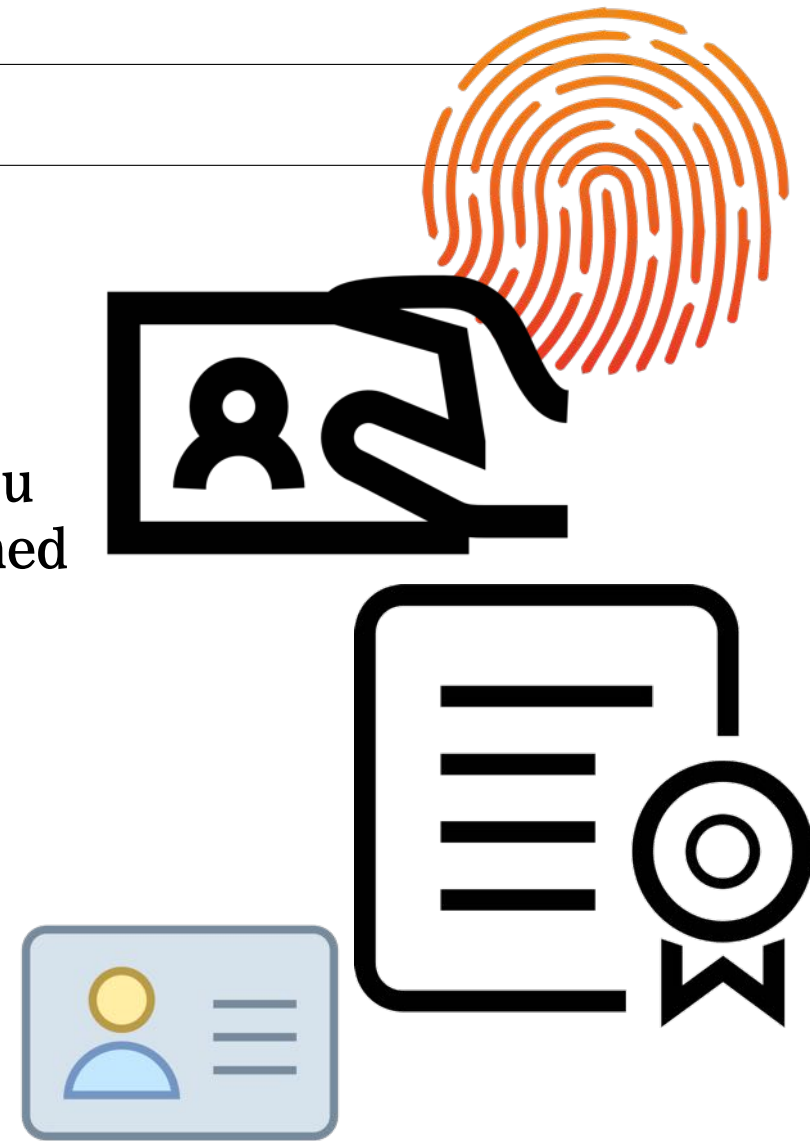
- We can see the difficulty when trying to decide how to cite someone,
- and, more importantly for our purposes, when we are being cited.

- It is recommended to use services that ensure the use of standardised author identifiers which are interoperable with major indexing, aggregators and databases

