

## Excellence mapping of research performance in India during the 2009–2013 window

Seventy unique institutions had published more than 500 papers during 2008–2012 in at least one major subject area<sup>1</sup>. Altogether there were 213 units of assessment (UoA) then, as some had reached this threshold in multiple subject

areas. Reference 1 sourced secondary material from a web application<sup>2–5</sup> which visualizes scientific excellence worldwide in 22 major subject areas using Scopus data collected for the SCImago Institutions Ranking<sup>6</sup>. Now, data for

2009–2013 have become available and there are 24 major subject areas.

The mapping for 2009–2013 covers scientific articles published during the publication period 2009–2013. Only those institutions (universities or

**Table 1.** List of 53 new units of assessment in the 2009–2013 window

Subject area	Institution 2009–2013
Agricultural and biological sciences	Aligarh Muslim University
Chemistry	Allahabad University
Computer science	Amrita University
Pharmacology, toxicology and pharmaceuticals	Andhra University
Earth and planetary sciences, environmental science	Anna University
Physics and astronomy	Annamalai University
Engineering	Birla Institute of Technology and Science
Materials science	Defence Research and Development Organization
Medicine	Government Medical College and Hospital, Chandigarh
Medicine	Govind Ballabh Pant Hospital
Veterinary	Guru Angad Dev Veterinary and Animal Sciences University
Chemistry	Guru Nanak Dev University
Veterinary	Indian Council of Agricultural Research
Computer science	Indian Institute of Engineering Science and Technology, Shibpur
Earth and planetary sciences	Indian Institute of Technology, Bombay
Environmental science	Indian Institute of Technology, Delhi
Chemical engineering	Indian Institute of Technology, Guwahati
Environmental science	Indian Institute of Technology, Kharagpur
Energy	Indian Institute of Technology, Madras
Chemical engineering, mathematics	Indian Institute of Technology, Roorkee
Physics and astronomy	Institute for Plasma Research
Agricultural and biological sciences	International Crops Research Institute for the Semi-Arid Tropics, India
Materials science	Jawaharlal Nehru Centre for Advanced Scientific Research
Engineering	Jawaharlal Nehru Technological University, Hyderabad
Biochemistry, genetics and molecular biology	Jawaharlal Nehru University
Medicine	L. V. Prasad Eye Institute
Medicine	Medical College and Hospital, Kolkata
Pharmacology, toxicology and pharmaceuticals	National Institute of Pharmaceutical Education and Research
Computer science, engineering	National Institute of Technology, Durgapur
Physics and astronomy	Panjab University
Biochemistry, genetics and molecular biology	Postgraduate Institute of Medical Education and Research
Physics and astronomy	Raman Research Institute
Computer science, engineering	Shanmugha Arts, Science, Technology and Research Academy
Engineering	Sri Ramaswamy Memorial University
Chemistry, physics and astronomy	Sri Venkateswara University
Veterinary	Tamil Nadu Veterinary and Animal Sciences University
Biochemistry, genetics and molecular biology	Tata Institute of Fundamental Research
Computer science	Tata Sons Ltd
Engineering	Thapar University
Materials science	UGC–DAE Consortium for Scientific Research, Indore
Mathematics, social sciences	University of Delhi
Materials science, physics and astronomy	University of Mysore
Chemistry	University of Pune
Physics and astronomy	Visva-Bharati University
Biochemistry, genetics and molecular biology, physics and astronomy	VIT University

