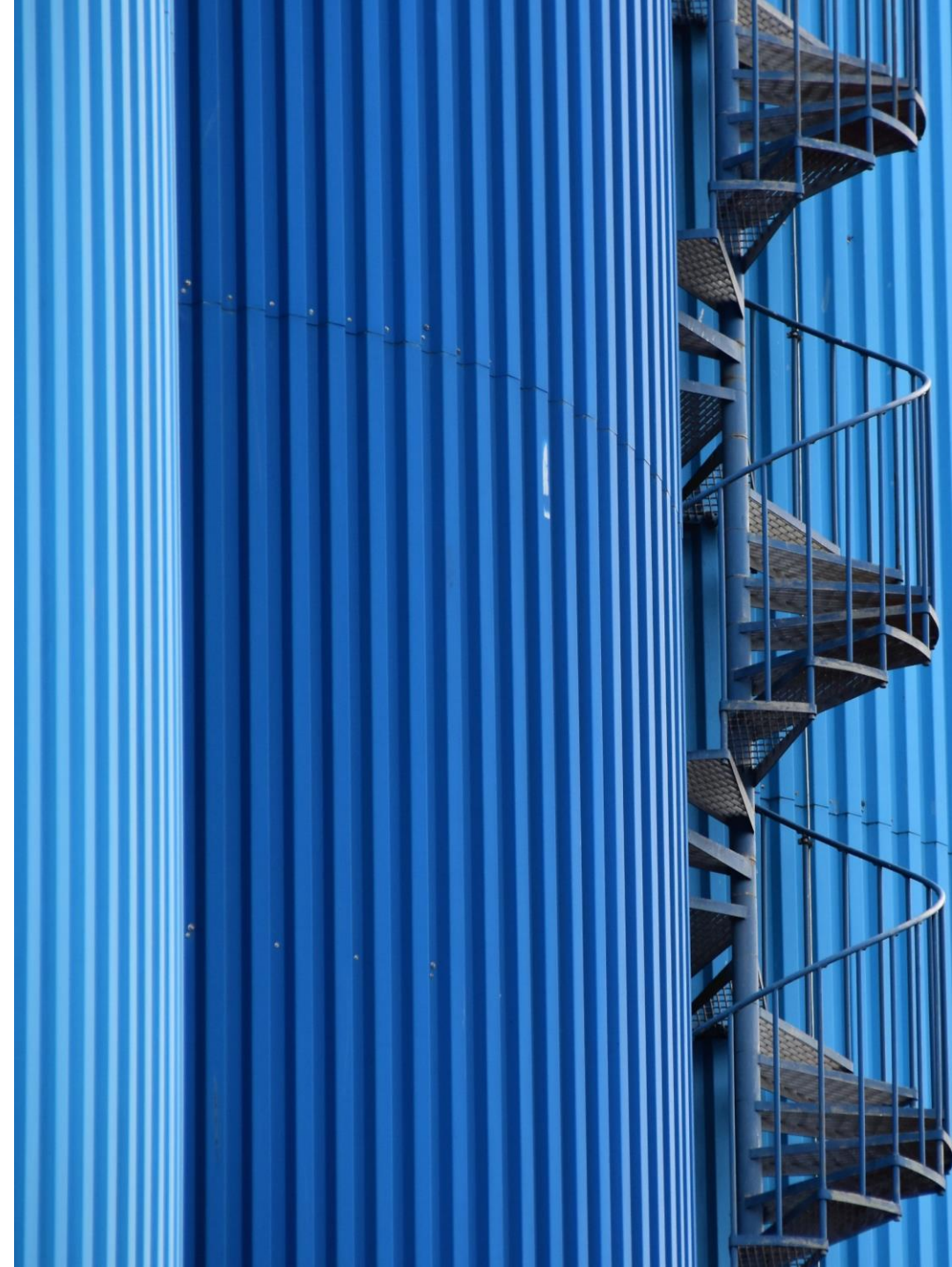# Highly Cited Papers & Highly Cited Researchers

Anne Delgado

22/01/2025

Highly Cited Papers & Highly Cited Researchers

- ¿Qué son un Highly Cited Paper y un Hot Paper?