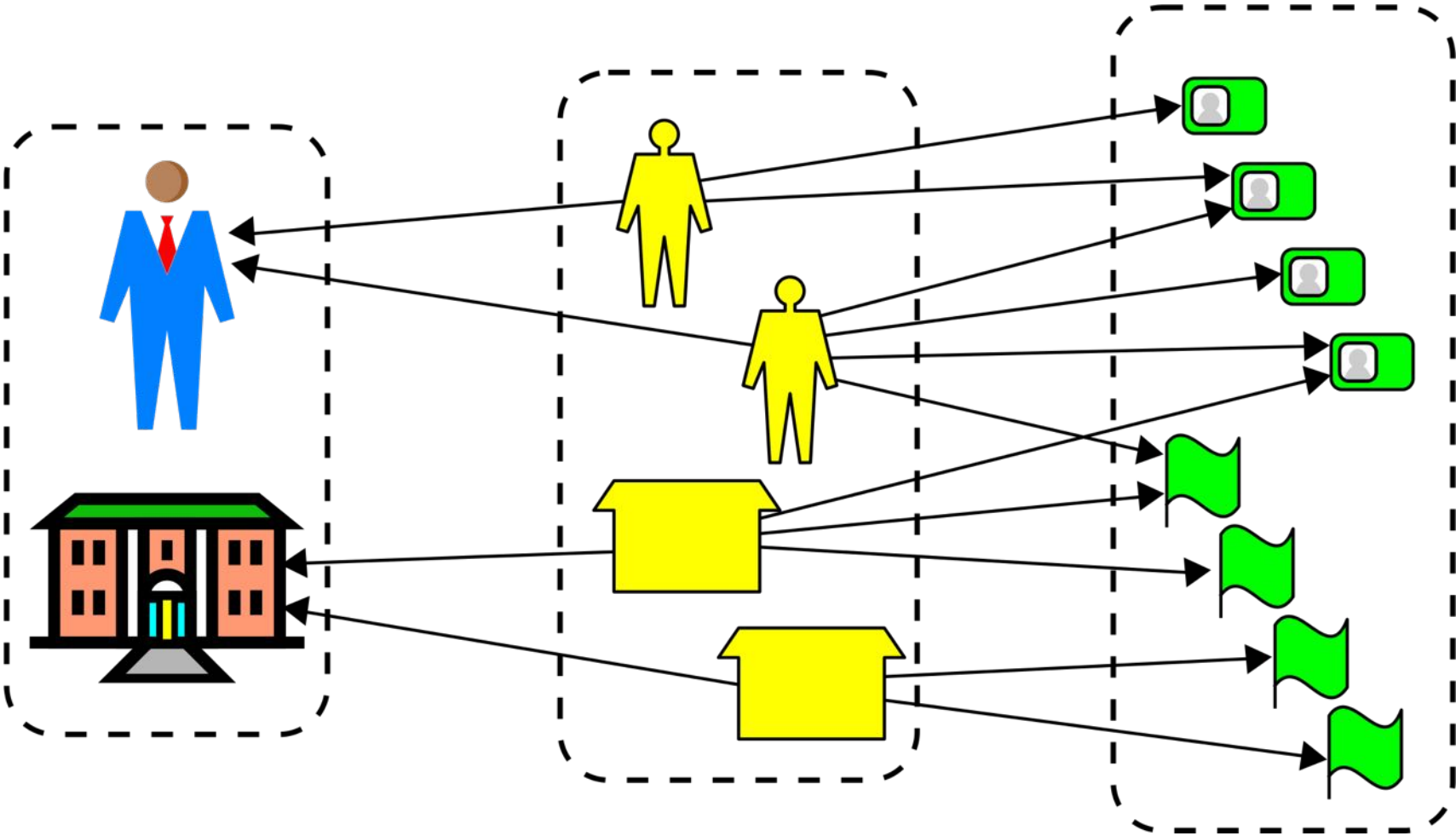


STANDARDISED AUTHOR IDENTIFIERS

- › Authors are responsible to manage their own standardised author IDs.
- › If you have already published in indexed journals, you probably already have one or more identifiers assigned to you.
- › It is important to review the publications that have been assigned to your profile and if there are two or more "author profiles".
- › Make any necessary adjustments to standardise the information.



MANAGE YOUR IDS



STANDARDISED IDS

CONSTANT EXERCISE

- Each author should check that their names are written in the chosen "author profile". This prevents that new publications are automatically assigned incorrectly.
- You can start your journey by claiming your author ID with the following tools:
 - Research ID
 - Scopus ID
 - ORCID



RESEARCHID - HTTP://WWW.RESEARCHERID.COM/

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What is ResearcherID?

ResearcherID provides a solution to the author ambiguity problem within the scholarly research community. Each member is assigned a unique identifier to enable researchers to manage their publication lists, track their times cited counts and h-index, identify potential collaborators and avoid author misidentification. In addition, your ResearcherID information integrates with the *Web of Science* and is ORCID compliant, allowing you to claim and showcase your publications from a single one account. Search the registry to find collaborators, review publication lists and explore how research is used around the world!

