

Recognition of merit

In recognizing academic merit of a scientist for an award/prize/honour, howsoever objective the method may be, one cannot claim not to have left out a deserving case for consideration. Do all of us who matter for recognizing merit have the requisite knowledge about the work being done in all the active fields of even one discipline? Obviously one/two active fields and their top workers are certain to be left out. Therefore a mechanism should be devised to invite nominations so as to cover all the active fields of research in any discipline for consideration of merit and for awards/rewards/prizes, etc.

Apart from this, some of us have our own convictions/prejudices for a particular field being not of utility, not of promise or of being out of fashion. Secondly a few senior scientists develop a notion that good/complete work cannot be done without the aid of big expensive instruments. The quality of work does not depend on the area of research, nor does it depend on the methodology, so long as the results are reproducible, credible, comprehensive and informative. It would be unfortunate if such work and workers fail to receive the attention of the scientists for consideration of merit.

One way to bring credibility to the process of recognition, is to give recognition to as many areas as possible in a particular discipline to make healthy scientific impact on research in the country. This would create a spirit of competition in all the fields simultaneously and together in a discipline. For example, if recognition is made in theoretical chem-

istry (a branch of physical chemistry) continuously for two/three years, it would not do good to theoretical chemistry itself since very little work is being done in this area in the country. What impact will the recognition have on the scientific community in general in the country? This is equally true of physics, earth sciences, zoology and other disciplines. Therefore for all-round development of physical chemistry or chemistry or any discipline in the country, recognition has to be made by rotation in all the active fields of the discipline. Rotation of an area for recognition is not unacademic, yet it can be adopted as a guide to do justice to any discipline as a whole. Also we cannot compare the usefulness and relevance of various areas in physical chemistry and much less in chemistry as a whole and the same thing can be said of any scientific discipline. Therefore area of research should not matter for the recognition of merit of a scientist.

Impact factor of publications has been over-emphasized in recognizing the academic merit of a person. Impact factor has its own importance and merit, but it does not necessarily reflect the academic merit or scholarship, which is based on ingenuity, precision, critical analysis, thoroughness and depth of knowledge. The most objective method for comparing the academic merit may be the number of publications of the person concerned in the top category of journals of the world. It may not be difficult to categorize the journals of the world in three/four classes for this purpose. In chemis-

try there will be no two opinions to place journals of American Chemical Society (ACS) and those of Chemical Society (CS) of London along with a few others in the top category. Anyone possessing a publication of about twenty-five papers in the journals of ACS and of about forty in the journals of CS, cannot be ignored for getting recognition but this does happen in the country. One of my friends with such merit has escaped the attention of any committee for an award, prize or honour on a national level under the present process of recognition.

In conclusion probably the most objective procedure of recognition of scientific merit is,

- (1) to consider one or two top names in each active area of a discipline on the basis of knowledge and information,
- (2) to assess relative merit of these workers on the basis of their publications in the top category of journals and shortlist them,
- (3) to shortlist them further giving marginal preference to those areas not recognized in the past, and then
- (4) to finalize the name of person deserving recognition on the basis of discussion.

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Admission to Ph D

A sincere student, who has the intention of becoming a good researcher, has to face several unnecessary situations at present. Generally, in our country the academic pathway for Ph D is first an undergraduate degree, then a master's degree. For each of these transitions, the student has to write an entrance examination. This procedure is good, but sometimes, a student, even well prepared for the entrance examination and having good knowledge of

the concerned subject, is unable to perform this transition either from bachelor's to master's degree or from master's degree to doctoral degree due to hurdles in the admission procedure. In several institutes of our country, a part of admission to master's degree or doctoral degree is not based on the knowledge of the student. Admissions are granted in two categories: (i) 'General category' and (ii) 'Reservation category' (Scheduled caste,

Scheduled tribe, Physically handicapped, etc.). The institutes prepare rank lists separately for each. In the field of science, where knowledge is most needed, there is no need for this type of category-based admission. Such an admission can be permitted for reservation categories at the time of their entry to undergraduate programmes. But for master's degree and doctoral degree there is no need for this type of category-based admission as the

environment of the students both of general category and reservation category is the same during college education.

A student of final year undergraduate programme has to prepare for the entrance examination based on the syllabi issued by the concerned institutes for master's degree programme admission. A good preparation needs, on an average, a period of one year. So, he/she starts preparation at the end of his pre-final year. During this period, most of such students pay very little attention to their bachelor degree syllabi, semester examinations and make a rough study in their UG course. In degree programmes of agriculture, medicine, veterinary science as also in engineering, important courses come during pre-final and final year. If the student gets admission for master's degree after good preparation, well and good. If not, a serious condition arises as he is an ill-equipped student in his UG degree be-

cause of his careless study in pre-final and final year courses. So, if the syllabi are framed in such a way as to include more on general aspects along with the area of specialization, this can be averted.

The same problem as in undergraduate final year again arises in the final year master's degree programme. The master's degree final year student starts preparing for Ph D entrance examination from the beginning of his final year. Because of this preparation, the student chooses a relatively simple topic for his thesis work which needs less effort. This adversely affects his extent of specialization. In order to avoid this type of problem, research institutes can start integrated Ph D courses, where a UG student can join Ph D after clearing one good entrance examination. Very few institutes like IISc, NCBS and IIT offer integrated Ph D programmes, with limited number of seats. Such integrated Ph D courses have to be

started at other institutes in our country so that the drain of students out of the master's degree and doctoral degree courses can be averted. A student, entering the integrated Ph D programme over a period of a minimum of five years, can concentrate fully on his area of specialization without diversions like preparing for entrance exam, so that it may be possible for him to submit a thesis of international impact during his Ph D itself.

Persons in administration, education and research institutes should evolve strategies that give more importance to knowledge in admission and avert these kinds of problems.

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Current Science

P. Balaram has given a short history of *Current Science*¹. We learn that at the initial stage the journal got support from the editors of *Nature*, *Science* and *Die Naturwissenschaften*. Presumably the founders of *Current Science* wanted to have a journal like them.

In spite of many positive points (such as competent and hard working editorial team, regular publication, peer reviewers and referees, online availability), *Current Science* has not achieved the same international standard as *Nature* and *Science*. According to my modest knowledge, the following steps can be taken to achieve the goal:

- Contrary to *Current Science*, *Nature* and *Science* have an international editorial board. *Current Science* should not

hesitate to have a few competent and well-known foreign scientists in its team.

- Like *Nature*, *Current Science* needs its editorial offices throughout the world. As a trial some offices can be established within Asia and Africa.

- Invited articles from famous persons such as the Nobel Laureates, Presidents of various Science Academies and Physical Societies, etc. should be published.

- Special issues can be brought out at regular intervals.

- To make possible sending short communications such as 'Correspondence' by e-mail.

- The journal is not the responsibility of editors and editorial team only but also of the Indian scientists. They should show a sense of patriotism by publishing in *Current Science* instead of in journals abroad.

I hope that more readers will give feedback to the editors to raise the standard of our journal. Also it will be worthwhile if the editors come forward to discuss their problems.

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Save O₃ur sky

The world has come far, but not far enough, on solutions to stratospheric ozone depletion. According to the United Nations Weather Organization, the ozone hole over the Antarctic this year has

reached a record size of 10.8 million square miles. According to the World Meteorological Organization (WMO), measurements over and near Antarctica show that ozone has decreased more rap-

idly this year than in previous years and that the size of the ozone hole is now as large as it was in September 2000.

Ozone is rare in our atmosphere, averaging about three molecules of ozone for