

Internacionalización de la Investigación

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**PRIMER SEMINARIO INTERNACIONAL DE INVESTIGACIÓN INSTITUCIÓN UNIVERSITARIA DE ENVIGADO - IUE
MAYO 10 DE 2018**

Investigaciones con impacto y alcance internacional

- Universalidad de la ciencia
- Cooperación entre comunidades académicas
- Postgrados/estancias
- Propiedad intelectual/derechos
- Financiamiento asociativo
- Proyectos asociativos (inter/multi disciplinares) para abordar las problemáticas más relevantes

Gestión/Business Intelligence en el ámbito de la investigación

Visualización/seguimiento de la producción científica indexada y de indicadores bibliométricos

Web of Science – Core Collection



<https://incites.thomsonreuters.com/>

Scopus



<https://www.scival.com/>



<http://www.scimagolab.com/>

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Reporting

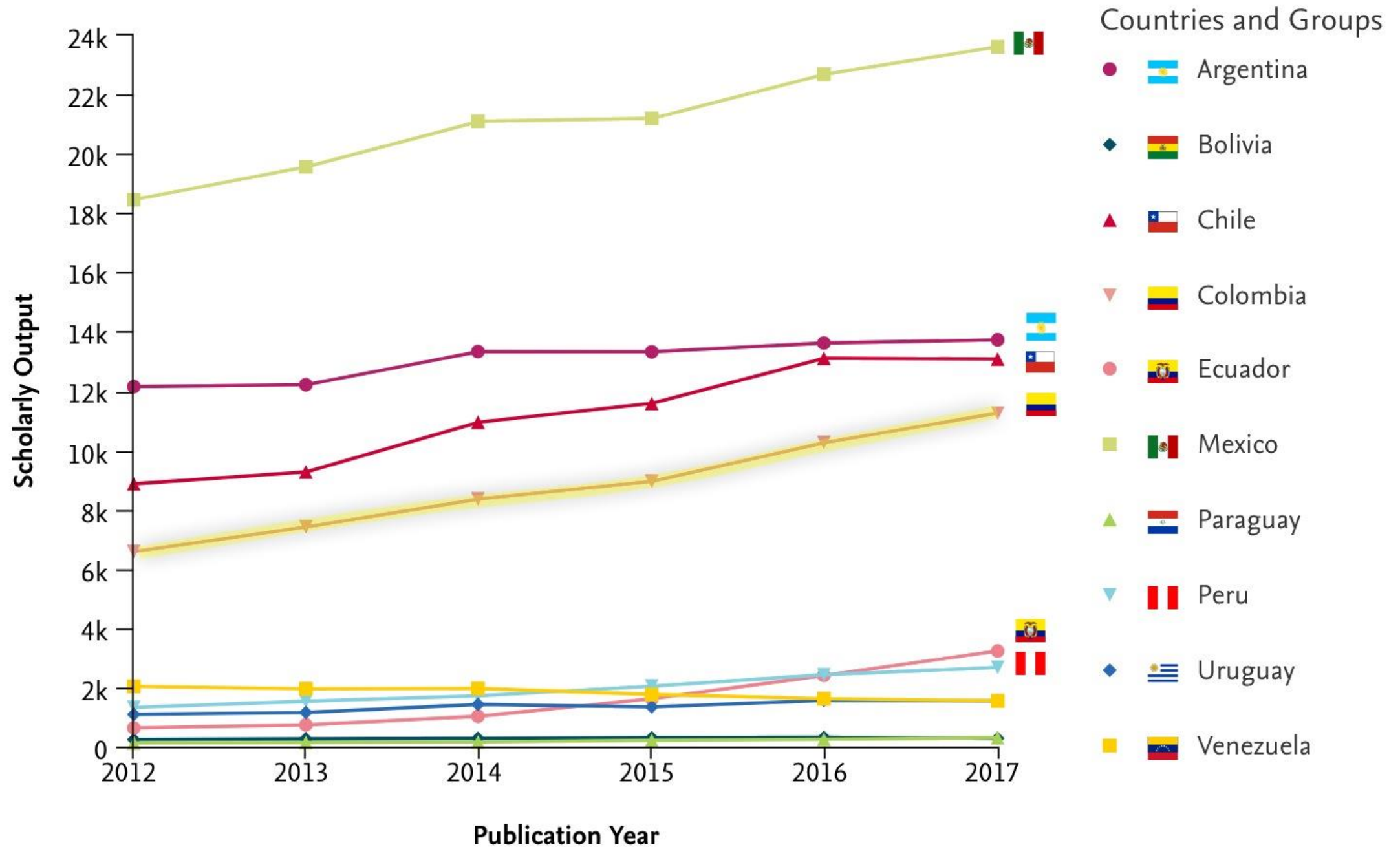
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Scholarly output












| Entity | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Overall ↓ |
|---|--------|--------|--------|--------|--------|--------|-----------|
|  Brazil | 60,771 | 64,104 | 67,700 | 69,258 | 73,323 | 75,907 | 411,063 |
|  Mexico | 18,457 | 19,565 | 21,102 | 21,200 | 22,689 | 23,616 | 126,629 |
|  Argentina | 12,149 | 12,213 | 13,333 | 13,322 | 13,621 | 13,730 | 78,368 |
|  Chile | 8,870 | 9,274 | 10,954 | 11,586 | 13,109 | 13,080 | 66,873 |
|  Colombia | 6,583 | 7,417 | 8,358 | 8,955 | 10,261 | 11,257 | 52,831 |
|  Peru | 1,328 | 1,535 | 1,720 | 2,044 | 2,431 | 2,675 | 11,733 |
|  Venezuela | 2,034 | 1,954 | 1,966 | 1,762 | 1,622 | 1,548 | 10,886 |
|  Ecuador | 632 | 736 | 1,028 | 1,618 | 2,406 | 3,230 | 9,650 |
|  Uruguay | 1,091 | 1,156 | 1,429 | 1,345 | 1,564 | 1,552 | 8,137 |
|  Bolivia | 242 | 266 | 285 | 303 | 313 | 284 | 1,693 |
|  Paraguay | 130 | 146 | 162 | 218 | 249 | 303 | 1,208 |

Fuente: Scopus (vía Scival), Datos actualizados al 06/Abril/2018













Fuente: Scopus (vía Scival), Datos actualizados al 06/Abril/2018

Citation count

| Entity | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Overall |
|--|---------|---------|---------|---------|---------|--------|-----------|
|  Brazil | 560,182 | 493,833 | 406,235 | 311,625 | 196,800 | 58,518 | 2,027,193 |
|  Mexico | 199,923 | 160,120 | 133,067 | 98,621 | 60,501 | 18,999 | 671,231 |
|  Argentina | 160,228 | 118,483 | 102,897 | 73,298 | 43,927 | 12,411 | 511,244 |
|  Chile | 121,901 | 101,671 | 95,410 | 71,565 | 49,354 | 13,780 | 453,681 |
|  Colombia | 74,797 | 55,670 | 51,687 | 46,647 | 28,371 | 8,677 | 265,849 |
|  Peru | 21,514 | 19,526 | 18,566 | 17,310 | 10,396 | 2,732 | 90,044 |
|  Uruguay | 25,069 | 12,655 | 11,628 | 14,115 | 5,823 | 1,664 | 70,954 |
|  Venezuela | 15,785 | 11,462 | 9,767 | 5,995 | 4,959 | 1,084 | 49,052 |
|  Ecuador | 10,197 | 9,907 | 8,346 | 8,882 | 6,931 | 2,824 | 47,087 |
|  Bolivia | 15,788 | 3,608 | 2,505 | 2,555 | 1,384 | 334 | 26,174 |
|  Paraguay | 1,340 | 1,385 | 913 | 1,984 | 1,015 | 191 | 6,828 |

Fuente: Scopus (vía Scival), Datos actualizados al 06/Abril/2018

International collaboration (%)


| Entity | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Overall ↓ |
|---|------|------|------|------|------|------|-----------|
|  Bolivia | 84.7 | 87.2 | 91.2 | 88.4 | 86.3 | 88.0 | 87.7 |
|  Ecuador | 76.1 | 79.3 | 76.4 | 77.9 | 70.4 | 70.7 | 73.4 |
|  Paraguay | 70.0 | 69.2 | 68.5 | 67.4 | 70.7 | 70.0 | 69.4 |
|  Uruguay | 62.5 | 64.4 | 63.6 | 67.9 | 62.7 | 65.4 | 64.5 |
|  Chile | 51.8 | 54.0 | 56.1 | 56.3 | 57.9 | 59.3 | 56.3 |
|  Venezuela | 41.0 | 45.3 | 45.5 | 50.7 | 57.0 | 65.2 | 50.0 |
|  Colombia | 45.9 | 44.6 | 44.7 | 45.6 | 45.0 | 48.1 | 45.8 |
|  Argentina | 41.4 | 41.3 | 41.6 | 42.6 | 43.3 | 44.0 | 42.4 |
|  Mexico | 38.6 | 38.4 | 38.5 | 39.0 | 40.6 | 41.6 | 39.5 |
|  Brazil | 23.9 | 25.4 | 27.6 | 29.3 | 31.7 | 32.3 | 28.6 |

Fuente: Scopus (vía Scival), Datos actualizados al 06/Abril/2018

Countries & regions collaborating with Colombia

Worldwide



 192 collaborating countries & regions

 24,177 co-authored publications



Colombia

2012 to 2017



no subject area filter selected



ASJC

[Data sources](#)

Summary

Topics

Awarded Grants

Published

Viewed

Cited

Economic Impact

Authors



Overall research performance



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Export

Scholarly Output

52,831

[View list of publications](#)