- ¿Cómo se seleccionan y evalúan a los Highly Cited Researchers?

- Indicadores normalizados del impacto de las citas en Web of Science

Clarivate™

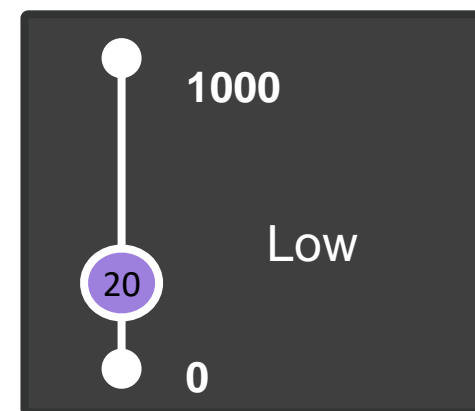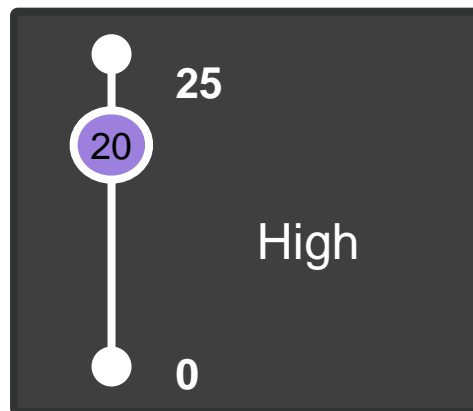# Highly Cited Papers & Highly Cited Researchers

- ¿Qué son un Highly Cited Paper y un Hot Paper?

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- Indicadores normalizados del impacto de las citas en Web of Science

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Context is everything

20

High or low?

25

20

High

0

1000

20

Low

0

Depende del contexto (área de investigación, año de publicación)

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Identificar las publicaciones más influyentes

Quick Filters

☐ 🏆 Highly Cited Papers		313
☐ 🔥 Hot Papers		3

Verás estos iconos en los filtros y registros:
- Si trabajas con tu cuenta personal
- Y si tu cuenta de ESI está vinculada a tu cuenta de Web of Science (Sigue las instrucciones)

Citation Network

In Web of Science Core Collection

142 Citations

🏆 Highly Cited Paper

🔥 Hot Paper

- Los HIGHLY CITED PAPERS se definen como artículos de los últimos 10 años que se clasifican por citas en el 1% superior para su campo y año de publicación

- Los HOT PAPERS se definen como artículos de los últimos 2 años que se clasifican por citas en el 0,1% superior para su campo y mes de publicación.

- Esta información proviene de Essential Science Indicators y se actualiza cada dos meses.

- Dentro del registro del documento, se puede hacer clic en los iconos, por lo que se ve la definición que hay detrás.
- Los indicadores Highly Cited Papers y Hot Papers ponen en contexto el número de citas. Tienen en cuenta el campo de investigación, la fecha de publicación y el tipo de documento, comparando "lo similar con lo similar".
- Como alternativa, si su institución no está suscrita a ESI, puede ordenar cualquier lista de registros por "Citas: primero las más altas". En este caso, es posible que detecte artículos con un total muy alto de citas que no son Highly Cited Papers. Esto se debe a que la calificación de Highly Cited Papers implica poner en contexto el número de citas, y porque solo incluye publicaciones de los últimos 10 años.

Los datos de ESI

Agricultural Sciences
Biology & Biochemistry
Chemistry
Clinical Medicine
Computer Science
Ecology/Environment
Economics & Business
Engineering
Geosciences
Immunology
Material Sciences
Mathematics
Microbiology
Molecular Biology & Genetics
Multidisciplinary ★
Neuroscience & Behavior
Pharmacology & Toxicology
Physics
Plant & Animal Science
Psychology/Psychiatry
Social Sciences, general
Space Science

- **Fuentes de datos:** Los índices Science Citation Index-Expanded (SCIE) y Social Sciences Citation Index (SSCI) de la Web of Science Colección Principal.

