

News from here and there

Indian medical researchers feature among the top 2% of world's scientists

John Ioannidis, a researcher at Stanford University, California, USA, and colleagues have published an updated list of scientists and researchers across various disciplines of science. There are 23 fields and 176 subfields, which include diverse subjects such as acoustics, mathematics, virology and zoology. The paper was published on 16 October 2020 in *PLOS Biology* (*Updated science-wide author databases of standardized citation indicators*, [plos.org](https://doi.org/10.1371/journal.pbio.3000918); <https://doi.org/10.1371/journal.pbio.3000918>) and tabulated the data based on search findings from Scopus with at least five publications per author, based on the composite c-indicator. The list included the best scientists across fields and/or the top 2% per subfield of researchers (total of 159 683 scientists), the composite index was based on logarithmic scores of six factors, namely total citations, Hirsch index (maximum value of h such that the given author has published at least h papers that have each been cited at least h number of times), Schreiber Hm index (a modification of H-index to consider multiple co-authorships by fractionalized counting of the papers to yield an appropriate score), total citations as single author, total citations as single or first author, total citations as single, first or last author.

In the list are 1492 Indians, across various disciplines of science and technology. In the field of medicine, the names include Drs Rengaswamy Sankaranarayanan of the WHO-International Agency for Research on his research on cancer screening and epidemiology, Shiv Kumar Sarin (Institute for Liver and Biliary Sciences, New Delhi) in gastroenterology and hepatology, Gullapalli Rao (LV Prasad Eye Hospital, Hyderabad) in ophthalmology, Chittaranjan Andrade (National Institute of Mental Health and Neurosciences, Bengaluru) in psychiatry, Vivekananda Jha (George Institute of Global Health, India) in the field of nephrology, Late M.K. Bhan (All India Institute of Medical Sciences, New Delhi) for rotavirus research and V.K. Paul (All India Institute of Medical Sciences, New Delhi and presently member, NITI Aayog, Government of India and ex-Chair, National Medical Council, India) for his contributions to neonatology. Drs Urmila Thatte and Nithya Gogtay, pharmacologists from Seth GS Medical College/King Edward Memorial Hospital, Mumbai, are also in the list.

At least three researchers in the list are closely associated with *The National Medical Journal of India*. These are Drs Rakesh Aggarwal (Jawaharlal Institute for Postgraduate Medical Education and Research, Puducherry) for his research on hepatitis, C.S. Yagnik (Diabetology, Pune) and K. Srinath Reddy (Public Health Foundation of India, New Delhi) for cardiology. Dr Reddy was editor of this *Journal* from 1997 to 2005.

The updated list for 2019 also includes the surgeons Shailesh V. Shrikhande (Tata Memorial Hospital, Mumbai) for his work in the field of pancreatic surgery and Pankaj Chaturvedi (Tata Memorial Hospital, Mumbai) for his work in the field of oral cancer and its prevention and for tobacco control. According to Dr Manish Mair, Consultant ENT and Maxillofacial Surgery at the University of Leicester NHS Trust Hospital, United

Kingdom, 'It is important to not only target more publications but rather improve the quality of research and literature published, to yield a meaningful impact in individual fields. He also stressed upon the importance of empowerment, delegation and integrity to increase research output.'

Any such compilation is likely to have some errors and this list is no exception. Dr Vivekanand Jha's affiliation has been stated as Manipal Academy of Health Education, which is his secondary affiliation. Similarly, Dr Viroj Wiwanitkit who hails from Thailand has been affiliated to Dr DY Patil Deemed University, Pune (which is his secondary affiliation). Mumbai-based neurosurgeon Dr Atul Goel's first publication, according to the list, is in 1951, which is before he was born! Dr Sanjeev Sharma of the ICAR-Central Potato Research Institute, Shimla is in the list for his contributions to cardiovascular system and haematology—and the subfield of plant biology and botany! Dr Ranjit Chandra (of Indian origin, but based in Canada for many years) figures in the list for his work in nutritional immunology—though he has been under a cloud for many years now for research misconduct and has had to retract some of his papers.

The important issue highlighted in this landmark and extensive metadata-based paper was the need to identify quality publications, critically view self-citations by various scientists and address the growing problem of influencing citations by researchers. Some Indian doctors and clinical researchers have indeed made a mark internationally in the past decade. Moreover, Indian doctors are at the forefront in the battle against the ongoing Covid-19 pandemic, with use of cost-effective methods, to tailoring best treatments to global collaborative trials and vaccine development. This re-emphasizes the need for a scientific approach to modern medicine by generating more practice-changing and evidence-based clinical research in the field of medicine.

The complete list of the scientists can be found on www.shorturl.at/qHIJ4. The list of Indian scientists and their subjects can be accessed at <https://tech-talk.org/2020/11/09/indian-researchers-who-are-in-top-2-in-their-fields-stanford-study>

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Global leaders group on antimicrobial resistance

On 20 November 2020, the heads of the WHO, the Food and Agriculture Organization of the United Nations (FAO), and the World Organisation for Animal Health (OIE) launched a high-level global leaders group to fight the ever-worsening catastrophe of antimicrobial resistance (AMR). It was formed based on the recommendations of an Interagency Coordination Group (IACG) on Antimicrobial Resistance and supported by António Guterres, the United Nations Secretary-General.