Authors

60,722

Field-Weighted Citation Impact

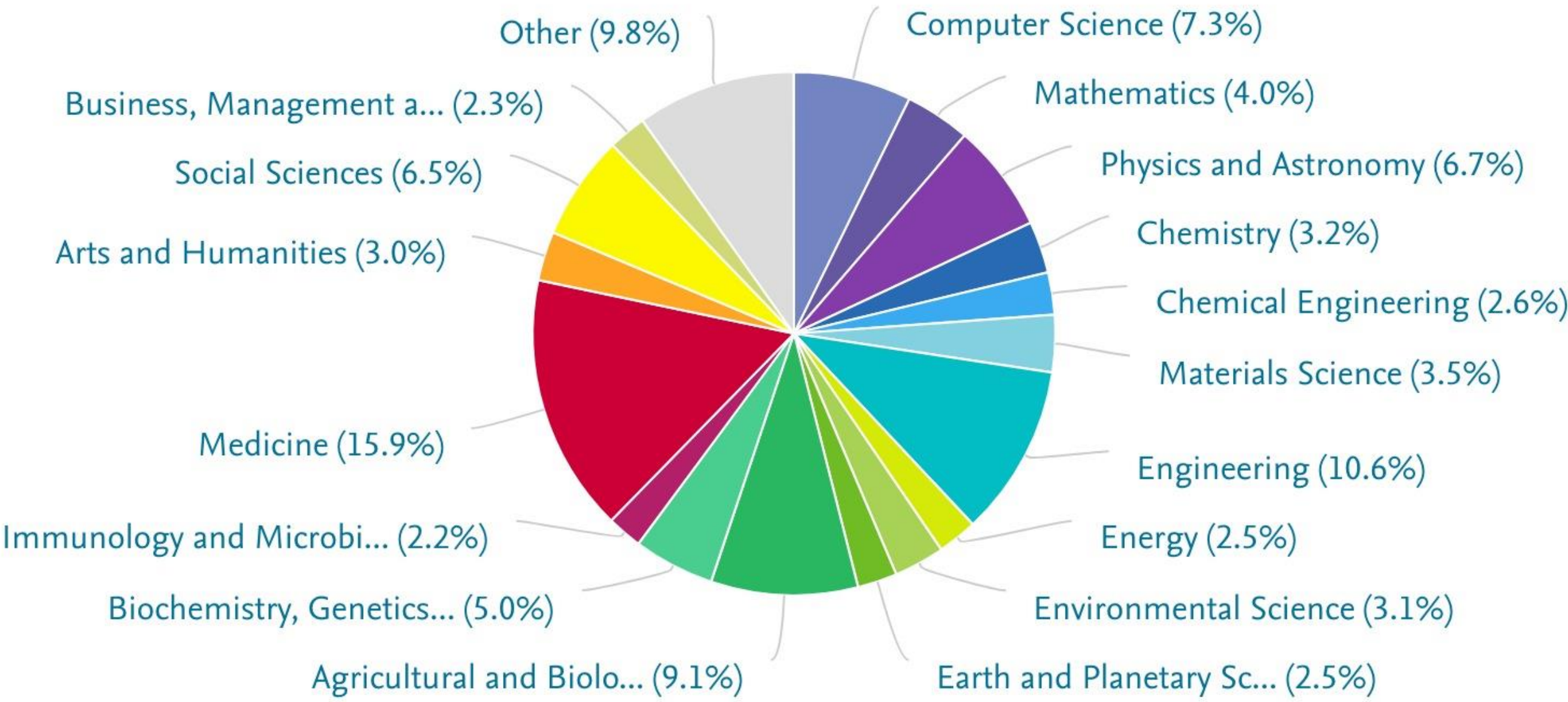
0.95

Citation Count

265,849

Citations per Publication

5.0

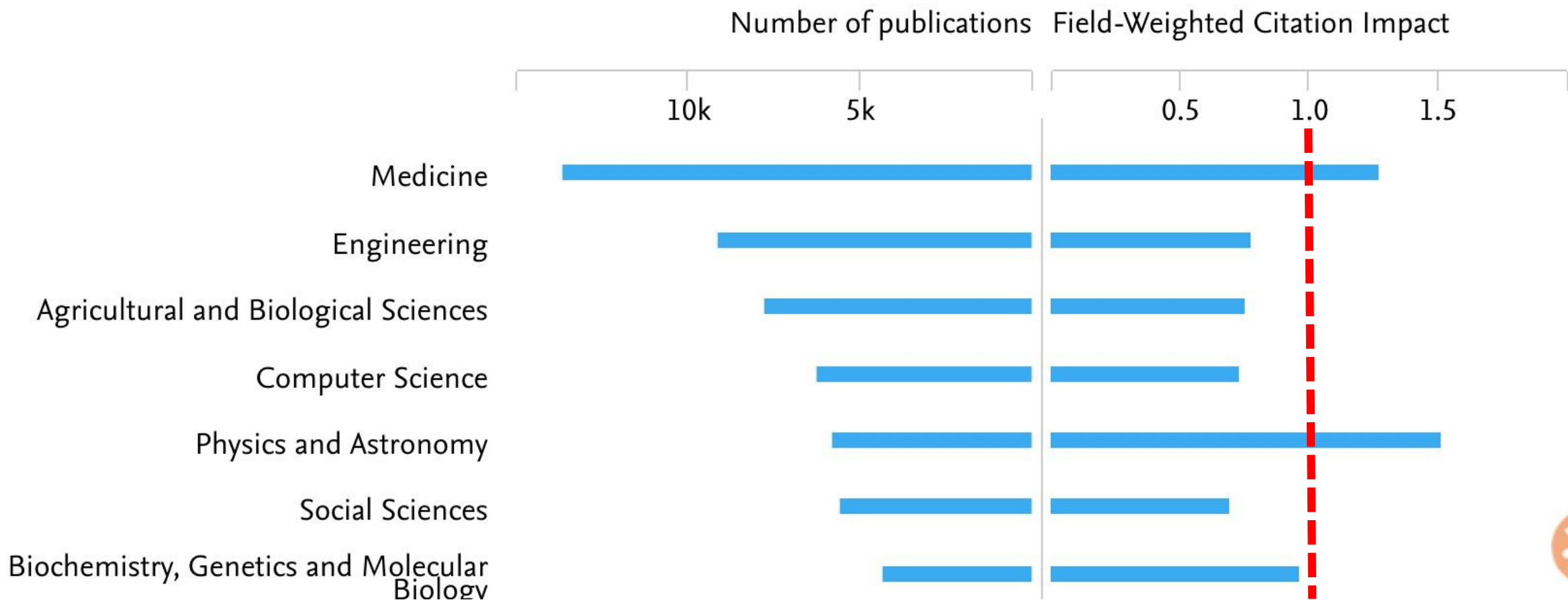


Publications by Subject Area

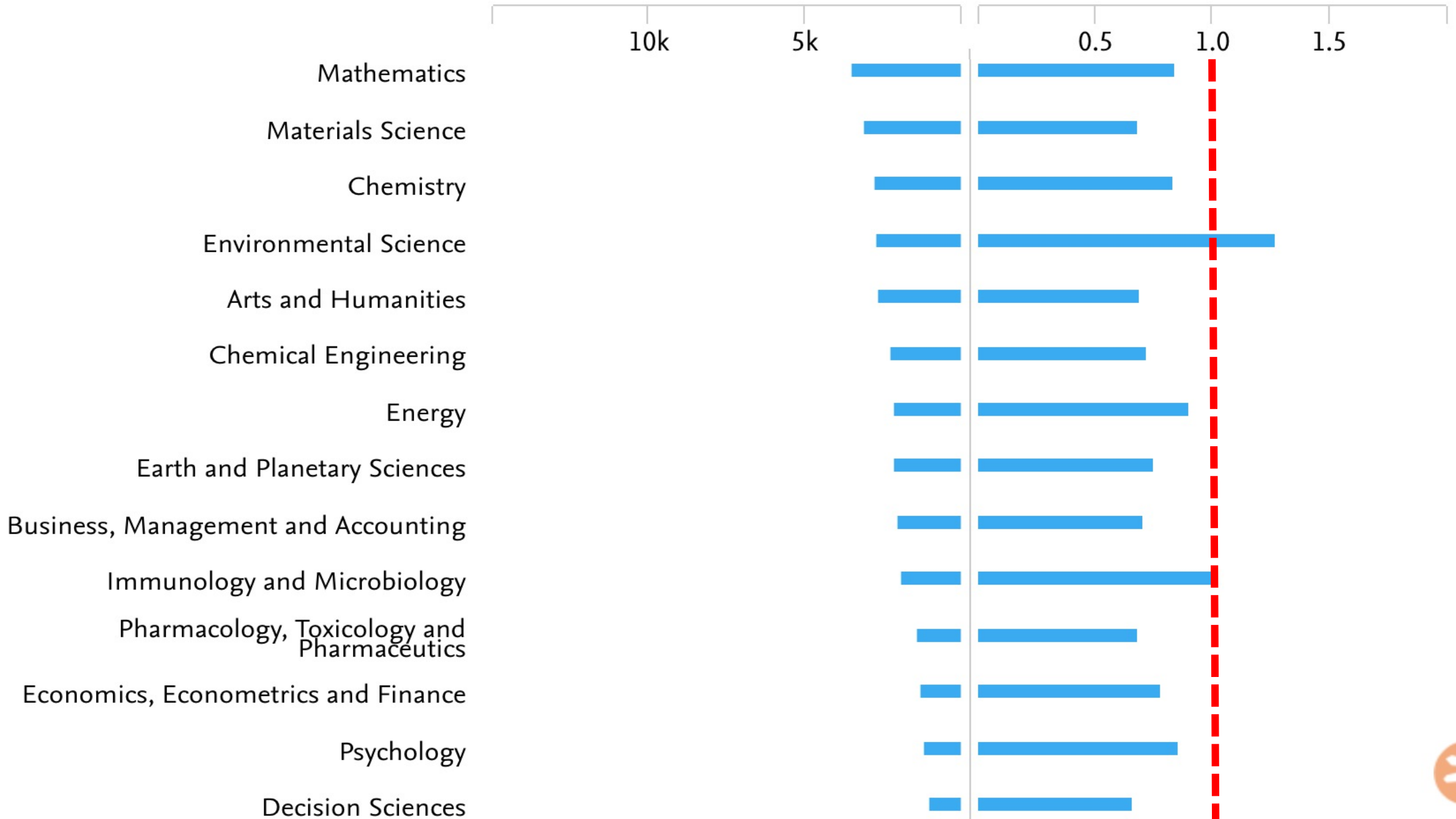
Export 

 Bar chart  Pie chart  Table

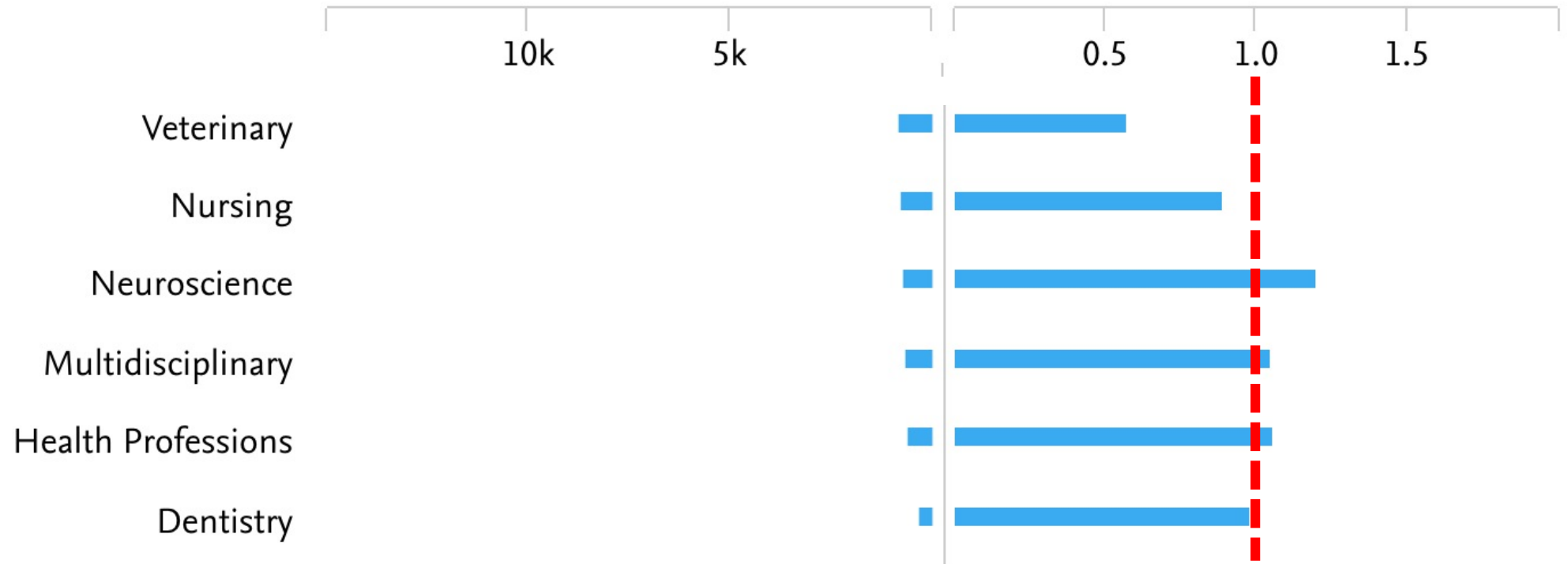
View: number of publications Field-Weighted Citation Impact



Number of publications Field-Weighted Citation Impact



Number of publications Field-Weighted Citation Impact



Colombia

2012 to 2017



no subject area filter selected



ASJC

[Data sources](#)

Summary

Topics

Awarded Grants

Published

Viewed

Cited

Economic Impact



Authors

Institutions

Institutions in Colombia

[+ Add to Reporting](#) [Export](#)

There are 66 Institutions in Colombia:

| Institution | Publications ↓ | Authors | Field-Weighted Citation Impact | Citations | <input type="checkbox"/> |
|---|----------------|---------|--------------------------------|-----------|--------------------------|
| 1.  Universidad Nacional de Colombia | 11,849 ▲ | 9,573 ▲ | 0.77 | 43,362 | |
| 2.  Universidad de Antioquia | 5,799 ▲ | 5,358 ▲ | 0.79 | 32,152 | |
| 3.  Universidad de Los Andes Colombia | 4,918 ▲ | 3,267 ▲ | 1.45 | 43,306 | |
| 4.  Universidad Javeriana | 3,085 ▲ | 2,938 ▲ | 1.64 | 25,738 | |
| 5.  Universidad del Valle | 2,866 ▲ | 2,476 ▲ | 0.66 | 10,946 | |
| 6.  Universidad Industrial de Santander | 2,007 ▲ | 1,950 ▲ | 0.96 | 9,284 | |
| 7.  Universidad del Rosario | 1,517 ▲ | 1,165 ▲ | 0.85 | 8,203 | |
| 8.  Universidad Pontificia Bolivariana | 1,280 ▲ | 1,352 ▲ | 0.59 | 4,177 | |