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Imperial College London, Department of Physics,
London, United Kingdom

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Documents: 18

Citations: 138 total citations by 116 documents

h-index: 5

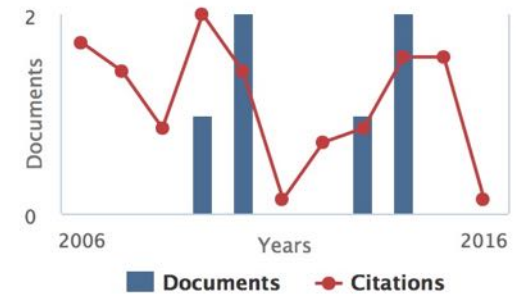
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Engineering structured light with optical vortices Rogel-Salazar, J., Treviño, J.P., Chávez-Cerda, S. 2014 Journal of the Optical Society of America B: Optical Physics 1

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Full characterization of Airy beams under physical principles Rogel-Salazar, J., Jiménez-Romero, H.A., Chávez-Cerda, S. 2014 Physical Review A - Atomic, Molecular, and Optical Physics 5

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Author History

Publication range: 2000 - 2014

References: 252

Source history:

Physical Review A - Atomic, Molecular, and Optical Physics

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Nature Materials

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2014-11-15 | book

ISBN: [9781482234640](#)

Source: Jesus Rogel-Salazar Preferred source

Engineering structured light with optical vortices

AUTHOR IDS

**YOU HAVE YOUR AUTHOR
PROFILE -
NOW WHAT?**

MANAGEMENT

TIME AND EFFORT

- There are different ways of managing the academic profile of a researcher.
- However, there is the need of doing this in an agile manner and avoid wasting time updating different platforms.



MANAGE YOUR TIME AND YOUR IDS

- ▶ The savvy researcher uses a standardised identifier to facilitate the information collection in platforms such as:

- ▶ Google Scholar Profile
- ▶ ResearchGate
- ▶ academic.edu
- ▶ Mendeley
- ▶ Cite U like
- ▶ LinkedIn

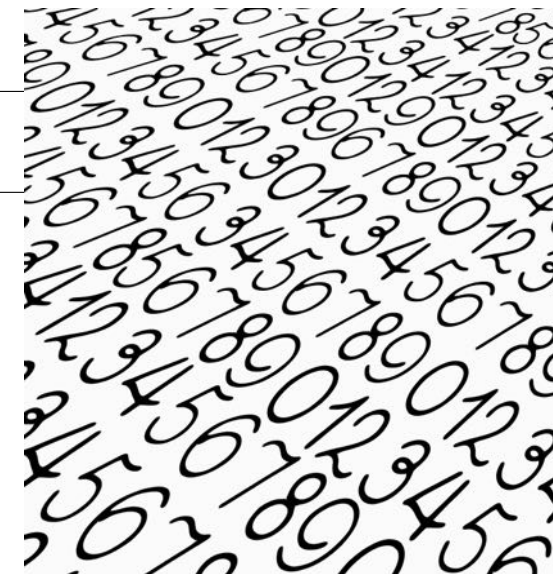


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CITATION BASED METRICS

ARTICLE LEVEL METRICS

- › Citation counts are sometimes used as an indicator of academic impact
- › Citations from other publications suggest that the cited work has influenced the citing work in some way.
- › You can use tools such as the **Web of Science**
- › Citation rates vary widely across disciplines.
- › If you wish to compare citation counts from different fields you should use "normalised" or "field-weighted" citation metrics.
- › **Scopus** provides field-weighted citation impact as one of its article metrics.
- › It also provides citation benchmarking data - this shows how citations received by an article compare with the average for similar articles.

