

# ResearchGate

A study evaluated the utilization of ResearchGate for neurosurgical research collaboration and compared the ResearchGate score with more classical bibliometrics. ResearchGate as a unifying social platform that can strengthen global research collaboration (e.g. data sharing) in the neurosurgery community.

Publicly available metrics on a total of 3718 neurosurgery clinical faculty and residents in Canada and United States was obtained from the American Association of Neurological Surgeons (AANS) website. The following metrics were collected: program name, clinician name, sex, attending (yes or no), resident (yes or no), post-graduate year (if resident), ResearchGate profile (yes or no). ResearchGate score and its components and h-index excluding self-citations were collected. Fellows were not included.

Of the 3718 total individuals included, 1338 (36.0%) were present on ResearchGate, comprised of 181 (13.5%) females and 1157 (86.5%) males. Females and males were present in similar proportions (33.8% of females and 36.3% of males)  $\chi^2$  (1, N=3718)=1.26,  $p = 0.26$ . A greater amount of faculty were present on ResearchGate than residents (62.4%)  $\chi^2$  (1, N=3718) = 11.42,  $p=0.001$ . A very strong, positive monotonic correlation between H-index and ResearchGate score was shown  $r_s$  (1292)= 0.93,  $p<0.0005$ . Over 400 international departments were determined.

ResearchGate may be a useful platform to increase neurosurgical networking and research collaboration. Its novel bibliometrics are strongly correlated to more classical ones <sup>1)</sup>.

ResearchGate provides an array of novel metrics such as the RG score, Research Interest score, and RG reads. However, the major criticism leveled at the alternative metrics and the sites that provide them has been the lack of transparency regarding the algorithms used to calculate the metrics, thus precluding reproducibility <sup>2) 3) 4)</sup>

<sup>1)</sup>

Joshi ND, Lieber B, Wong K, Al-Alam E, Agarwal N, Diaz V. Social Media in Neurosurgery: Utilizing ResearchGate. World Neurosurg. 2019 Apr 6. pii: S1878-8750(19)30998-2. doi: 10.1016/j.wneu.2019.04.007. [Epub ahead of print] PubMed PMID: 30965167.

<sup>2)</sup>

Graz University of Technology: a critical look at the ResearchGate score as a measure of scientific reputation. [ Jul; 2022 ];Kraker Kraker, P. P., & Lex, E E.

[http://ascw.know-center.tugraz.at/wp-content/uploads/2016/02/ASCW15\\_kraker-lex-a-critical-look-at-the-researchgate-score\\_v1-1.pdf](http://ascw.know-center.tugraz.at/wp-content/uploads/2016/02/ASCW15_kraker-lex-a-critical-look-at-the-researchgate-score_v1-1.pdf) Proceedings of. 2015 2015:7-9.

<sup>3)</sup>

Research Interest: another undisclosed (and redundant) algorithm by ResearchGate. Copiello S. Scientometrics. 2019;120:351-360.

<sup>4)</sup>

Scholarly reputation in the digital age and the role of emerging platforms and mechanisms. Jamali HR, Nicholas D, Herman E. Res Eval. 2015;25:37-49.

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