The One Health Global Leaders Group on Antimicrobial Resistance will provide the much needed stimulus for combating

AMR in humans, animals and agriculture, and guarantee the accessibility of important medicines for future use.

The co-chairs of the 20-member group are Sheikh Hasina Wazed (Prime Minister of Bangladesh), and Mia Mottley (Prime Minister of Barbados). Ministers from Australia, Bhutan, Iraq, Saudi Arabia, Singapore, Sweden, and leaders from civil society, academia and the private sector are members. Ms Sunita Narain, Director-General, Centre for Science and Environment, India, is also one of the members.

During the virtual launch of the group, the WHO Director-General, Dr Tedros Adhanom Ghebreyesus warned that while AMR may not appear to be as urgent as a pandemic, it is equally perilous. A century of medical progress will be unwound and we would be left defenceless against infections that, at present, can be treated easily. The Director-General of FAO, Dr Q.U. Dongyu stated that the problem of AMR cannot be solved by a single sector. The threat must be addressed with collective action across country borders and economic sectors. The Director-General of OIE, Dr Monique Eloit stated that AMR affected the health of humans and animals, and the environment. The group should be a powerful advocate and bring about legislation and mobilise stakeholders so that there is a change in the use of antimicrobials.

The rapid rise of AMR is a global threat to human, plant, animal and environmental health. It imperils food security, economic development, international trade, and undermines progress towards the Sustainable Development Goals (SDGs). The 17 SDGs aim to achieve a better and more sustainable future for all humankind. Here global challenges such as poverty, hunger, inequality, climate change and environmental degradation are addressed.

AMR occurs when microbial pathogens—bacterial, fungal, parasitic or viral—do not respond to specific antimicrobial agents. This makes infections caused by these pathogens increasingly difficult (or impossible) to treat, and, in turn, escalates spread of disease, severe illness and death.

Of particular alarm is the worldwide spread of multi- and pan-resistant pathogens (so-called ‘superbugs’). They cause infections that are not treatable with currently available antimicrobials. A partial list of these superbugs include carbapenems-resistant *Acinetobacter*, *Candida auris*, *Clostridioides difficile*, drug-resistant *Neisseria gonorrhoeae*, drug-resistant *Mycobacterium tuberculosis*, methicillin-resistant *Staphylococcus aureus*, and vancomycin-resistant *Enterococci*.

Thus, common bacterial infections, including sexually transmitted infections, urinary tract infections, sepsis and some types of diarrhoea are difficult to treat. For example, in most countries the last resort for empirically treating gonorrhoea are the injectable extended-spectrum cephalosporins because *N. gonorrhoeae* are now resistant to penicillins, tetracyclines, sulphonamides, macrolides, fluoroquinolones, and the early generation cephalosporins.

Another crucial fact is that there are very few new antimicrobials on the horizon. Since 2017, only 11 new antibacterial drugs have been approved. Of these, nine are from the existing classes of antibiotics wherein well-established resistance mechanisms already exist and rapid emergence of

resistance is to be expected. Only 43 antibiotics with a new therapeutic entity are in phases 1–3 of the clinical pipeline.

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India and South Africa propose Covid-19 patents ban

A Covid-19 patent waiver proposal has been proposed by India and South Africa to the World Trade Organization (WTO). The proposal was presented to the WTO’s Trade-Related Aspects of Intellectual Property (TRIPS) Council on 16 October 2020, and deliberated anew at a council meeting on 20 November 2020.

The co-sponsors seek that intellectual property (IP) rights related to the ongoing Covid-19 pandemic be suspended. They argued that a waiver would guarantee the availability of vaccines, medicines, diagnostics and other new technologies, which is urgently required for pandemic control. This proposal has been supported by many low- and middle-income countries (LMICs). Not unexpectedly, many high-income countries (HICs), including the USA, the UK, the European Union, Canada and Norway, along with the pharmaceutical industry have rejected the proposal outright, arguing that such a step will strangle innovation.

Doctors Without Borders/Médecins Sans Frontières (MSF), the international medical humanitarian organization has added that if the proposal were approved, it would be a major turning point in the global response to the pandemic. The needs of society must be placed before the profits of pharmaceutical companies.

The proponents of the waiver argue that without special measures in place, nations with limited economic resources would continue to be shattered by the pandemic, whereas the rich nations would be the first ones to benefit as soon as new technologies hit the market. With a temporary ban, generic and biosimilar manufacturers will be able to immediately produce affordable versions of drugs, vaccines and diagnostics, without having to wait for long periods of time for patents to expire.

The co-sponsors of the proposal state that timely and impartial access to Covid-19 products via the COVAX initiative was inadequate. While the aim of COVAX is to procure 2 million doses of vaccines to be shared equally between LMICs and HICs, presently only 700 000 vaccine doses have been reserved. Bilateral deals between pharmaceutical companies and HICs have ensured that the latter, with a population of around 1.2 billion, have already reserved 6 billion doses. On the other hand, not a single bilateral vaccine deal has been signed by LMICs. Their combined population is 1.7 billion.

A consensus in the TRIPS Council appears unlikely considering the entrenched positions of the opposing parties. While a vote is possible, it has never happened before. Therefore, this issue may be escalated to the WTO General Council for a more expansive debate. It is time that the IP system is reformed. After all, the Covid-19 pandemic will not be the only pandemic that humanity will face.

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