| 9.  Universidad del Norte | 1,110 ▲ | 1,098 ▲ | 0.77 | 3,554 | |
| 10.  Universidad Antonio Narino | 1,057 ▲ | 417 ▲ | 2.71 | 22,821 | |
| 11.  Universidad de Cartagena | 1,022 ▲ | 1,055 ▲ | 3.44 | 14,066 | |



| Institution | Publications ↓ | Authors | Field-Weighted Citation Impact | Citations |
|--|----------------|---------|--------------------------------|-----------|
| 12.  Universidad Distrital Francisco Jose de Caldas | 969 ▲ | 940 ▲ | 0.53 | 1,813 |
| 13.  Universidad Eafit | 958 ▲ | 796 ▲ | 0.56 | 1,994 |
| 14.  Universidad Tecnologica de Pereira | 907 ▲ | 800 ▲ | 1.38 | 3,149 |
| 15.  Universidad de Caldas | 826 ▲ | 834 ▲ | 0.68 | 2,375 |
| 16.  Universidad de la Sabana | 824 ▲ | 889 ▲ | 0.51 | 2,070 |
| 17.  Universidad del Cauca | 763 ▲ | 756 ▲ | 0.64 | 1,280 |
| 18.  Universidad Militar Nueva Granada | 741 ▲ | 690 ▲ | 0.38 | 1,267 |
| 19.  Universidad Santo Tomas, Bogota | 725 ▲ | 668 ▲ | 0.61 | 2,426 |
| 20.  Universidad Pedagogica y Tecnologica de Colombia | 629 ▲ | 675 ▲ | 0.60 | 1,344 |
| 21.  Universidad El Bosque | 614 ▲ | 635 ▲ | 1.16 | 3,296 |



Tópicos

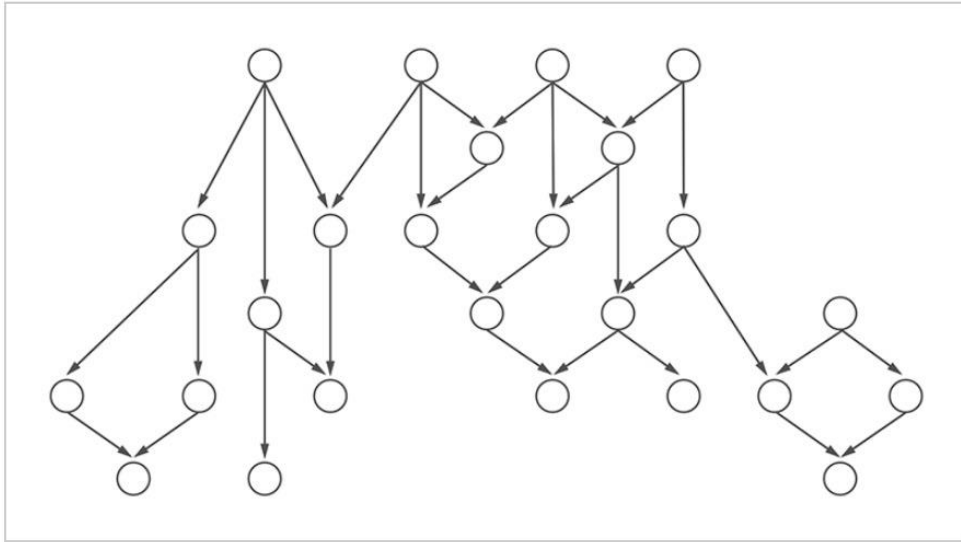
- Un tópico es una **colección de documentos con un interés intelectual común**. Puede ser grande o pequeño, nuevo o viejo, en desarrollo o en declinación...
- Los tópicos cambian dinámicamente en el tiempo, como los investigadores, que trabajan en diferentes áreas y por consiguiente contribuyen a distintos tópicos.
- Hoy muchos de los tópicos son multidisciplinarios, y los más antiguos pueden estar adormecidos, pero aún existen.