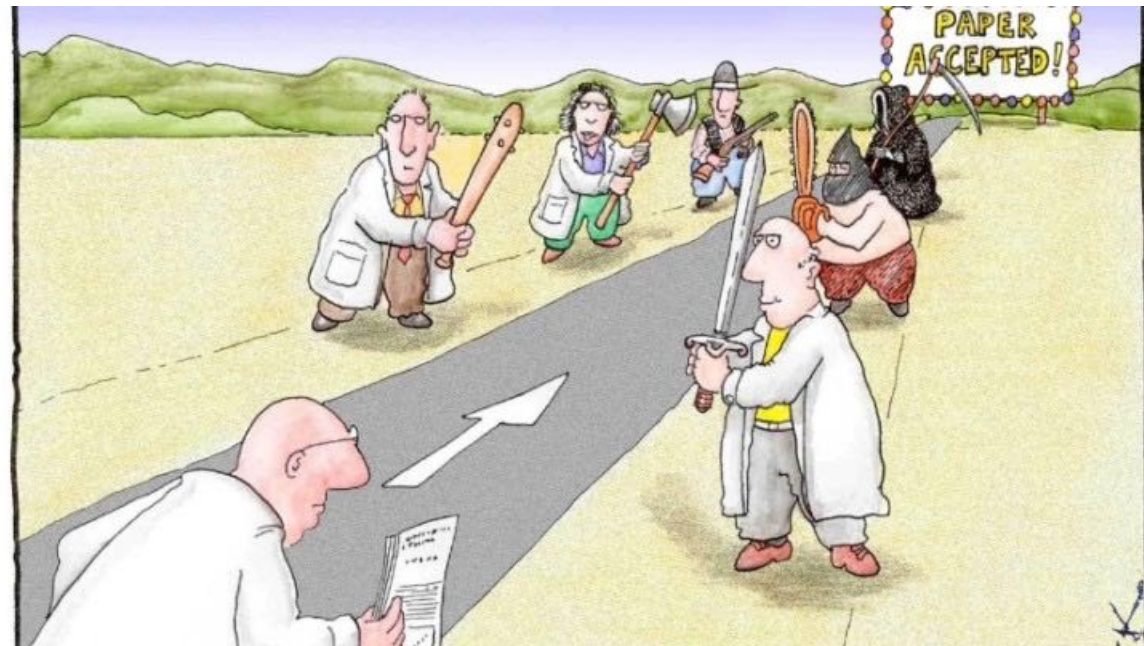


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JOURNAL LEVEL METRICS

- ▶ It is also possible to use bibliometrics to calculate the impact factors of journal titles.
- ▶ This can help you target highly cited journals for your own publications.
- ▶ The Journal impact factor is the most well known indicator
- ▶ There are other indicators available which attempt to take account of variations between subject areas and time periods.



JOURNAL LEVEL METRICS



- ▶ JCR - Journal Citation Reports provides a list of the top ranked journals in your field. You can also check an individual journal to see its impact and rank.
- ▶ Scopus - does not provide ranked lists of journals in a particular discipline, unlike JCR, but it has a good tool **Compare Journals** for selecting up to 10 journals and analysing a variety of citation parameters, including Impact per Publication (IPP) and Source Normalized Impact per Paper (SNIP).
- ▶ SCImago -a free website, uses Scopus data to provide ranked listings of journals comparable to JCR.
- ▶ Journal Metrics, also freely available and based on Scopus data, provides Impact per Publication (IPP), Source Normalized Impact per Paper (SNIP) and SCImago Journal Rank (SJR).
- ▶ Google Scholar Metrics can be browsed to provide lists of journals by subject area ranked by their h5-index.

AUTHOR (OR GROUP) LEVEL METRICS

- › The **h-index** was developed in 2005 by Professor Hirsch
- › Designed to be a simple metric to quantify the output of an individual researcher.
- › A researcher with an index of h has published h papers, each of which has been cited h times.
- › For example if you have published 10 papers that have received at least 10 citations each then your h-index is 10.
- › You can obtain your h-index with
 - › Web of Science
 - › Scopus
 - › Google Scholar

WEB OF SCIENCE™



AUTHOR (OR GROUP) LEVEL METRICS

- › Take care if you are using the h-index to make comparisons.
- › The h-index is only meaningful when compared to others in the same discipline.
- › As with all indicators, the h-index should only ever be used alongside other forms of evaluation in performance assessment.
- › You, or your research group, may also wish to compare your citation performance against that of other researchers or the normal for your field.
- › It is also possible to undertake an analysis of the proportion of papers published which are amongst the most highly cited (e.g. the top 10%) in that field.
- › **SciVal** may be a good tool for you.



