

recommend. These typically include the doctoral programme supervisor and superiors at the previous place of work. As far as my Ph D supervisor is concerned, he left this world a year after completion of my Ph D and that was a decade ago. The same can be said with regard to one of my post-doctoral mentors.

Bosses at the most recent place of work are also mortal and as I learnt, the hard way, mobile as well, in the sense that one of my superiors at my previous place of work, although his name appeared in the organization website, moved over to greener pastures. And as the institute to which I was applying asked for more than five referees, I happened to mention this person without realizing that he has moved over. For any organization, on an average, the selection procedures, which involve contacting the referees, if need be, is completed within six months. In the present times, when anything can happen in 24 h, six months is like an aeon. While the superiors, at work place, may inform the employers about their mobility, they may not do so to their inferiors.

*Impact factors.* Recently, the University Grants Commission (UGC) came up with an interesting academic performance index (API), both for the faculty and prospective applicants. While this effort of UGC is highly appreciated, this scheme of API still seems to be in its infancy and needs a thorough polishing. One aspect of this API is that it gives points to every journal publication of the concerned candidate. One variant of this API augments the points based on the impact factors (IF) of the journals

wherein the candidate has published. A simple search in *Google* reveals that multiple versions of IF are in circulation – the popular *Science Citation Index (SCI)*, *Journal Impact Factors (JIF)* and *Global Impact Factors (GIF)*, to name a few. Whether all these are taken into account by the concerned authorities is not clear. This is important because the journal that does not appear in one appears in the other. Additionally, the IF of journals can either increase or decrease. Therefore, UGC should clarify as to which IF should be mentioned – IF of the year in which the paper/article was published or the latest. Furthermore, for some journals, there is the five-year IF which is different from the IF of the most recent year. Additionally, some publications might have been done when the concept of IF did not enter the popular academic domain.

*Conference presentations.* Many-a-time, a conference participation certificate is issued even when the participant has made a (poster) presentation. When, in the rare cases, it is indicated in the certificate that a presentation has been made, the title of the presentation is rarely indicated. These things complicate the already confused applicant as to whether a claim can be made with regard to conference presentation.

*Research guidance.* By default, lacunae exist in the API scheme with regard to research guidance. It does not include undergraduate project guidance. Because project work is mandatory for programmes like B Tech, this is one significant aspect wherein academics that have put up experience in teaching engineer-

ing graduates are done injustice. Only recently, the All India Council for Technical Education (AICTE) has included in its website a 'project factory'. However, UGC is yet to rise to the occasion.

Complicating this scenario is recognition of courses by UGC. Some degree and research programmes of recognized universities are not recognized. While the students in such programmes are eligible to approach the consumer forum, no clear guidelines exist for the affected faculty. Universities take students into such programmes thinking positive that in due course recognition will be granted. It may be noted that in such unrecognized research programmes, both the faculty and the student put in the same amount of effort as the faculty and students of recognized research programmes. This includes efforts put towards review of literature, drafting manuscripts, designing and execution of experiments, making presentations, writing synopsis and thesis. When faculty of such tainted programmes claim students under research guidance in applications, no credit is given to the applicant by the evaluators as the research programme is not recognized and injustice prevails.

1. Jug Suraiya, In *The Best of Speaking Tree*, Bennett, Coleman & Co Ltd., New Delhi, 2007, vol. 4, pp. 161–162.

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## Impact of M Sc Biotechnology programme supported by DBT on research and teaching of modern biology in India

The Department of Biotechnology (DBT), Govt of India supports the M Sc Biotechnology programme across different Universities and institutes in India. Although it may not have made a visible impact on the job prospects of Masters degree holders has certainly made significant impact on advancing biological research and teaching in the country.

The discovery of DNA double helix structure in 1953 not only laid the foun-

dation for modern biology, but also revolutionized the perception of biological science. One aspect of the unprecedented progress and the addition of 'new knowledge' in biology can be well appreciated by assessing the accumulation of the huge quanta of genomic sequences, within the last two decades.