Prominencia

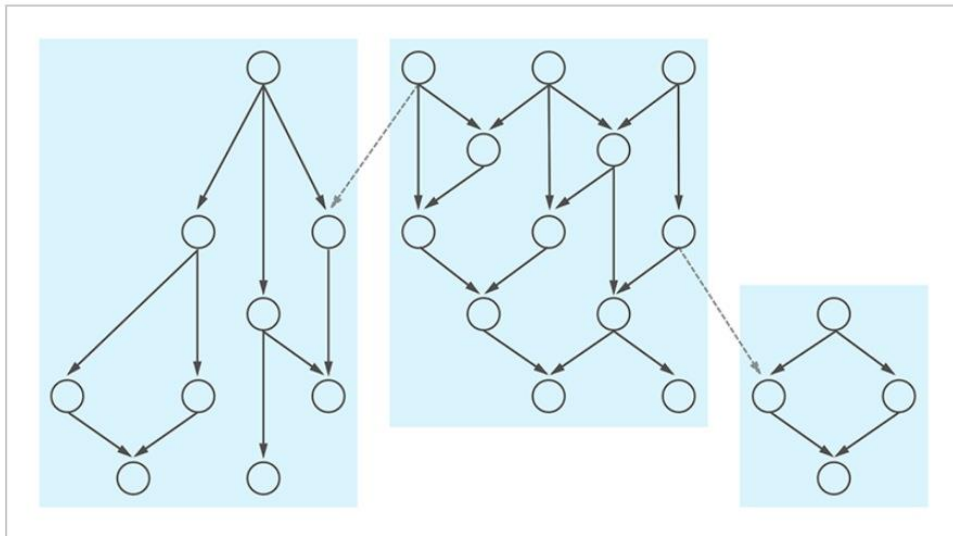
- Un indicador de **momentum/movimiento o visibilidad** de un tópico particular.
- No es un indicador de **importancia** del tópico.
- Se calcula combinando 3 métricas:
 - **Citas** en el año N de papers publicados en años N y N-1
 - **Visualizaciones** Scopus en año N de papers publicados en años N y N-1
 - **CiteScore** promedio para el año N.
- Estas métricas se calculan y normalizan usando transformaciones logarítmicas y desviaciones estándares. Los resultados se combinan como promedios ponderados.





Todas las publicaciones Scopus son agrupadas en Tópicos vía un análisis de “**citas directas**”, no de “co-citaciones”.

Los documentos dentro de un tópico dado citan y son citados por documentos dentro del mismo tópico.



Los bordes entre los Tópicos se determinan identificando donde los links de citas son débiles. En estos puntos, los grupos se separan en diferentes tópicos.



All Science Journal Classification (ASJC): una de las categorizaciones de las fuentes primarias (y las publicaciones que contienen) en disciplinas científicas: 27 categorías y 334 subcategorías.

^ Subject area abbreviations

| | | | |
|------|--|------|--|
| COMP | Computer Science | MEDI | Medicine |
| MATH | Mathematics | PHAR | Pharmacology, Toxicology and Pharmaceutics |
| PHYS | Physics and Astronomy | HEAL | Health Professions |
| CHEM | Chemistry | NURS | Nursing |
| CENG | Chemical Engineering | DENT | Dentistry |
| MATE | Materials Science | NEUR | Neuroscience |
| ENGI | Engineering | ARTS | Arts and Humanities |
| ENER | Energy | PSYC | Psychology |
| ENVI | Environmental Science | SOCI | Social Sciences |
| EART | Earth and Planetary Sciences | BUSI | Business, Management and Accounting |
| AGRI | Agricultural and Biological Sciences | ECON | Economics, Econometrics and Finance |
| BIOC | Biochemistry, Genetics and Molecular Biology | DECI | Decision Sciences |
| IMMU | Immunology and Microbiology | MULT | Multidisciplinary |
| VETE | Veterinary | | |

Agricultural and Biological Sciences

- General Agricultural and Biological Sciences
- Agricultural and Biological Sciences (miscellaneous)
- Agronomy and Crop Science
- Animal Science and Zoology
- Aquatic Science
- Ecology, Evolution, Behavior and Systematics
- Food Science
- Forestry
- Horticulture
- Insect Science
- Plant Science
- Soil Science

Business, Management and Accounting

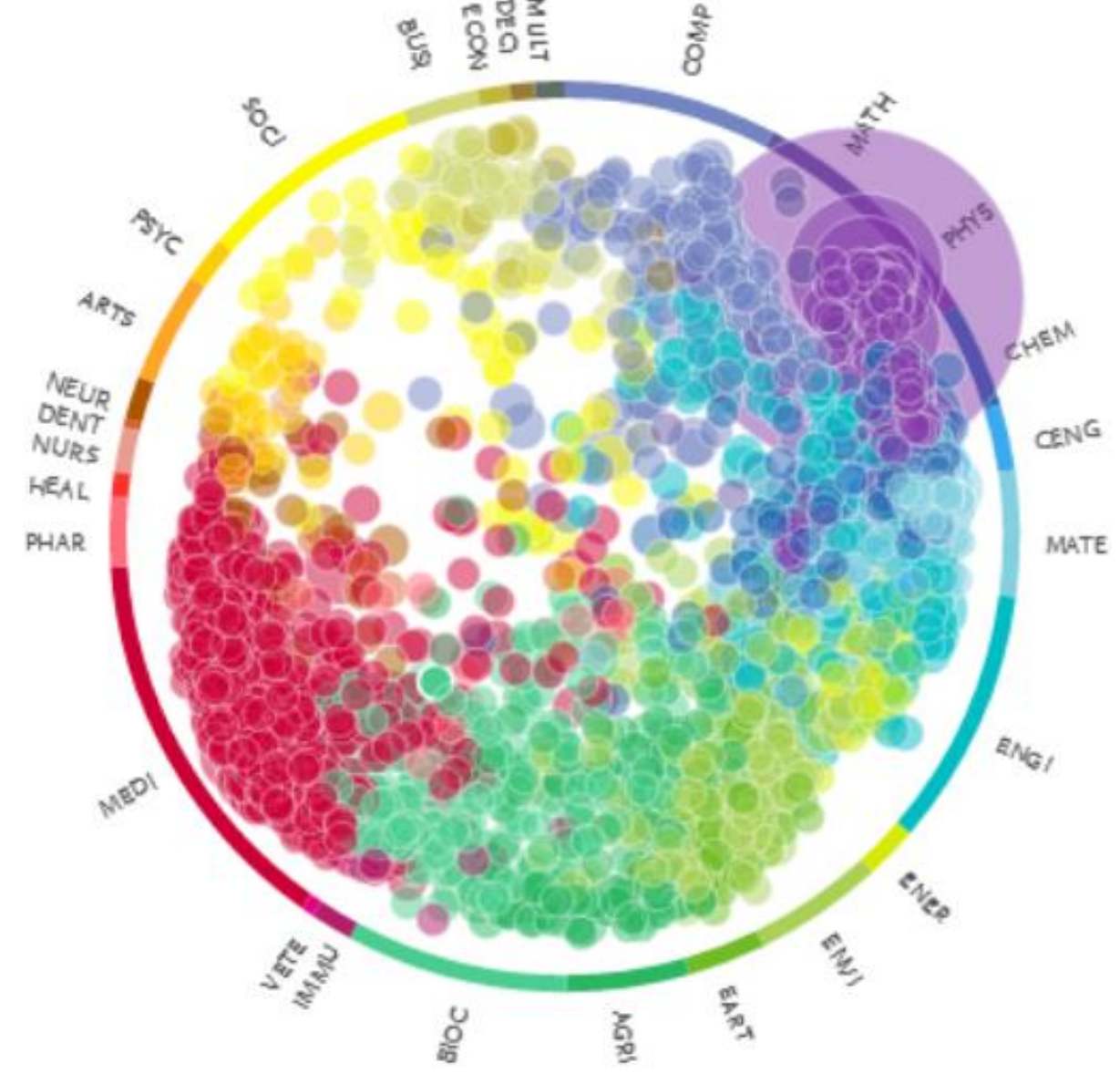
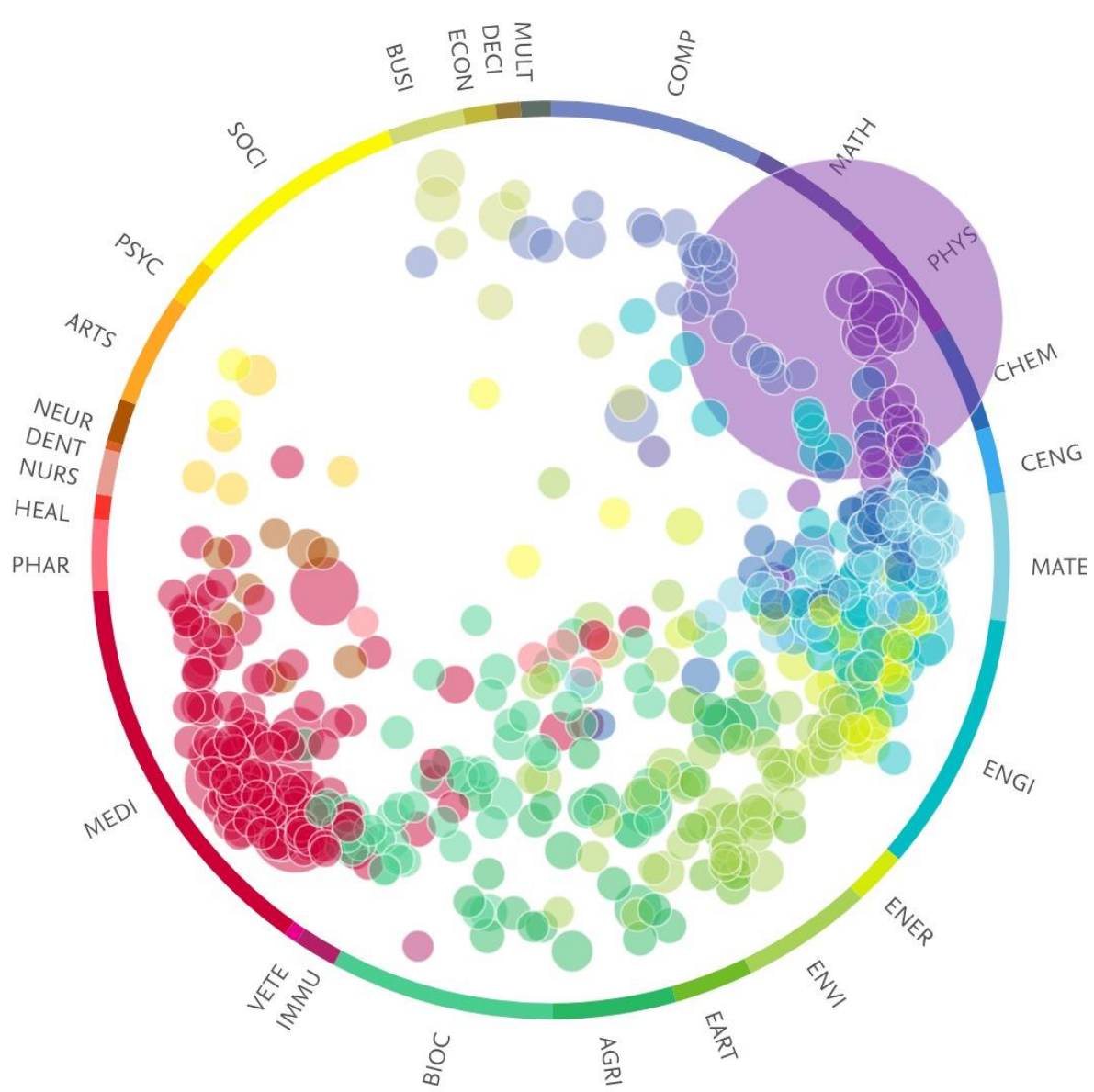
- Accounting
- Business and International Management
- Business, Management and Accounting (miscellaneous)
- General Business, Management and Accounting
- Industrial Relations
- Management Information Systems
- Management of Technology and Innovation
- Marketing
- Organizational Behavior and Human Resource Management
- Strategy and Management
- Tourism, Leisure and Hospitality Management