- **Tipos de documentos**: ESI analiza artículos y revisiones de revistas en SCIE y SSCI para determinar el rendimiento una publicación, una organización, etc.

- **Cobertura de años**: Los datos ESI consisten en un archivo dinámico de 10 años, que aumenta con cada actualización bimensual.

- **Áreas de investigación**: ESI utiliza 22 disciplinas generales para clasificar entidades e identificar documentos de alto rendimiento. Cada revista se asigna a una sola disciplina, y la investigación publicada en esa revista tendrá esta misma asignación (En el caso de revistas multidisciplinares, la reclasificación se realiza al nivel de documento, basándose en un análisis de las referencias citadas. Esto significa que los artículos publicados en revistas como *Science* y *Nature* podrían pertenecer a disciplinas más específicas que Multidisciplinary)

- **Recuentos de citas :** Sólo las citas de revistas indexadas en los índices SCIE, SSCI y AHCI se tienen en cuenta para el análisis de ESI.

Enlaces de acceso

English ⌄ | ⠿ Products

Web of Science

Master Journal List

InCites Benchmarking & Analytics

Journal Citation Reports ™

Research Horizon Navigator

Essential Science Indicators

Reference Manager

EndNote

EndNote Click

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ACCESO A BASES DE DATOS

FORMACIÓN

ATENCIÓN AL USUARIO

ACCESO A ADMINISTRADORES

ACCESO A METADATOS

INFORMACIÓN PARA INVESTIGADORES

REVISTAS INDEXADAS | ENLACE DE ACCESO DIRECTO A LAS B... | RECOMENDACIONES DE USO

FECYT proporciona los enlaces de acceso directo a las distintas bases de datos para todas aquellas institucion de estos enlaces en los portales de sus bibliotecas:

> Acceso directo a Scopus: https://scopus.com

> Acceso directo a cada una de las bases de datos de Web of Science: wos.fecyt.es

> ISI Essential Science Indicators: esi.fecyt.es

> ISI Journal Citation Reports: jcr.fecyt.es

> ISI Web of Science: woscc.fecyt.es

✔ Science Citation Index™ Expanded (SCI-EXPANDED): wos-sci.fecyt.es

✔ Social Sciences Citation Index® (SSCI): wos-ssci.fecyt.es

Enlaces de FECYT

¿Estoy dentro o fuera de su institución?

▪ Dentro de la institución (rango IP sin necesidad de identificarme)

▪ Fuera de la institución (acceso remoto por Shibboleth – o bien – identificarme con mi cuenta de usuario de la Web of Science)

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7

Las referencias

Las tasas de citas por año y disciplina, permiten la comparación del número de citas para artículos específicos publicados el mismo año e indexados en la misma disciplina

Field Baselines

Baselines are annualized expected citation rates for papers in a research field.

Citation Rates *are yearly averages of citations per paper.*

Citation Rates

Percentiles

Field Rankings

RESEARCH FIELDS ▲	2011	2012	2013	2014	2015	2016	2017	2018
ALL FIELDS	26.54	24.47	22.40	20.52	18.32	15.55	13.07	10.02
AGRICULTURAL SCIENCES	20.67	19.10	17.82	16.63	15.04	13.00	10.61	8.59
BIOLOGY & BIOCHEMISTRY	35.16	33.02	29.43	26.36	22.48	18.81	15.79	12.23
CHEMISTRY	28.59	27.56	25.09	23.80	21.69	18.38	15.75	12.28
CLINICAL MEDICINE	26.78	24.60	22.38	20.36	18.29	15.35	12.79	9.48
COMPUTER SCIENCE	17.45	14.53	14.16	13.90	13.19	11.47	10.62	8.27
ECONOMICS & BUSINESS	22.65	19.52	17.76	15.76	13.65	11.40	9.15	6.74
ENGINEERING	18.56	17.26	16.74	15.76	14.90	13.33	11.82	9.51
ENVIRONMENT/ECOLOGY	34.54	31.80	27.81	25.09	21.94	18.27	14.99	11.35
GEOSCIENCES	30.45	27.40	24.81	21.80	19.05	15.62	12.78	9.32
IMMUNOLOGY	38.61	33.86	32.20	28.92	24.71	20.96	17.30	13.19
MATERIALS SCIENCE	30.90	29.91	27.81	27.12	24.78	22.02	19.20	14.85
MATHEMATICS	9.74	8.43	7.50	6.68	6.15	5.23	4.45	3.56