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ADVANCED IT TOOLS (ANALYTICS, VISUALS & SCIVAL)



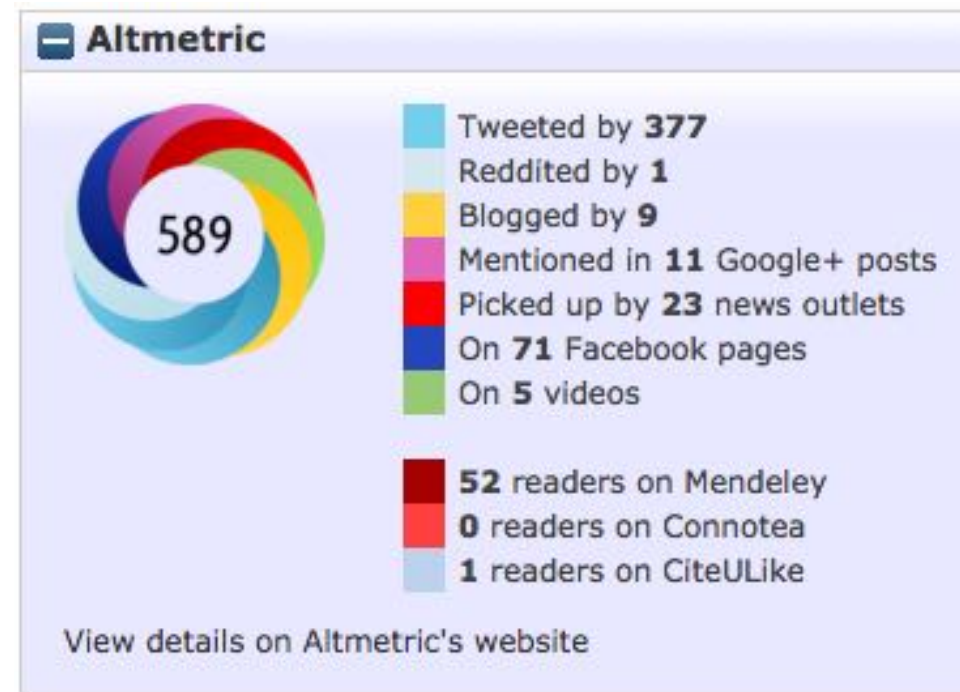
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ALTMETRICS

ALTMETRICS

THINKING ALTERNATIVELY

- ▶ Almetrics is the use of Web 2.0 technology to assess the value of the scholarship
- ▶ More specifically, “the creation and study of new metrics based on the Social Web for analysing, and informing scholarship” [1]
- ▶ Visit <http://altmetrics.org/manifesto/>
- ▶ Almetrics are not meant to replace citation counts or the h-index, but instead complement metrics with additional data.



[1] Jason Priem, Dario Taraborelli, Paul Groth, and Cameron Neylon, 2010. “Alt-metrics: A manifesto,”

ALTMETRICS

- ▶ Many publishers now incorporate altmetrics within their own websites and databases.
- ▶ Altmetric badges (or “doughnuts”), are embedded within many sources
- ▶ You can also download their Altmetric Bookmarklet for your own use
- ▶ Scopus uses Altmetric data within its **Article level metrics** to display information on **Mendeley** and **Twitter** counts, as well as other indicators of what it terms “**Engagement highlights**”.





ALTMETRICS

- PLoS - track impact metrics beyond citation counts., tracking the number of times an article is shared using social networking tools such as CiteULike, Connotea, Facebook and Mendeley.
- Altmetric - <http://www.altmetric.com/>
 - Quantitate measure of the quality and quantity of attention that a scholarly article has received through social media.
- ImpactStory - <http://impactstory.org/>
 - Researcher enter information about the articles, such as the DOI, to generate an impact report: number of times an article has been liked on Facebook, tweeted, cited in publications, viewed at the publisher website, or shared on social bookmarking tools such as Mendeley, or CiteULike

EXAMPLE



highly recommended highly cited highly saved

cited

highly cited highly saved viewed saved

viewed

highly cited highly saved viewed discussed

viewed

highly cited highly saved viewed saved

viewed

highly cited highly discussed highly saved



Close x

- Tweeted by 597
 - Blogged by 22
 - On 20 Facebook pages
 - Mentioned in 16 Google+ posts
 - Picked up by 8 news outlets
 - 228 readers on Mendeley
 - 4 readers on CiteULike
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HANDS-ON



YOUR TURN

Web of Science (<http://isiknowledge.com/wos>) provides citation counts for articles indexed within it. It indexes over 10,000 journals in the arts, humanities, sciences, and social sciences.

