

## Profiling India's research impact in mathematics

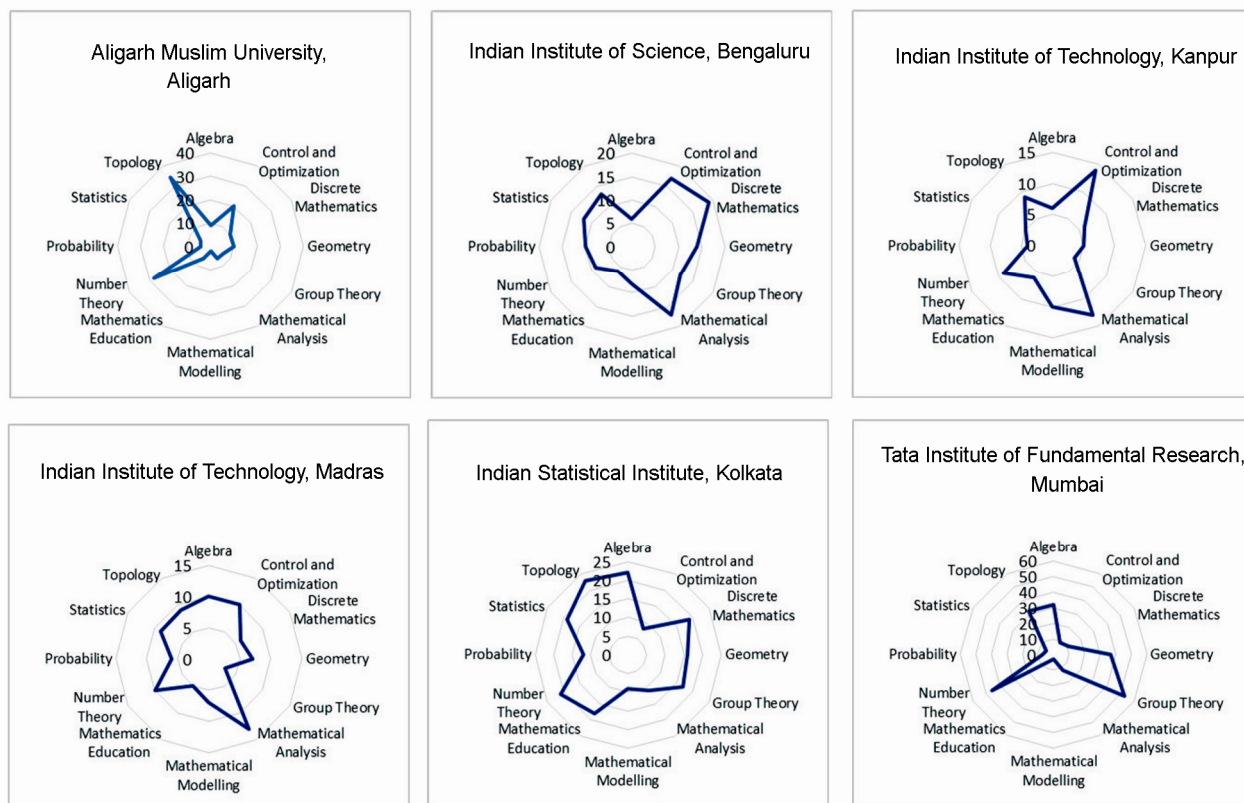
Uddin *et al.*<sup>1</sup> and Singh *et al.*<sup>2</sup> have developed a sciento-text framework to characterize the research strength of institutions at a fine-grained thematic area level. This was used to identify the top 100 institutions in India and the world in

computer science research. Most university ranking systems provide subject-wise or discipline-wise rankings, but do not enable fine-grained thematic mapping. This requires combining scientometric and text-analytic procedures.

The authors have now made the algorithm available in the public domain (<http://www.universityselectplus.com/#/home>) for thematic areas in three disciplines: chemistry, computer science and mathematics.

**Table 1.** Total papers normalized for 6 institutions in 12 thematic sub-areas

Total papers normalized	Indian institutions					
	AMU, Aligarh	IISc, Benglaurh	IIT Kanpur	IIT Madras	ISI, Kolkata	TIFR, Mumbai
12 Thematic Sub-areas						
Algebra	9	6	6	10	22	32
Control and optimization	20	17	14	10	8	9
Discrete mathematics	10	19	6	6	19	11
Geometry	10	14	5	7	16	37
Group theory	6	12	4	3	17	53
Mathematical analysis	6	17	13	13	11	12
Mathematical modelling	2	8	10	7	9	3
Mathematics education	6	6	6	5	18	5
Number theory	28	9	9	10	21	46
Probability	4	10	4	6	12	7
Statistics	5	12	5	9	19	5
Topology	34	13	9	9	23	32
All	11	14	10	10	16	20



**Figure 1.** Radar plots for the six Indian institutions for mathematics research from 2006 to 2015.

Here, we look at 12 thematic sub-areas of mathematics (Table 1). We take the 2006–2015 window of publication records in mathematics from the Web of Science. There are 479 institutions in the world which are represented here and only 6 institutions from India find a place (Table 1).