Las referencias por:
- **Disciplina**
- **Año de publicación**

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Los umbrales de citas para los Highly Cited Papers

El umbral de citas para los Highly Cited Papers revela el número mínimo de citas recibidas por el Top 1% de documentos de cada uno de los 10 años de base de datos.
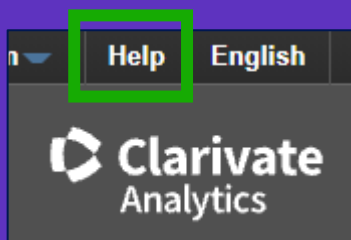
RESEARCH FIELDS ▲	2011	2012	2013	2014	2015	2016	2017	2018	201
AGRICULTURAL SCIENCES	145	133	123	110	100	83	69	55	
BIOLOGY & BIOCHEMISTRY	261	245	220	194	164	139	113	85	
CHEMISTRY	249	229	206	191	174	142	122	92	
CLINICAL MEDICINE	218	197	177	159	146	123	102	74	
COMPUTER SCIENCE	152	134	134	129	111	103	96	76	
ECONOMICS & BUSINESS	211	175	153	132	107	87	74	52	
ENGINEERING	151	135	127	119	110	98	88	71	
ENVIRONMENT/ECOLOGY	286	268	222	204	175	138	113	83	
GEOSCIENCES	222	208	181	153	126	105	84	60	
IMMUNOLOGY	308	273	259	247	197	160	128	96	
MATERIALS SCIENCE	286	289	259	250	218	192	162	124	
MATHEMATICS	82	73	62	55	52	43	37	33	
MICROBIOLOGY	227	225	199	178	148	151	115	81	
MOLECULAR BIOLOGY & GENETICS	488	414	362	316	261	215	161	141	
MULTIDISCIPLINARY	493	343	395	222	295	203	149	122	
NEUROSCIENCE & BEHAVIOR	274	252	220	191	159	135	110	81	
PHARMACOLOGY & TOXICOLOGY	188	170	155	138	119	100	85	65	
PHYSICS	179	174	158	148	131	111	91	71	
PLANT & ANIMAL SCIENCE	155	139	127	110	96	78	62	45	
PSYCHIATRY/PSYCHOLOGY	239	197	170	151	123	98	82	55	
SOCIAL SCIENCES, GENERAL	139	123	110	99	83	68	56	42	
SPACE SCIENCE	262	240	244	185	170	138	109	90	

ESI Thresholds

Highly Cited Thresholds

Hot Paper Thresholds

Los umbrales de citas para los Hot Papers

El umbral de citas para los Hot Papers revela el número mínimo de citas recibidas durante el período más reciente de dos meses por el Top 0,1% de los documentos de los últimos 2 años.