To find the citation counts to your own articles:

- ▶ Enter the name of the author in the top search box (e.g. Rogel-Salazar J).
- ▶ Select Author from the drop-down menu on the right.
- ▶ To ensure accuracy for popular names, e.g. Imperial College London, in the middle search box, then select “Address” from the field drop down menu on the right. (You might have to add the second search box by clicking "add another field" before you enter the address)
- ▶ Click on Search
 - ▶ a list of publications by that author name will appear.
 - ▶ To the right of each citation, the number of times the article has been cited will appear. Click the number next to "times cited" to view the articles that have cited your article



Search

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Marked List

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rogel-salazar j

Author ▾

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Click here for tips to improve your search.

AND ▾

Imperial College London

Address ▾

Search

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TIMESPAN

All years

Results: 18

(from Web of Science Core Collection)



Select articles grouped for author name **rogel salazar j** You searched for: **AUTHOR:** (rogel-salazar j) ...[More](#)

[Create Alert](#)

Refine Results

Search within results for...



Web of Science Categories

- OPTICS (11)
- PHYSICS ATOMIC MOLECULAR CHEMICAL (5)
- PHYSICS APPLIED (5)
- PHYSICS MULTIDISCIPLINARY (4)
- CHEMISTRY PHYSICAL (3)

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Document Types

... (11)

Sort by: **Publication Date -- newest to oldest** ▼

◀ Page 1 of 2 ▶

Select Page



[Save to EndNote online](#) ▼

[Add to Marked List](#)

[Analyze Results](#)
[Create Citation Report](#)

1. **Fractional Calculus: An Introduction for Physicists, 2nd edition**
By: **Rogel-Salazar, J.**
CONTEMPORARY PHYSICS Volume: 56 Issue: 2 Pages: 240-240 Published: APR 3 2015



[Full Text from Publisher](#)

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Abstract

The Gross-Pitaevskii equation (GPE) is discussed at the level of an advanced course on statistical physics. In the standard literature the GPE is usually obtained in the framework of the second quantization formalism, which in many cases goes beyond the material covered in many advanced undergraduate courses. In this paper, we motivate the derivation of the GPE in relationship to concepts from statistical physics, highlighting a number of applications from the dynamics of a Bose-Einstein condensate to the excitations of the gas cloud. This paper may be helpful for encouraging the discussion of modern developments in a statistical mechanics course, and can also be of use in other contexts such as mathematical physics and modelling. The paper is suitable for undergraduate and graduate students, as well as for general physicists.

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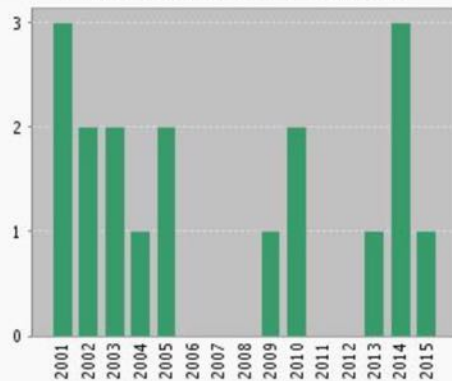
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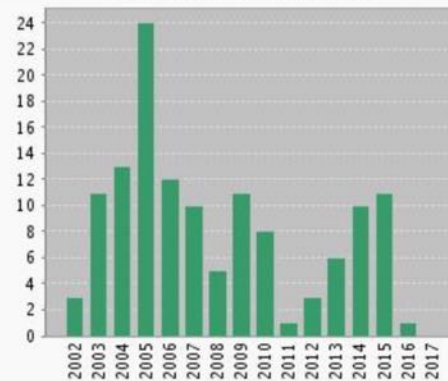
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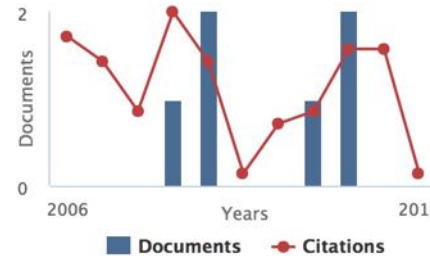
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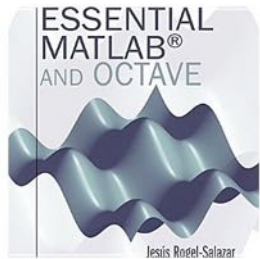
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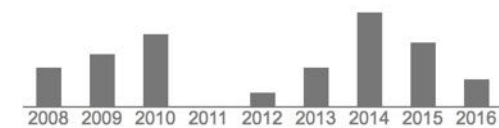