## CORRESPONDENCE

**Table 2.** List of 23 new institutions in the 2009–2013 window

Subject area	Institution 2009–2013
Chemistry	Allahabad University
Computer science	Amrita University
Pharmacology, toxicology and pharmaceuticals	Andhra University
Engineering	Birla Institute of Technology and Science
Medicine	Government Medical College and Hospital, Chandigarh
Medicine	Govind Ballabh Pant Hospital
Veterinary	Guru Angad Dev Veterinary and Animal Sciences University
Chemistry	Guru Nanak Dev University
Physics and astronomy	Institute for Plasma Research
Agricultural and biological sciences	International Crops Research Institute for the Semi-Arid Tropics, India
Engineering	Jawaharlal Nehru Technological University, Hyderabad
Biochemistry, genetics and molecular biology	Jawaharlal Nehru University
Medicine	L. V. Prasad Eye Institute
Medicine	Medical College and Hospital, Kolkata
Pharmacology, toxicology and pharmaceuticals	National Institute of Pharmaceutical Education and Research
Computer science, engineering	National Institute of Technology, Durgapur
Physics and astronomy	Raman Research Institute
Computer science, engineering	Shanmugha Arts, Science, Technology and Research Academy
Engineering	Sri Ramaswamy Memorial University
Chemistry, physics and astronomy	Sri Venkateswara University
Veterinary	Tamil Nadu Veterinary and Animal Sciences University
Engineering	Thapar University
Physics and astronomy	Visva-Bharati University

research-focused institutes) that have published at least 500 articles, reviews and conference papers in each category within the publication period are covered. Also, only subject categories where globally at least 50 institutions are found meeting this criterion are included in the web application. This year, veterinary science is one of the areas included where three institutions from India have been counted. The full counting method was used to attribute papers from the Scopus database to institutions: if an institution appears in the affiliation field of a paper, it is fully attributed to this institution (with a weight of 1).

In the year 2016, 93 unique entries were good enough to make the cut, i.e. have published more than 500 papers in the respective areas during 2009 to 2013. Compared with 70 papers from last year for the 2008 to 2012 window, this is a remarkable jump of 32.9%. Table 1 shows the list of 53 UoAs that have registered their presence for the first time in a major subject area. Altogether, these 93 institutions cover 266 UoAs, compared to 213 earlier, again, a quantum jump of 24.9%. Most of these are newcomers rising just about the threshold of 500 papers

in the five-year period in a UoA. Table 2 shows 23 new higher educational and research-focused institutions that have appeared newly in the 2009–2013 list. The full list is available with the author.

Compared to the seven institutions last year, eight have a pan-India presence now; the new kid on the block is the National Institute of Pharmaceutical Education and Research. Eighty-five institutions are located state-wise compared to 63 last year. Some states are well represented, e.g., Tamil Nadu with 14, West Bengal with 11, etc. Six states have only one institution each, usually a premier centrally funded institution. That leaves 17 states and union territories that have no presence as far as such institutions are concerned. This forms a large swathe of India – Bihar, Jharkhand, Chhattisgarh, and the entire North East with the exception of Assam.

The excellence mapping database<sup>2–5</sup> allows us to see how Indian universities and research-focused institutions fare in the world of high-end research. In the present exercise we have looked at the progress from the 2008–2012 to 2009–2013 windows. Research is concentrated in a few states, and there is little or no

presence in majority of the states. We see that a large swathe of India – Bihar, Jharkhand, Chhattisgarh, and the entire North East with the exception of Assam – does not have a single premier institution.

1. Prathap, G., *Curr. Sci.*, 2016, **111**(3), 470–474.
2. [http://www.excellencemapping.net/#/view/measure/top10/calculation/a\\_ohne\\_kovari-able/field/materials-science/significant/false/org/](http://www.excellencemapping.net/#/view/measure/top10/calculation/a_ohne_kovari-able/field/materials-science/significant/false/org/)
3. Bornmann, L., Stefaner, M., de Moya Anegón, F. and Mutz, R., *Online Inf. Rev.*, 2014, **38**(1), 43–58.
4. Bornmann, L., Stefaner, M., de Moya Anegón, F. and Mutz, R., *J. Informetr.*, 2014, **8**(3), 581–593.
5. Bornmann, L., Stefaner, M., de Moya Anegón, F. and Mutz, R., *COLLNET J. Scientometr. Inf. Manage.*, 2015, **9**(1), 61–68.
6. <http://www.scimagoir.com/>

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