ESI Thresholds

Highly Cited Thresholds

Hot Paper Thresholds

RESEARCH FIELDS ▲	2019-4	2019-5	2019-6	2020-1	2020-2	2020-3	20
AGRICULTURAL SCIENCES	11	12	10	10	11	13	
BIOLOGY & BIOCHEMISTRY	35	16	20	27	21	20	
CHEMISTRY	16	15	15	17	18	16	
CLINICAL MEDICINE	18	19	18	22	31	44	
COMPUTER SCIENCE	20	13	12	14	18	15	
ECONOMICS & BUSINESS	11	10	11	10	9	13	
ENGINEERING	13	12	11	12	14	13	
ENVIRONMENT/ECOLOGY	15	18	13	14	15	17	
GEOSCIENCES	15	11	11	12	12	11	
IMMUNOLOGY	25	14	19	25	57	89	
MATERIALS SCIENCE	21	16	16	20	19	17	
MATHEMATICS	6	7	6	7	7	7	
MICROBIOLOGY	16	22	13	67	136	74	
MOLECULAR BIOLOGY & GENETICS	25	29	28	28	67	75	
MULTIDISCIPLINARY	17	27	30	30	23	113	
NEUROSCIENCE & BEHAVIOR	16	16	16	13	13	17	
PHARMACOLOGY & TOXICOLOGY	11	11	21	12	19	24	
PHYSICS	15	15	14	16	14	14	
PLANT & ANIMAL SCIENCE	10	9	8	10	10	8	
PSYCHIATRY/PSYCHOLOGY	11	9	9	10	22	34	
SOCIAL SCIENCES, GENERAL	9	9	8	9	11	14	
SPACE SCIENCE	18	22	36	19	30	11	

ESI data is updated every 2 months

In ESI, a journal can be assigned to only one of 22 research fields.

Download the list in Excel format
You can also download the file from Master Journal list

Highly Cited Papers & Highly Cited Researchers

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Highly Cited Researchers 2024

Citations and stature: Not so simple anymore

David Pendlebury
Head of Research Analysis at the Institute for Scientific Information

A global perspective

Raising the bar for accuracy and integrity

Ensuring accurate representation of researchers

A commitment to excellence

Discover the Highly Cited Researchers 2024 list, recognizing the world's most influential scientists and social scientists, and the rigorous analysis behind their selection.

Since 2014 , the annual list of Highly Cited Researchers™ has revealed individuals, institutions and nations demonstrating the greatest attention in the scientific and scholarly literature during the previous decade.

The list relies primarily on citation frequency, focusing on papers ranking in the top 1% for field and publication year, along with the authors of those papers. In other words, we take a top cut of papers garnering the most citations and compile a list of those researchers who published the largest number of highly cited publications by field.

A citation distribution is highly skewed, as are many measures of attention and achievement, with only a few individuals reaching extreme levels. Our list of about 6,600 researchers represents roughly a one in 1,000 selection of the global researcher population.

What it means to be a Highly Cited Researcher

Highly Cited Researchers

Explore Highly Cited Researchers

Highly Cited Researchers

Analysis

Evaluation & selection

Researcher stories

Past lists

FAQs

https://clarivate.com/highly-cited-researchers/

Highly Cited Researchers have demonstrated significant and broad influence in their field(s) of research

Each researcher selected has authored multiple Highly Cited Papers™ which rank in the top 1% by citations for their field(s) and publication year in the Web of Science™ over the past decade. However, citation activity is not the sole selection indicator. This list, based on citation activity is then refined using qualitative analysis and expert judgment as we observe for evidence of community-wide recognition from an international and wide-ranging network of citing authors.

Of the world's population of scientists and social scientists, Highly Cited Researchers are 1 in 1,000.

2024 Analysis

An in-depth analysis of the program by experts at the Institute for Scientific Information™ provides valuable insights into the global landscape of top research talent and identifies trends across countries, regions, and institutions.

Read our analysis

Clarivate™

14

Highly Cited Researchers 2024: Explore the list

6,886 Highly Cited Researcher awards in 2024 https://clarivate.com/highly-cited-researchers/

Social Sciences ▾   Institution ▾   Spain ▾

Search by name   Submit

FULL NAME	CATEGORY	PRIMARY AFFILIATION	SECONDARY AFFILIATIONS	
PA Alonso-Coello, Pablo	Social Sciences	Sant Pau Institute for Biomedical Research (IIB Sant Pau), Spain	CIBERESP, Spain	View Profile
MG Gascon, Mireia	Social Sciences	Fundació Institut Universitari per a la Recerca a l'Atenció Primària de Salut Jordi Gol i Gurina (IDIAPJGol), Spain	ISGlobal, Spain	View Profile
MN Nieuwenhuijsen, Mark J.	Social Sciences	ISGlobal, Spain	Pompeu Fabra University, Spain	View Profile
MT Triguero-Mas, Margarita	Social Sciences	UOC Universitat Oberta de Catalunya, Spain	ISGlobal, Spain	View Profile

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15

Highly Cited Researchers in Web of Science

How are Highly Cited Researchers selected and evaluated?