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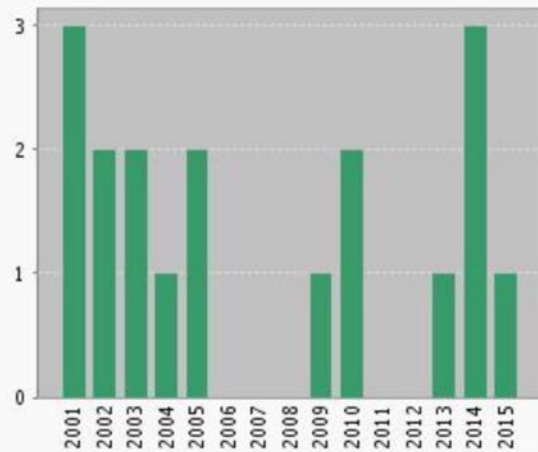
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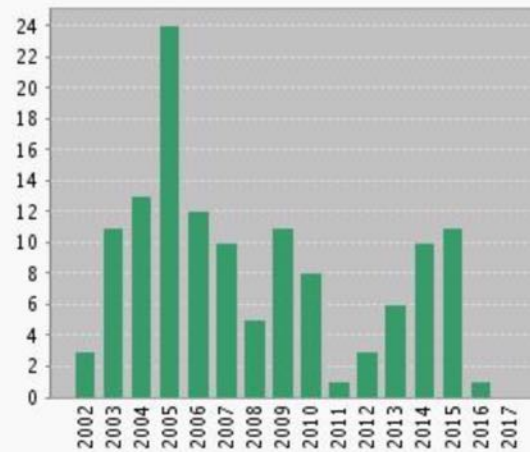
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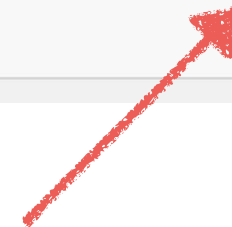
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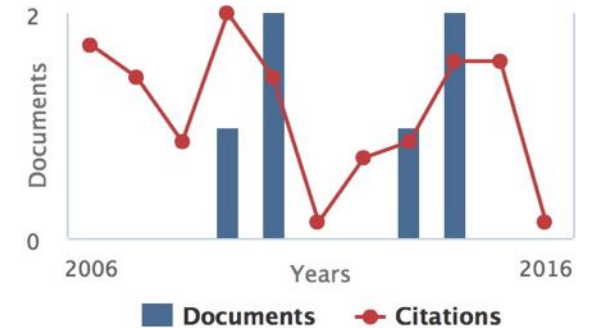
