UGC notification on journal lists to calculate API scores

The University Grants Commission (UGC), New Delhi has announced that it will notify the names of journals to be considered for the calculation of API scores for Appendix-III of its Regulations[1]. Accordingly, the universities concerned shall identify the subject-wise journals through Subject Expert Committees and forward the recommendations to UGC in the prescribed format[2]. The UGC Standing Committee will subsequently scrutinize and notify the list, which will be applicable to all universities. In other words UGC has *suo moto* assumed the responsibility of certifying the quality of journals.

We consider the whole exercise unproductive as preparing such lists is time-consuming, which will unnecessarily delay the recruitment process A heftly prepared list will be un-exhaustive, bias and full of repetition that will aggravate the problem further. The reasons are apparent – publication of journals is a dynamic and continuous process; each year new journals are added and a few old ones may be either omitted and/or renamed. The timely updating of lists and subsequent approval will be tedious. No national or international database contains all journals; in fact, each has its own limitations. Modern research is more interdisciplinary in nature. Chances are quite high, especially in non-science disciplines, that lists prepared by various departments of universities may miss the interdisciplinary journals, which are of high quality. Therefore, applicants having papers in these journals are likely at a disadvantage.

Our experience with the API system suggests that UGC rules often lack clarity, allowing individual institutions to have their own interpretations. We explain our point with two examples. First, awarding of marks amongst authors of an augmented augmented value of 20 marks has publication[1]. Suppose a paper with total augmented value of 20 has been written by 2 lead authors (according to guidelines, both qualify for 70% of the total augmented value of the paper) and 2 satellite authors (30% of the total augmented value). Majority of universities award 70% of augmented value (i.e. 14 marks) to each of the lead authors, while the remaining (satellite authors) will have six marks each. Surprisingly, certain universities have their own way of interpreting this; rather than sharing, they divide the augmented values amongst the authors. Therefore, in the above example, lead authors will get seven marks each, while satellite authors will get three marks each. In this case also, the lack of clarity will allow universities to interpret the rules in their own ways. Also, what will happen to publications in journals that have not been enlisted?

Secondly, there are many old, good quality journals published by prestigious academic bodies with old volumes/issues not having ISSN numbers (we strongly believe that ISSN number does not reflect the quality of work published in a journal), which were received subsequently. Thus applicants with publications in such old volumes (without ISSN numbers) are also at a disadvantage.

Therefore, the attempt by UGC to enlist journals is likely to meet limited success. Nevertheless, certain steps need to be taken to minimize the damage arising out of the UGC directive. For example, a publisher-wise list should be prepared alongside and approved. The Screening Committee must be empowered to decide on the quality of journals, not arbitrarily, rather based on clear and verifiable criteria documented in the report of the committee. Academies such as the National Academy of Agricultural Sciences, India prepare their own list of journals. Similar ratings developed by relevant national (management, commerce, social science, etc.) academies/international rating agencies should be accepted as such. Though controversial, in science and other disciplines where a large number of impact factor journals are available, only these must be accepted. However, non-impact factor journals listed in ratings prepared by the national science academies should be treated as indexed and marks should be awarded accordingly. In case of journals that previously did not have ISSN number, the subsequent new ISSN number allotted must be accepted for old issues. Lists prepared subject-wise must be mutually inclusive; journals figuring in any list must be taken into account, and marks should be awarded accordingly.

1. UGC, Minimum qualifications for appointment of teachers and other academic staff in universities and colleges and measures for the maintenance of standards in higher education, 4th Amendment, Regulations, 2016.
2. UGC, DO No. F. 1-112016 (Secy) dated 8 August 2016.

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Obligations behind quantum internet dream

Quantum internet is envisaged to fulfil the long-cherished dream of teleportation of quantum information (qubits) be it locally, globally or in intergalactic regions[1]. However, the problem behind achieving this goal lies in the current approaches of research and infrastructural implications around the world.

A few actions are necessary to fulfil this dream in the near future. First, from the perspective of both computer and electrical science, it is of utmost importance to acquire knowledge and techniques to build an innovative qubits storage device (i.e. solid-state quantum memory) and processing nodes, where appropriate shielding mechanisms may be incorporated to eliminate unwanted and noisy interactions with the environment. Secondly, interdisciplinary approaches should be previewed for efficient development of an interface between quantum memory and quantum processors to entangle with the qubits for

system-on-chip (SoC) communication, at least at the nanometre scale.