Summary:

- Source of data : Highly Cited Papers and 21 research fields from Essential Science Indicators (By the end of March)

- Select authors with multiple Highly Cited Papers : name disambiguation, etc. (March to July)

- Rank researchers and apply paper and citation thresholds by ESI field (March to July)

- Excluding papers:

  – With more than 30 authors or with group authorship

  – With integrity issues or authored by individuals found to have committed scientific misconduct

  – With unusual patterns of self-citation, citations by co-authors or collaborative group citation activity

  – Etc.

- Validation process with each candidate and institution: confirmation of name, primary affiliation, etc. (September)

For more information about the process and/or the areas of Mathematics and Cross-Field, please read:
https://clarivate.com/highly-cited-researchers/evaluation-and-selection/

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How are Highly Cited Researchers selected and evaluated?

Evaluation, selection and publication process: 2024

1 **Candidate selection: March to July**

- Articles and reviews in Essential Science Indicators (ESI)™
- Contemporary achievement – 11yr window
- Authors with multiple Highly Cited Papers™
- Name disambiguation
- Rank researchers and apply paper and citation thresholds by field
- Number of authors selected normalized to ESI field
- Cross-field identification
- Affiliations as reflected on highly cited papers or previous lists

2 **Exclusions: Continuous monitoring**

- Papers with >30 authors
- Papers with group authorship, as defined by publisher
- Papers authored by individuals found to have committed scientific misconduct in formal proceedings by institutions, agencies, publishers and funders
- Papers with integrity issues, as highlighted by trusted industry community sources

3 **Evaluation: Continuous monitoring**

Includes:
- Extreme levels of hyper-authorship
- Papers with anomalous levels of self-citation – normalized by field
- Papers which demonstrate unusual collaborative group co-citation activity
- Papers with anomalous levels of citations from co-authors
- Papers with signs of publishing anomalies incl. plagiarism, tortured phrases, spurious references and more

Researcher selection finalized – August

4 **Validation and feedback: Sept**

- Email with personalized survey link issued
- Researchers confirm personal details and primary affiliation (tenured); capture any secondary affiliations
- Pre-validated list available to institutions and national research bodies for monitoring and maintenance to support accuracy
- Close validation window

5 **List processing: Oct**

- Process and analyze all requested affiliation changes received before the end of Sept deadline
- Affiliation correction requests received now will be reflected in our late Dec update

6 **Launch: Nov & Dec**

- Institutional launch guidance webinars; program assets and final lists shared
- Publication of 2024 list, researchers contacted; personal certificates available via Web of Science™ Researcher profile
- Affiliation correction requests accepted until Dec 9
- List and backfile updated late Dec.; 2024 list locked down – no further changes accepted.

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Highly Cited Researchers™ 2024

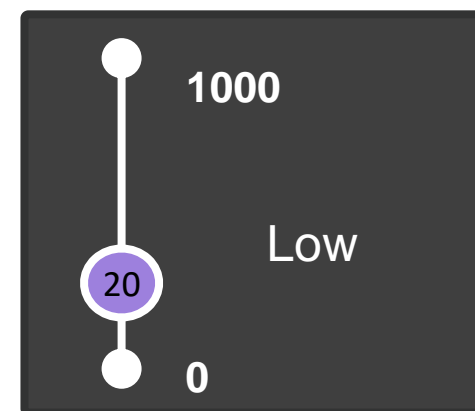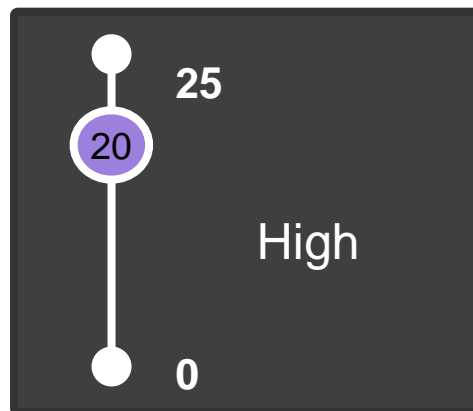https://clarivate.com/highly-cited-researchers/evaluation-and-selection/