Materials Science

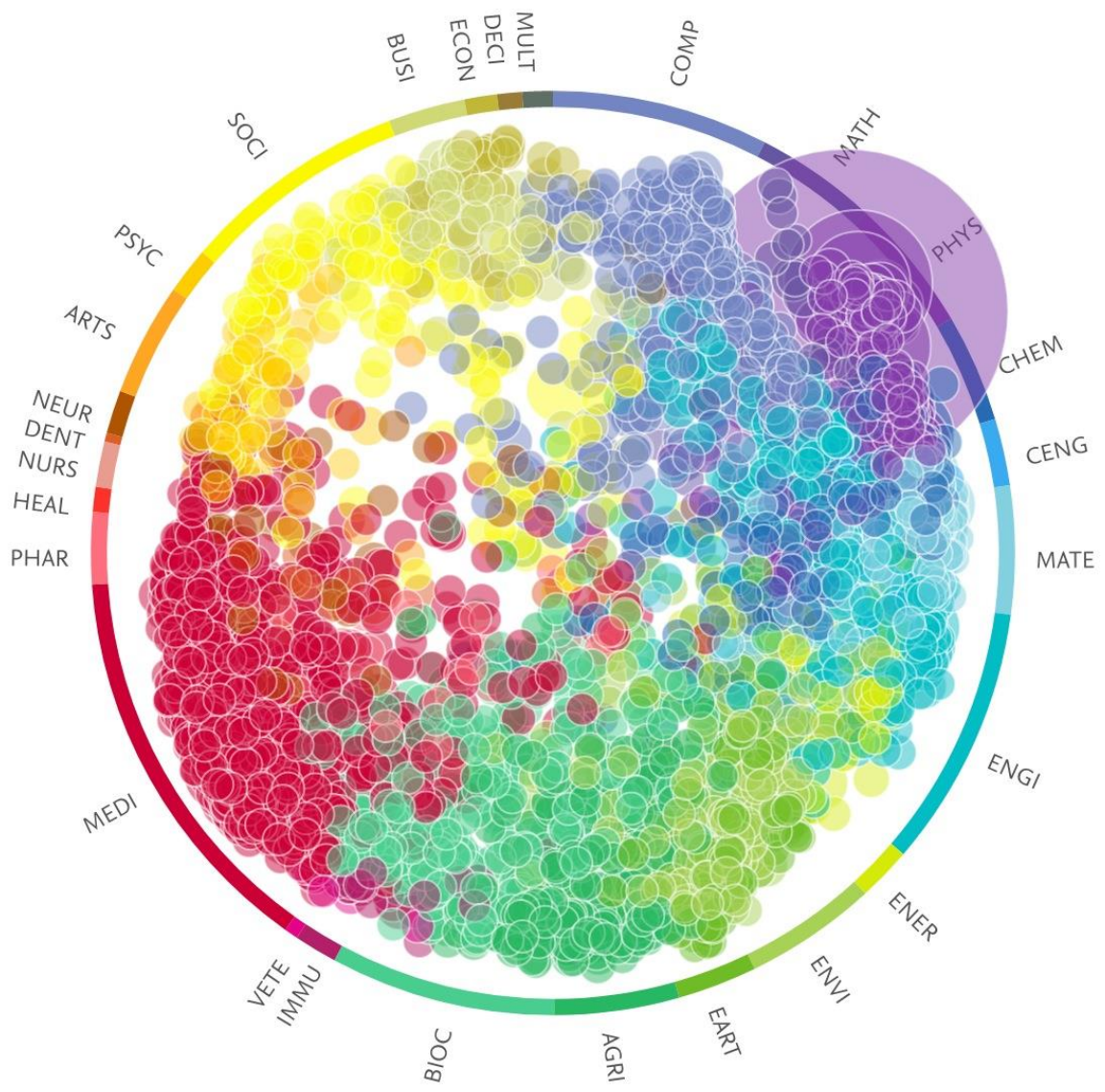
- General Materials Science
- Materials Science (miscellaneous)
- Biomaterials
- Ceramics and Composites
- Electronic, Optical and Magnetic Materials
- Materials Chemistry
- Metals and Alloys
- Polymers and Plastics
- Surfaces, Coatings and Films

- Un ejemplo..

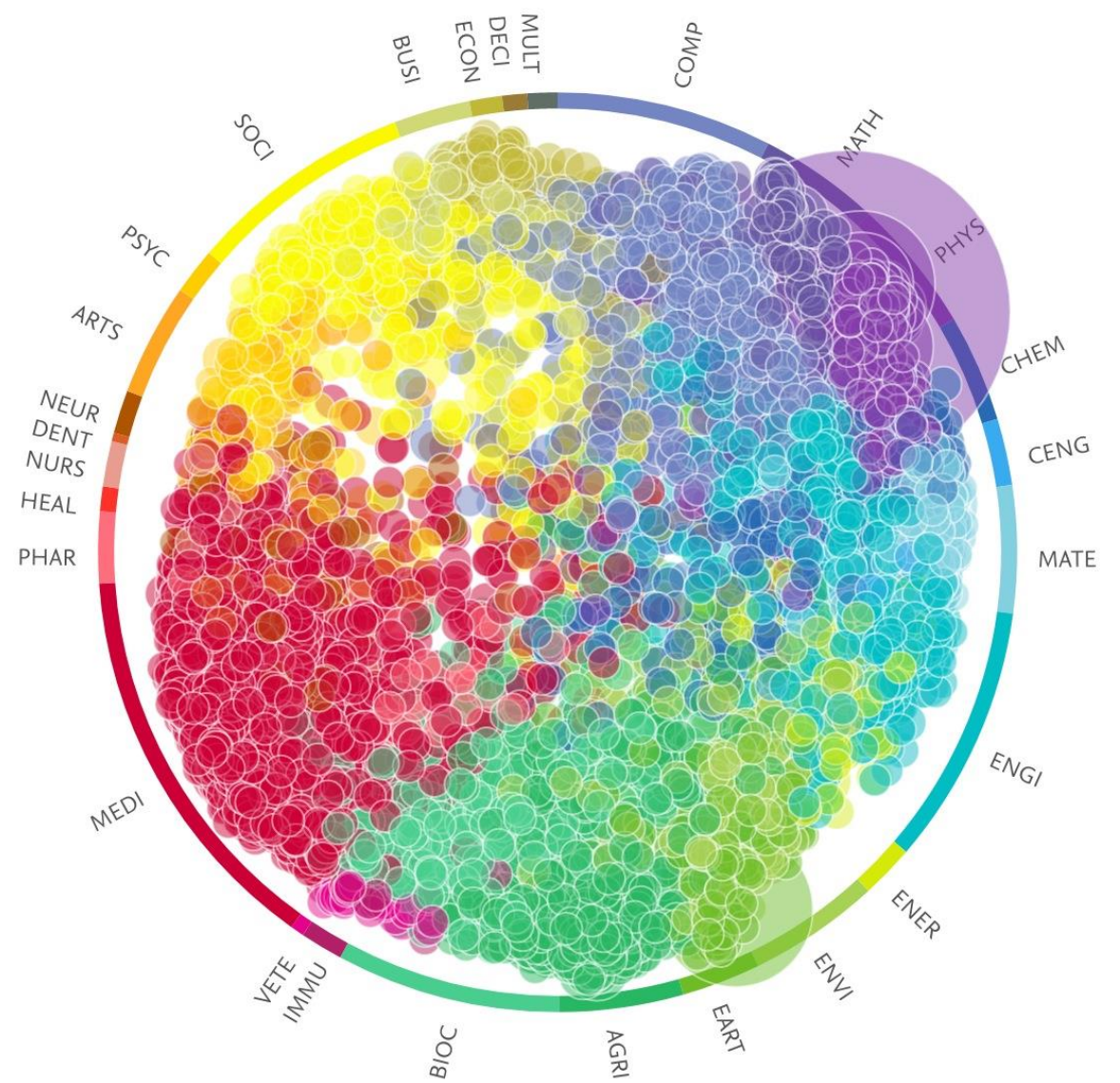
Researchers in Colombia have contributed to 18,488 topics between 2012 to 2017



