

Internationalization

i-index

The i number of co-author countries in more than i publications

For each publication by a given researcher/institution, derive the list of countries of the co-authors' institutions;

Remove duplicated countries;

Sum the number of instances per country across all publications;

Order countries by their sum;

Calculate i as the number of countries whose sum is higher or equal than their rank when ordered.



$$i * r$$

weighted i-index



Promote recognition of scientific partnerships

Incentivize collaboration and transfer of knowledge among countries

Promote the use of more inclusive metrics within Academic evaluations at personal and institutional levels

Representativeness

r-index

Overlap between an author's collaborative network and the expected network if co-authors were distributed independently of country GDP

Calculate the expected and observed distribution (in log octaves) of global GDPs per capita of all countries represented in a set of publications;

Remove duplicated countries within a single publication; count multiple time countries across publications;

Exclude the author's own country;

Standardize expected and observed distributions;

Calculate r as the sum of minimum values among expected and observed for each octave.

$$r = \sum_{k=1}^n \min(e_k, o_k)$$

