Appendix 34.A. Alternative Ranking Methods

- Using SciVal and Scopus
- Using InCites and WOS
- Using Clarivate Analytics with ARWU rankings (including Table 34.2)

Ruth's Rankings 33 introduced the researcher modules in InCites and SciVal. Do they help the two Highly Cited lists by providing extra information? I examined both for the time 2012-present.

**Using SciVal or Scopus**

SciVal calculates a list of the top 500 authors in the world based on Scopus publications, with data on citations, citations per publication, field-weighted citation impact and h-index. The downloaded list also includes a unique URL for each author. Lists are available for 25 broad subject areas, for individual countries or institutions. SciVal also generates lists of the top 100 for very specific topics, such as "electronic beams". SciVal links back to Scopus to get specific author information, such as affiliations and subject areas. See Example 34.1. on how to track an author.

**Example 34.1. From Scopus Name Identifier to Author output in Scopus to List of authors in SciVal**

I was told that Huang Wei, from Nanjing Tech, had the most citations in physics for that university.

Use name identifier

| | Author | Documents | Subject area | Affiliation | City | Country/Territory |
|---|---|---|---|---|---|---|
| ☐ 1 | Huang, Wei<br>Wei, H.<br>Huang, W.<br>Wei, Huang<br>View last title | 783 | Materials Science ; Chemistry ; Physics and Astronomy; ... | Nanjing Institute of Technology | Nanjing | China |
| ☐ 2 | Huang, Wei<br>Huang, W.<br>HUANG, Wei | 576 | Materials Science ; Chemistry ; Engineering; ... | Nanjing University of Post and TeleCommunications | Nanjing | China |
| ☐ 6 | Huang, Wei<br>Huang, W.<br>View last title | 244 | Materials Science ; Chemistry ; Engineering; ... | Nanjing Tech University | Nanjing | China |
| ☐ 7 | Huang, Wei<br>Huang, W. | 238 | Chemistry ; Materials Science ; Physics and Astronomy; ... | Nanjing University | Nanjing | China |

Combine the names in Scopus and produce a citation overview


Go to SciVal to create a list for Physics and Astronomy

| | Name | Publications | publication | Citations | *h*-index |
|---|---|---|---|---|---|
| 1. | Huang, Wei | 98 | 2018 | 1,521 | 40 |
| 2. | Huang, Wei | 40 | 2018 | 328 | 30 |



SciVal provides a few fixed time ranges, the longest being 2012 to the present. The tops in publications are not necessarily tops in citations. SciVal's most prolific author has one citation and the list includes only 467 authors with more than 10,000 citations. According to InCites there are more than 7,000 names with more than 10,000 citations. InCites has its own issues.

**Clarivate Analytics**

InCites' indicators for authors are limited to Web of Science documents, Times cited and Affiliation. The user can specify any date range starting from 1980. Names are not disambiguated. I needed 595 names to get a list of the top 500 authors. The most prolific authors, who have joint affiliations, appear more than once and one appeared five times. Only 34 of the top 500 authors have affiliations with East Asian universities. Change the date to 2016 and the top 30 names are Asian, but with no affiliations. CA gives each author full credit for an article, except for physics. Papers with over 500 authors are excluded! By imposing the 500 limit the number 3 researcher in Physics on InCites drops to 249.

Metrics are not available for highly cited papers, so this list cannot be compared with the Highly Cited list.

**Author Indices in ARWU**

Data from WOS and Essential Science indicators are incorporated in ARWU's rankings for the Hi/Ci (Highly Cited) indicator. ARWU has two other author-based metrics, Awards and Alumni,

which account for 50% of the weighting. TABLE 34.2. below compares these metrics with the Asia-Pacific institutions in CA's Highly Cited Researchers. Of ARWU's top 500 universities, seven Asia-Pac universities have scores for all three metrics and seventeen have scores for at least two which might be one factor in explaining why ARWU rankings are often lower than rankings from other organizations.

See Appendix 34.B for Times Higher Education top authors in selected fields and Table 34.3 which shows tops in world and US in selected fields.

**TABLE 34.2. Top Asia-Pac universities comparted to ARWU author – based metrics Including top 100 in the world and top 10 from Asia and 5 from Australia in each category**

| ARWU | | ARWU SCORES | | | | Clarivate |
|---|---|---|---|---|---|---|
| World Rank | University | HiCi Score | Awards Score | Alum Score | Country | HiCI Entries |
| | | | | | | |
| 39 | The University of Melbourne | 45 | 13.1 | 16.8 | AU | 20 |
| 55 | The University of Queensland | 40.8 | | 12.4 | AU | 15 |
| 151-200 | China Medical University | 37.8 | | | TW | 10 |
| 78 | Monash University | 37.8 | | | AU | 8 |
| 101-150 | Nanyang Technological University | 37.8 | | | SG | 14 |
| 48 | Tsinghua University | 37.8 | | 10.2 | CN | 15 |
| 101-150 | The University of Hong Kong | 34.5 | | | HK | 12 |
| | | | | | | |
| 91 | National University of Singapore | 32.7 | | | SG | 10 |
| 101-150 | Osaka University | 30.9 | | 8.8 | JP | 7 |
| 201-300 | City University of Hong Kong | 28.9 | | | HK | 6 |
| 91 | The University of Western Australia | 28.9 | 13.9 | 13.4 | AU | 7 |
| 24 | The University of Tokyo | 28.9 | 25 | 38.3 | JP | 7 |
| 83 | University of Sydney | 28.9 | | 14.4 | AU | 9 |
| 71 | Peking University | 26.7 | | 11.4 | CN | 13 |
| 101-150 | The University of Adelaide | 26.7 | | 14.4 | AU | 7 |
| | | | | | | |
| 101-150 | Zhejiang University | 26.7 | | | CN | 14 |
| 35 | Kyoto University | 24.4 | 36.7 | 31.3 | JP | 5 |
| 84 | Nagoya University | 18.9 | 25 | 28.7 | JP | 3 |
| 101-150 | Seoul National University | 18.9 | 18.9 | | KR | 3 |
| 97 | The Australian National University | 18.9 | 19 | 13.4 | AU | 6 |
| 151-200 | The Chinese University of Hong Kong | 18.9 | 13.9 | | HK | 2 |
| 151-200 | Hokkaido University | 10.9 | 16.1 | 11.4 | JP | 1 |
| 401-500 | Osaka City University | 10.9 | | 15.2 | JP | 1 |
| 401-500 | The University of Tokushima | 10.9 | | 13.4 | JP | 0 |
| 201-300 | The University of Auckland | 10.9 | | 13.4 | NZ | 3 |
| 301-400 | Victoria University of Wellington | 10.9 | | 11.4 | NZ | 1 |
| 151-200 | Tokyo Institute of Technology | | 29.4 | 12.4 | JP | 0 |
| | | | | | | |
| TOTAL | | 26 | 10 | 18 | | 25 |
| | | | | | | |
| 17 Asia-Pac institutions are either top 100 or have at least two metrics | | | | | | |
| Ten awards - Nobel prizes or Fields Medals in Mathematics institution at time of award | | | | | | |
| 12 Asia-Pac institutions are in the top 100; six have scores for all three metrics | | | | | | |
| Two only have a highly cited score | | | | | | |
| See Methodology for weightings based on years and multiple institutions or winners | | | | | | |