Researchers in Colombia have contributed to 18,488 topics between 2012 to 2017

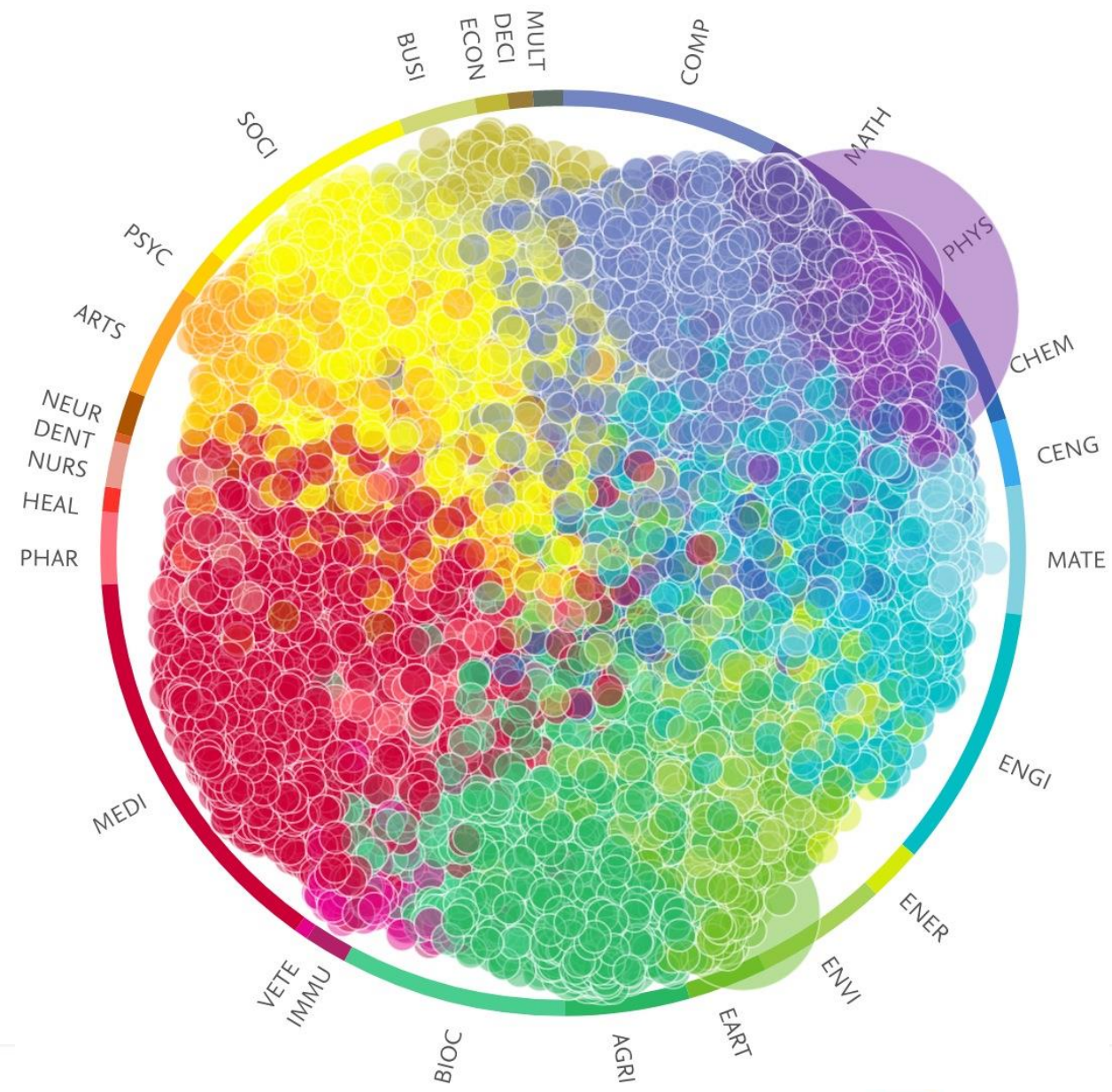


View: Top 10%



View: Top 25%

Researchers in Colombia have contributed to 18,488 topics between 2012 to 2017



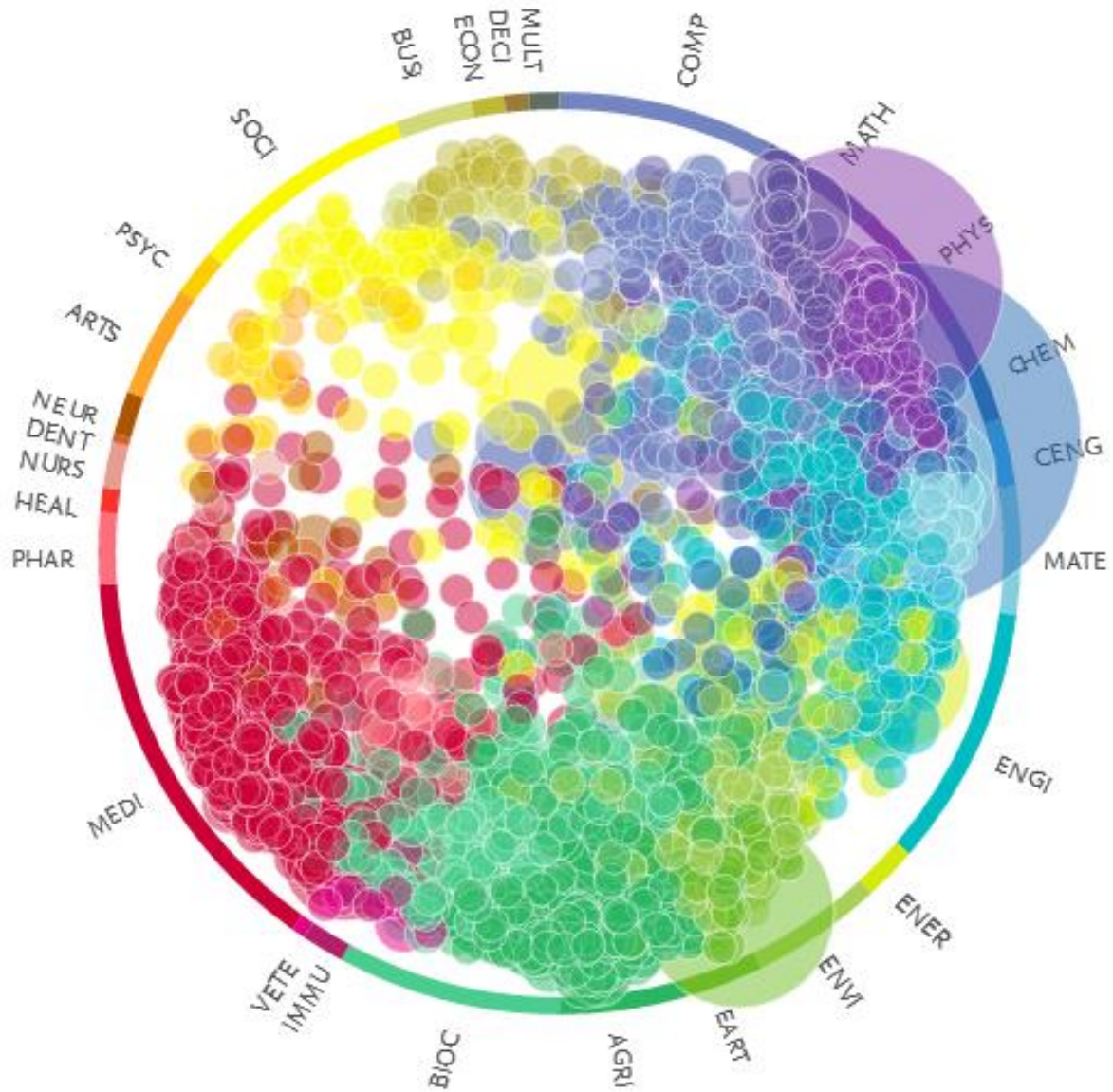
○ ○ ○ Bubble size: Scholarly Output of Colombia

View: [All Topics](#) 