Thirdly, satellite-based experiments for holding continuous-variable teleportation using polarized qubits and optical fibre may be extensively performed, as satellites may act as the backbone of the system.

Lastly, the most important factor, i.e., funding will be much needed to pursue cutting-edge research in this domain. Private corporations can help in this regard by releasing large amounts of money. Government agencies should also universities and research organizations while drafting new policies and regulations to ignite smart minds to commercialize the related futuristic developments as soon as possible[2,3].

1. Pirandola, S. and Braunstein, S. L., *Nature*, 2016, **532**, 169–171; doi:10.1038/532169a
2. Ray, P. P., *J. Comput. Networks Commun.*, 2016, **2016**; doi:10.1155/2016/1579460.
3. Ray, P. P., *Curr. Sci.*, 2016, **111**(12), 1903–1905.

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Captive wind power for transfer of water across the Western Ghats, India

Conversion of the kinetic energy of blowing wind into electric energy, employing wind turbines of modern design that use electronic controls for the production of steady AC power, is now well-established for utilizing a free, eco-friendly resource. Much information regarding the methods is available on the Internet[1]. The possibility of employing captive wind power-generating systems for pumping freshwater from the western side of the Western Ghats, India, currently largely wasted into the Arabian Sea, in order to increase the water availability on the eastern side, needs to be seriously considered. The proposal, primarily based on the assumption that significant quantities of water available during the monsoon months can be pumped across by wind-power, assisted by power supply grid if needed, offers many advantages over many recently considered ones. The latter involve building multiple dams for river diversion, high-energy consuming multistage pumping of water to the required elevation, presumably using power generated by using fossil fuels, tunnelling for transfer of water, etc. (Look up 'Yettinahole Project Report' on the Internet using any search engine.)

The points enumerated below need to be taken collectively:

(1) Variations in the amount of power generated caused by changes in wind velocity can be smoothed out by an interconnected grid.

(2) The proposal is inherently modular. If an initially executed pilot project is found successful, its elements can be copied for extension or execution elsewhere. Here 'elements', includes units like wind-power generators and associated installation, electrical transmission equipment, pumping units, piping, etc. which can be added to or removed independently, as required.

(3) The wind farms must be located out in the sea on anchored down-floating platforms, or on platforms mounted on pillars modelled like offshore rigs that pump oil.

(4) Large-capacity pumps can be located in estuaries of rivers just before the water turns briny. High-horsepower motors can pump water to high elevations and, if necessary, booster pumping stations can be located at the heads of seaward-opening valleys. (Google Maps would be of assistance in the initial consideration of locations.)

(5) Low-elevation saddle points on mountainous regions must be identified for installing piping for conveying water in order to not only cause least damage to the delicate ecosystems, but also avoid tunnelling as far as possible. (Google Maps would be of assistance in the initial consideration of locations.) There is the precedence of piping gas to the eastern interiors from terminals in the receiving harbours on the western coast.

(6) There are many places world over that use salt water and biological barriers for diverse purposes. The methods developed for erecting these barriers can be adopted to protect the take-up inlets. (Google Maps would be of assistance in the initial consideration of locations.)

(7) The local population can have no grounds to object to freshwater being pumped away just before it enters the sea.

(8) Best practice could be to lay large diameter water piping, electrical transmission lines, etc. underground so that the aesthetics of the seashore is not allowed to get deteriorate beyond a point.

(9) There is much potential for training and employing maintenance personnel.

(10) A study on the feasibility of making freshwater available in the scarce regions should be the paramount consideration. Hydraulic, electrical and civil engineers, environmentalists, cost-accountants, etc. need to work together for arriving at all the details of the projects.

(11) The proposals would be practical and financially feasible, if funded and operated perhaps by public–private partnership. An example is the Konkan Railway. Assistance from international financial institutions can also be sought.

(12) Creating additional capacity on the eastern side may become necessary for storing when availability of fresh water increases.

The present proposal is intended to create interest in using captive wind power for transferring freshwater where it is much needed for serving a public purpose, meeting a dire need. Detailed project studies can be undertaken once such interest is created.

1. http://www.mpoweruk.com/wind_power.htm (last viewed on 9 January 2017).

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