Table 1 also shows the total papers normalized indicator for these 6 Indian institutions in 12 thematic sub-areas. For example, in mathematics as a discipline, the Universite Paris Saclay Comue with 4123 papers during this period is given a

score of 100 and the Tata Institute of Fundamental Research, Mumbai with 841 papers earns a normalized score of 20. This normalized indicator is a more meaningful measure of relative performance as the total number of papers varies widely according to discipline and thematic area. Figure 1 shows the radar plots for the six Indian institutions in mathematics research from 2006 to 2015.

1. Uddin, A., Bhoosreddy, J., Marisha, and Singh, V. K., *Scientometrics*, 2016, **106**(3), 1135–1150.

2. Singh, V. K., Uddin, A. and Pinto, D., *Scientometrics*, 2015, **104**(2), 529–553.

GANGAN PRATHAP

*Vidya Academy of Science and Technology,  
Thrissur 680 501, India; and  
A P J Abdul Kalam Technological  
University,  
Thiruvananthapuram 695 016, India  
e-mail: gangan\_prathap@hotmail.com*

## Triple-blind review is the way to go

Authors submit a research article to a standard journal with a view that it will be properly reviewed and considered on merit. However, there are many cases where editors and reviewers have rejected papers totally based on bias. The roots of this problem are suggested to lie in editorial process, and thus double-blind review process was suggested, and subsequently adapted by many journals<sup>1–4</sup>. However, a new study conducted by the Nature Publishing Group (NPG) has exclusively demonstrated that most of the authors do not prefer double-blind review<sup>5</sup>. The study showed that only 12.5% of authors had chosen to be anonymous, and 87.5% of authors preferred the traditional review process. The study has further revealed that most of the authors who had chosen the option of double-blind review process were preferentially from developing countries (e.g. China, India, Korea), and especially researchers who were not affiliated to top-ranked institutions. It is interesting to note that researchers from top-ranked institutions and developed countries (e.g. Australia, Canada, France, Germany and the United States) preferred to stay with the traditional single-blind review process. This study open up the gates of research ethics and how bias can totally manipulate decisions made within the editorial process. What is the remedy for this? One possibility is to make double-blind review process, compulsory for all submissions.

However, will this actually change anything on ground? Hopefully not. This is because editors are also part of the problem, and therefore one has to devise a standard method where editors are also made accountable for the decisions they make on paper submissions. This leaves one with an option to adapt a triple-blind review process, where editors also are kept blind from the authors and vice-versa. This practice will make the entire review process transparent, and may possibly remove the unethical means that are still hidden within the editorial process (read below). This is important for the authors, and particularly for those coming from less privileged backgrounds. The editorial responsibilities ought to be thoroughly checked if one aims to make the publications process clear, transparent and of high standard.

One of my recent submissions to a standard journal clearly shows how an editor displayed utter disrespect for a decent scientific discourse based on merit. This is because when I submitted the paper, it was rejected after a few days. Here is what the editor wrote in his decision letter. ‘Thank you for submitting your paper to the journal. Now the editorial board has considered your paper and I regret to inform you that the publication is not supported. This decision does not have any implication about the quality of your study but based on the fact that your paper is highly focused in an area and

does not have broader implications.’ This is a classic case of bias by the concerned editor because my paper was not highly focused and had much broader implications. It therefore clearly shows that editor has not read the paper at all, which is unscientific, unethical and works against the editorial responsibilities. This must be a standard practice and proves the results of the recent survey, which has suggested that double-blind review process is exclusively preferred by authors from the developing nations and low-ranked institutions.

1. Editorial, *Nature Geosci.*, 2013, **6**, 413.
2. Editorial, *Nature Geosci.*, 2012, **5**, 585.
3. Moss-Racusin, C. A. et al., *Proc. Natl. Acad. Sci. USA*, 2012, **109**, 16474–16479.
4. Weller, A. C., *Ser. Rev.*, 1995, **21**(1), 53–65.
5. Elisa De Ranieril et al., In Eighth International Congress on Peer Review and Scientific Publications, Chicago, USA, 10–11 September 2017; <https://peerreviewcongress.org/program-information>

A. A. SHAH

*Physical and Geological Sciences  
Programme,  
Faculty of Science Universiti Brunei  
Darussalam,  
Brunei Darussalam, BE1410  
e-mail: afroz.shah@ubd.edu.bn*