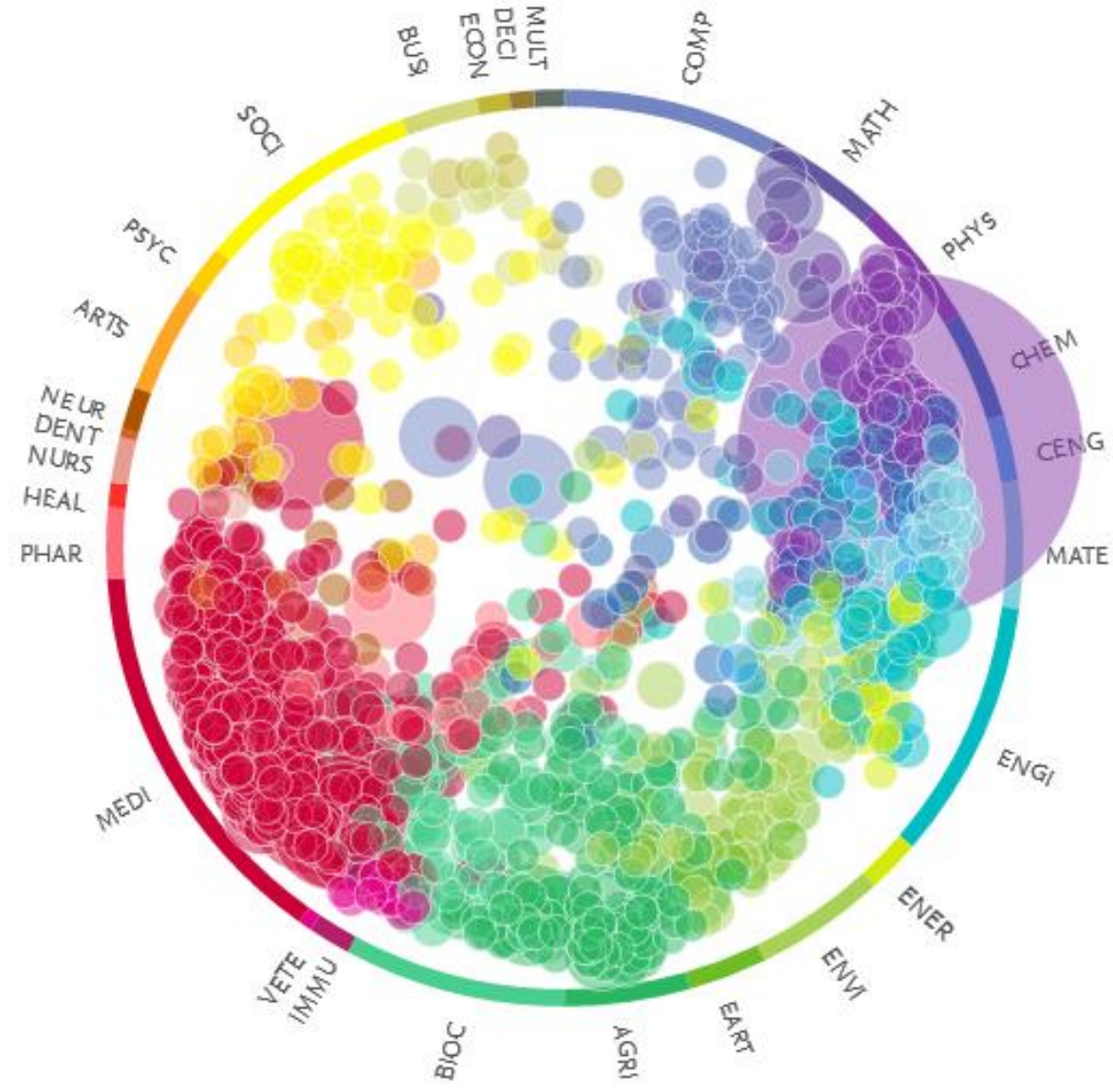
View: [Top 25%](#)



of worldwide Topics by Prominence



Universidad Nacional de Colombia, 5712 Topics

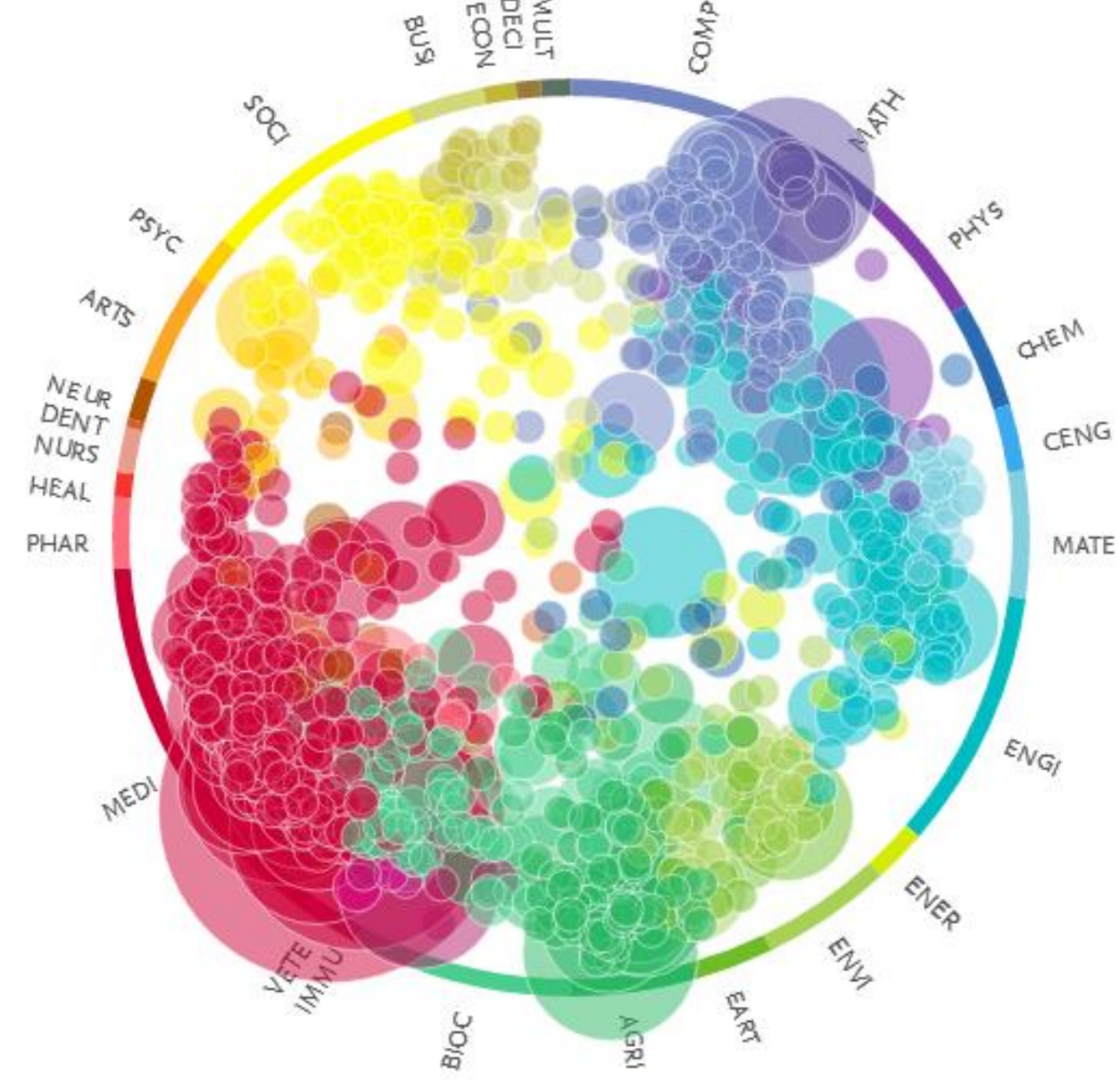
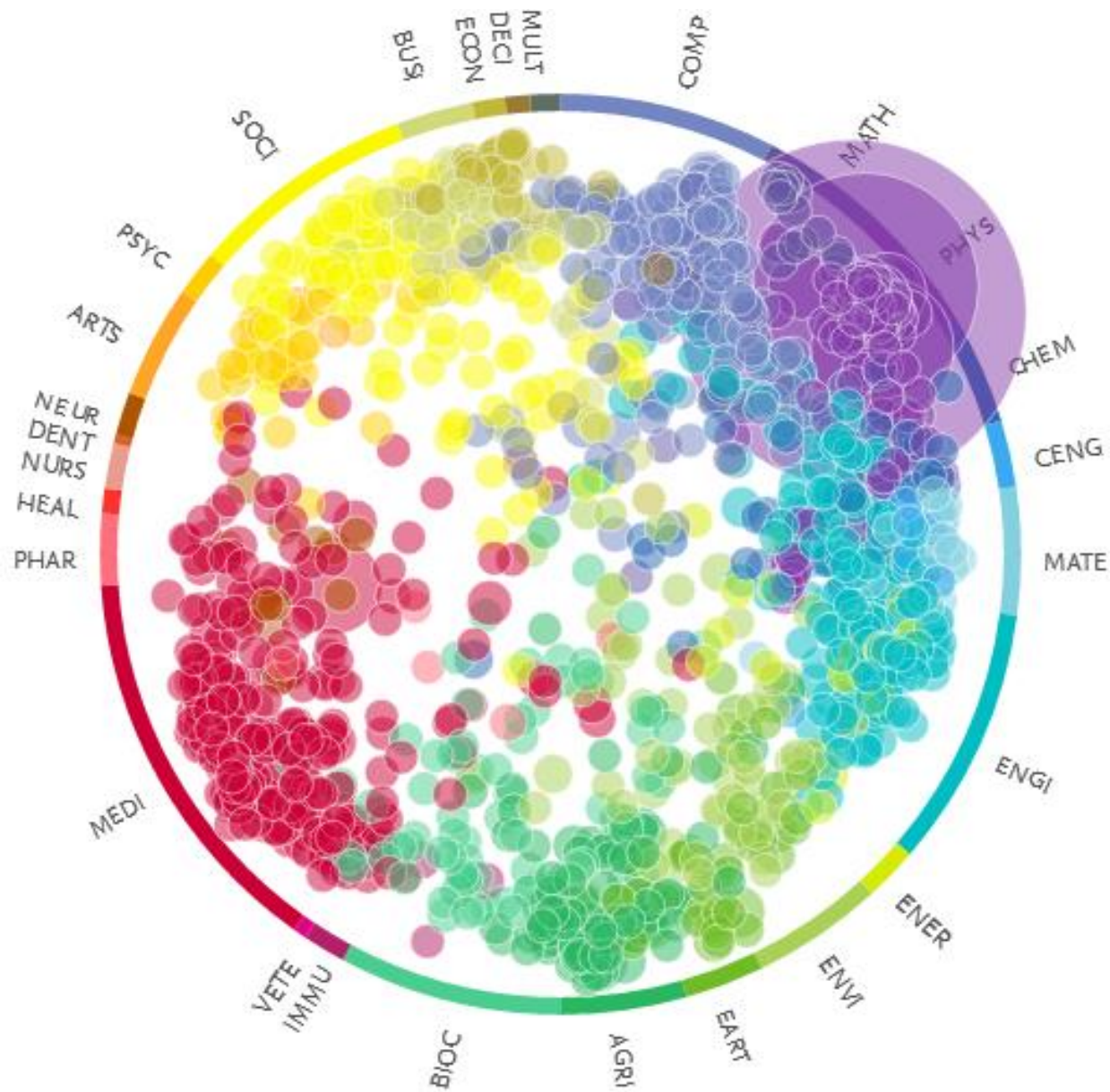