Highly Cited Papers & Highly Cited Researchers

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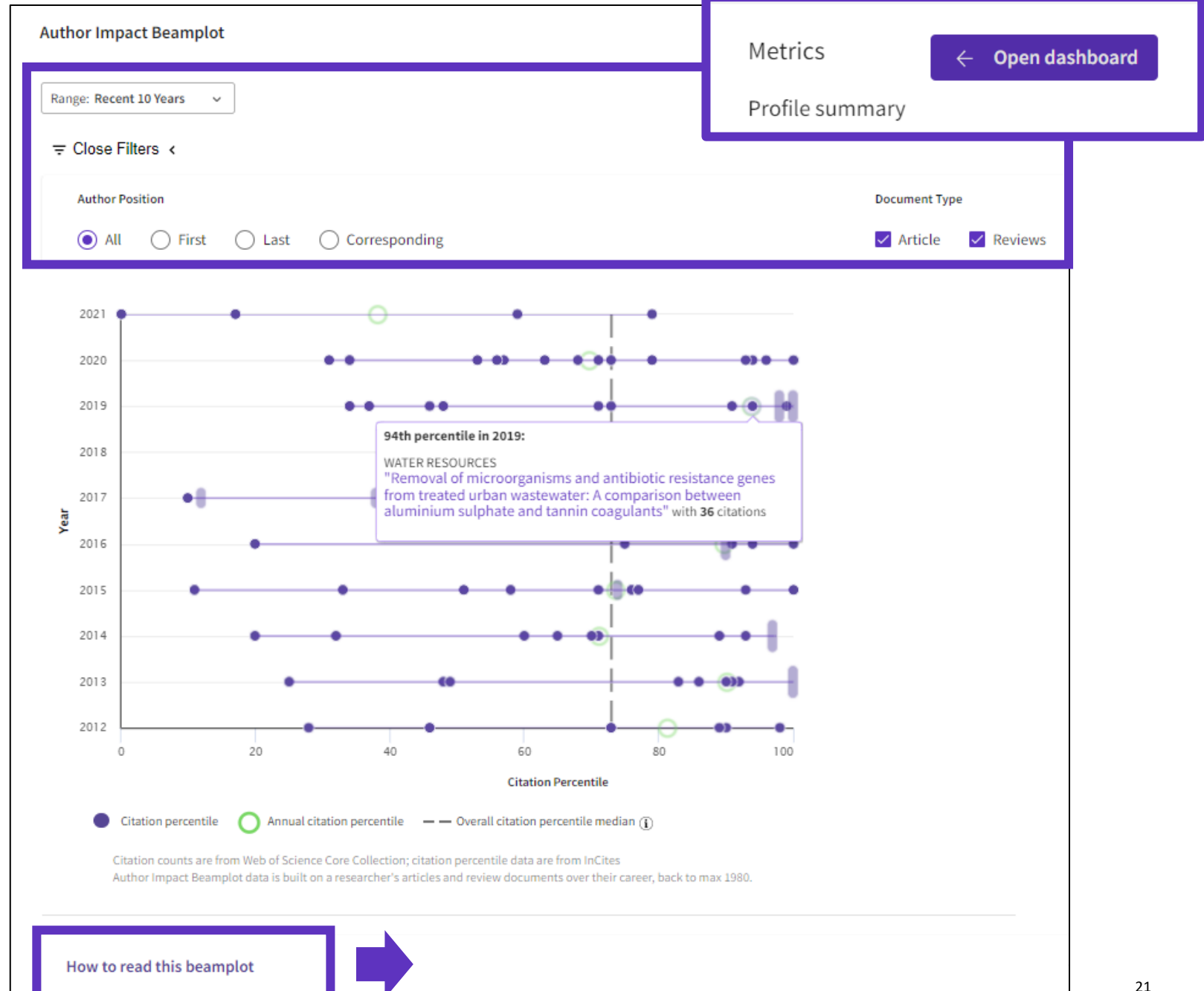
Context is everything

20

High or low?