In India, the much needed revolution in biology education started in the later part of 1980s with the introduction of the

M Sc Biotechnology programme by DBT, which resulted in several distinct impacts on biology education and research:

- It attracted many young talented science graduates to take up this modern biology course. It is pertinent to note that the first venture that introduced the concept of biology as an interdisciplinary science, managing to draw graduates from mathematics,

physics and chemistry, into its fold.

- The master degree course in different universities opened new avenues for the well-trained Ph D graduates from the country and abroad to join the Biotechnology departments to teach the modern concepts in biology and also pursue cutting edge research. It may also be inferred that the M Sc Biotechnology teaching programme was instrumental in stemming 'brain-drain' and was responsible for creating the space for influx of the well-trained Indian minds back to India.
- M Sc Biotechnology qualified students, exposed to the modern biology concepts could contribute well to the cutting edge research in biology. They cater to emerging requirement of eligible students to pursue science

in prestigious institutions such as NCBS, IISc, ICGEB, CCMB, CDFD, NII, IGIB, IMTECH, NIPGR, etc.

- The students getting admitted to the M Sc Biotechnology programme under different universities are selected through the national level combine entrance examination (CEEB) conducted by JNU, New Delhi. Therefore students from different parts of the country get an opportunity to interact with the different Biotechnology departments in Universities, adding a multicultural flavour in the process.
- Of late the funding scenario in carrying out modern biology research has been greatly augmented owing to incessant efforts from different scientists and favourable Government policies. Well-qualified scientists

recruited in Biotechnology departments in various universities have given avenues for proper utilization of these funds.

Thus the M Sc Biotechnology programme supported by DBT has made a tremendous contribution to the development of modern biology and has revolutionized biology education and research in India.

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## Oil pollution in Chilika lagoon

The authors<sup>1</sup> have claimed that they have analysed the petroleum hydrocarbon concentration (PHC) of the water samples collected at four sites representing four sectors of the Chilika lagoon. The mean concentration values given for the lake water are quite high and more than the values reported for Visakhapatnam and Chennai harbour. A state government organization, i.e. Chilika Development Authority (CDA) is responsible for monitoring the lake and it claims that the lagoon is free from any major threat of pollution. Environmentalists who have studied the lake would agree that the lake is still maintaining its pristine environment except for a few inherent and natural problems of sedimentation. I am surprised to see that the journal has responded the above said scientific correspondence on 29 July 2013 and the revised version has been accepted on 3 January 2014; however, it is amusing to find that 'three samples from each sector were collected during September 2013, analysed for PHC and averages were considered as the representing concentrations for each sector'. How it could be possible for the authors to collect the samples, analyse and include a vital information in a post-date of communication of the paper. The data presented will

mislead and create unnecessary anxiety among the scientific community. This result has a bigger economical implication for the fishermen community of the area as the fishery product of the lake is popular in the local market and some of the important crustaceans species are exported worldwide.

1. Baliarsingh, S. K. *et al.*, *Curr. Sci.*, 2014, **106**(4), 516–517.

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### Reply:

The paper was submitted to the journal on 29 July 2013. Reviewers suggested to analyse water samples for measurement of oil pollution in the lagoon and suggested resubmission after incorporating the results of the analysis. After the receipt of the comments, we initiated

collection of water sample for analysis of PHC. We collected three samples from representative location of each sector of the lagoon on 2 September 2013. Subsequently, the samples were analysed at NIO-RC, Visakhapatnam. After incorporating the results in response to reviewer's comments, the revised manuscript was submitted to the journal on 5 October 2013. Doing additional work and providing new data required in the revised version is perfectly in order in scientific publishing. Comments on the revised manuscript were received and we further revised the manuscript and submitted the revised paper on 10 December 2013. The manuscript was accepted by the journal on 3 January 2014. Thus, the manuscript has undergone several rounds of revision before publication.

Our objective behind getting this result published was to bring the problem of pollution to the attention of environmentalists and the responsible authorities, so that detailed studies can be undertaken and remedial measures implemented.

It appears that, Mishra is not updated about the ongoing natural and manmade threats to Chilika<sup>1</sup>. His statement that the Chilika is free from human-induced pollution is not correct. For example, a report on plastic pollution in Chilika was