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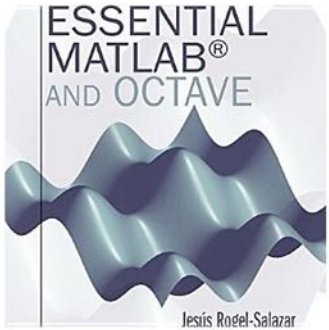
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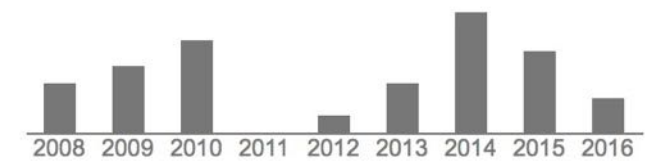
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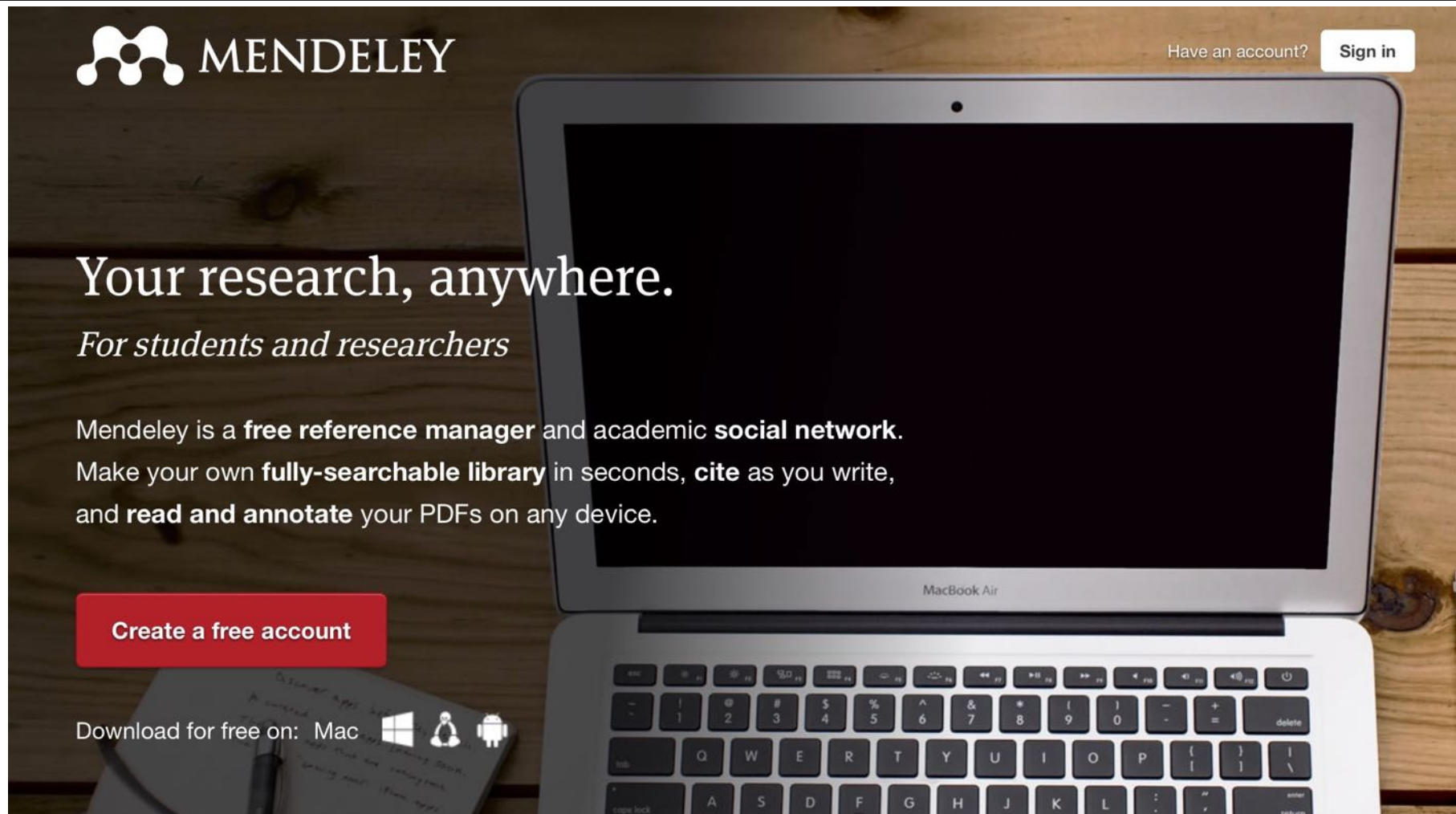
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