Universidad de Antioquia, 3096 Topics

View: [Top 25%](#)



of worldwide Topics by Prominence



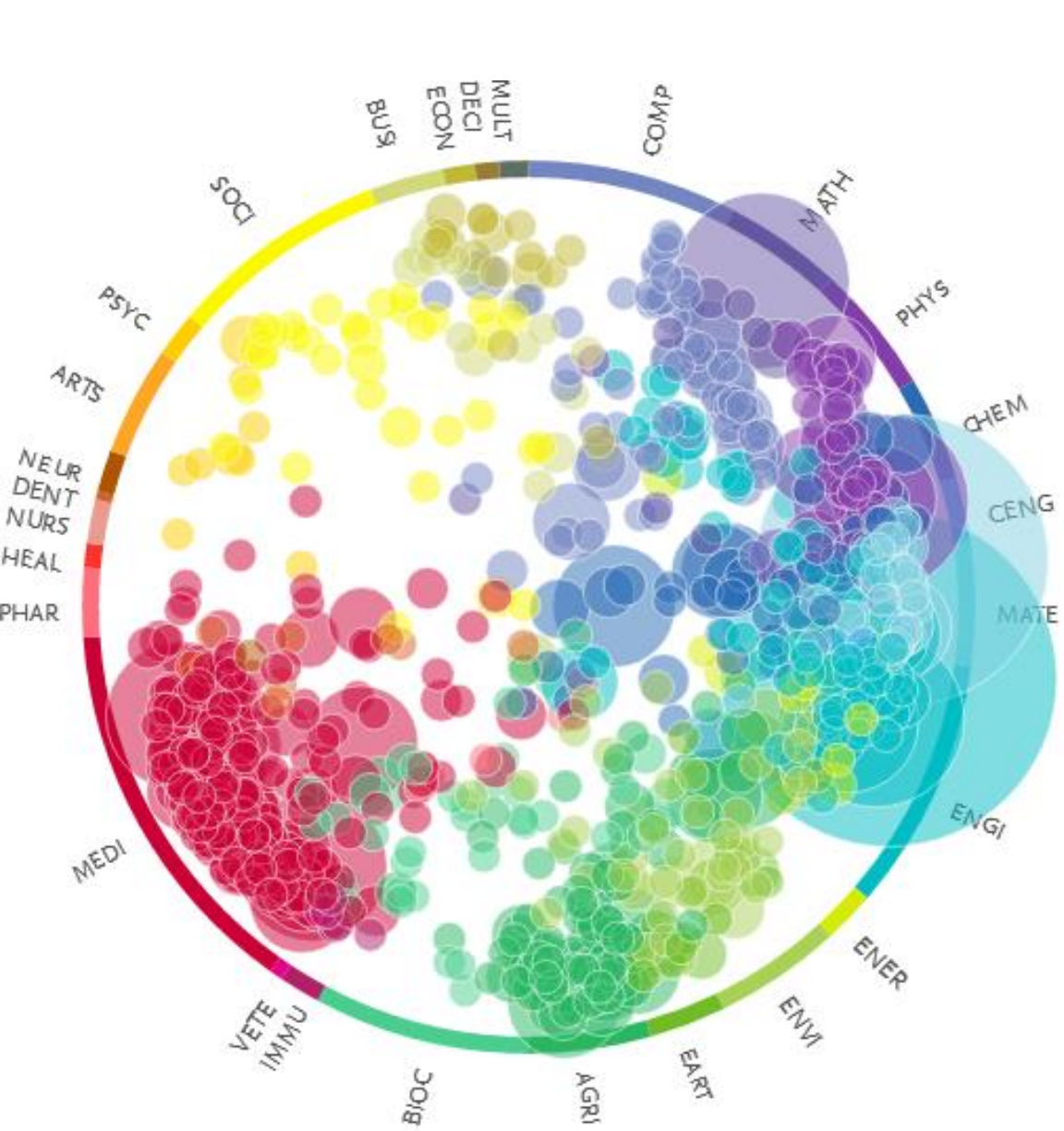
Universidad de los Andes - Colombia, 2472 Topics

Universidad Javeriana, 2001 Topics

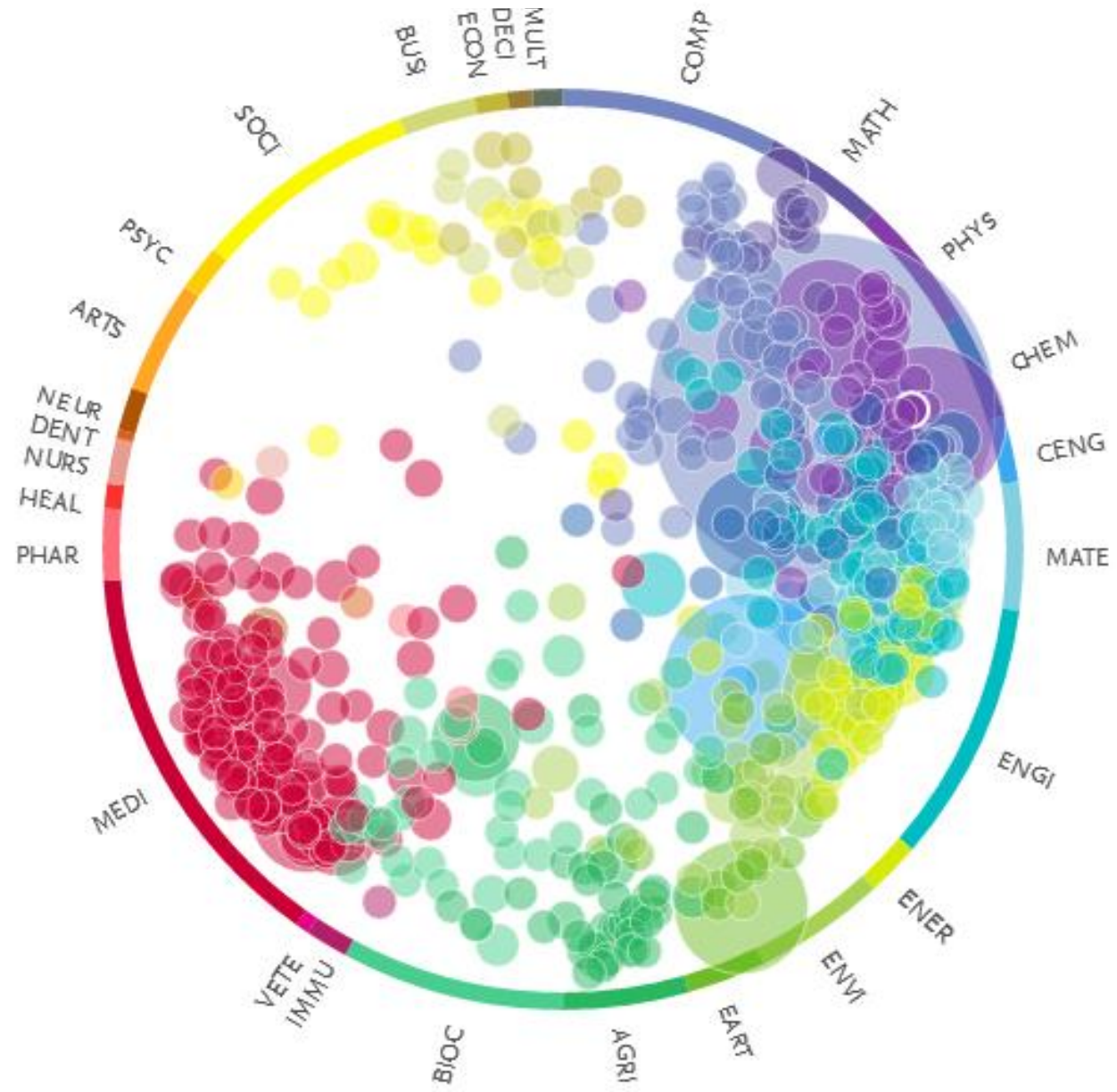
View: [Top 25%](#)



of worldwide Topics by Prominence



Universidad del Valle, 1694 Topics



Universidad Industrial de Santander, 1143 Topics

| Topic | At this Institution | | | Worldwide |
|--|---------------------|-------------------|--------------------------------|-----------------------|
| | Scholarly Output | Publication Share | Field-Weighted Citation Impact | Prominence percentile |
| quantum dots; Semiconductor quantum dots; hydrogenic impurity ... T.1500 | 86 | 8.74% ▼ | 1.32 | 95.238 |
| Colombia; Health; health insurance ... T.31629 | 32 | 14.81% ▼ | 0.31 | 70.280 |
| Paracoccidioidomycosis; Paracoccidioides; paracoccidioidomycosis PCM ... T.3257 | 29 | 6.21% ▲ | 1.55 | 88.109 |
| Dysarthria; Speech; motor speech ... T.5201 | 28 | 4.67% ▲ | 2.62 | 90.908 |
| Cryptography; Optical data processing; gyrator transform ... T.5012 | 26 | 2.63% ▼ | 2.25 | 96.859 |

Conclusiones

- Requerimientos Acreditacion
- Interdisciplinariedad
- Busqueda de talentos
- Formacion de redes

Políticas & mecanismos. Gestion y guia de la investigacion a nivel institucional.

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MAYO 10 DE 2018**