25

20

High

0

1000

20

Low

0

It depends on the context (research area, publication year, document type)

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Author Impact Beamplot

Un Beamplot permite visualizar en una sola cifra el percentil normalizado de cada documento que un investigador ha producido a lo largo de su carrera.

Normalized indicators in Web of Science

Notes:
- *Only for publications from 1980*
- *Citations in InCites might be lower because InCites is updated once a month*
- *Not available for newly published articles because InCites is updated once a month*

→

- The normalized indicators come from the InCites platform.
- Every user will have access (even if they don't have an institutional subscription)
- You must open the metrics panel to see them.
- They are recalculated at the end of each month.

Citation Network

In Web of Science Core Collection

4 Citations

🔔 Create citation alert

4 Times Cited in All Databases
+ See more times cited

51 Cited References
View Related Records →

How does this document's citation performance compare to peers?

← Open comparison metrics panel

Data is from InCites Benchmarking & Analytics

Normalized indicators for the paper

4 Citations
How does this document's citation performance compare to peers?

Data from InCites Benchmarking & Analytics

In the category

Category Normalized Citation Impact

△ Above average

Category Normaliz[...]
times cited count t[...]
same category, and [...]
document's citatio[...]

An InCites Benchmarking & Analytics subscription is required to see the values.

In the journal

Journal Normalized Citation Impact

△ Above average

Journal Normalized Citation Impact (JNCI) is the ratio of a document's actual times cited count to the expected count for a document of the same type, from the same journal, and published in the same year. If the ratio is above 1, then the document's citation performance is above average.

An InCites Benchmarking & Analytics subscription is required to see the values.

For more information on citation performance metrics, view the InCites help file.

?

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Users who do not benefit from an institutional subscription to InCites will see the percentile value and colored arrows for the CNCI and JNCI indicators.
- A green arrow that rises means that the value of the CNCI or JNCI is above average.
- A red arrow that descends means that the value of the CNCI or JNCI is lower than average.

← Comparison metrics from InCites   ✕

4 Citations
How does this document's citation performance compare to peers?

Data from InCites Benchmarking & Analytics

In the category

Percentile in subject area

76.94   The percentage of documents of the same type, from the same category and published in the same year that have a lower citation count than this paper.

0   20   40   60   ◯ 80   100
Citation Percentile

◯ Percentile in subject area

Category Normalized Citation Impact

1.47 △ Above average   Category Normalized Citation Impact (CNCI) is the ratio of a document's actual times cited count to the expected count for a document of the same type, from the same category, and published in the same year. If the ratio is above 1, then the document's citation performance is above average.

1.59   The expected number of citations calculated from other items of the same type (article, review, etc.) published in the same journal and year.

For more information on citation performance metrics, view the InCites help file.

- While users who benefit from an institutional subscription to InCites will see the percentile value (the same as the one that appears in the author impact beamplot) and also the values of the CNCI and JNCI indicators (The average is 1).
- If your institutions subscribes to InCites, you must use your personal account in Web of Science (which is the same as for InCites) and synchronize the 2 accounts

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Para cualquier pregunta relacionada con el funcionamiento de las herramientas, por favor contacte con los servicios de su biblioteca o bien con WoSG.support@clarivate.com

GOBIERNO DE ESPAÑA — MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

FECYT INNOVACIÓN

Para cualquier pregunta relacionada con la formación o el acceso a las herramientas, por favor contacte con recursoscientificos@fecyt.es