

## On behalf of resident Indians

The issue of the NRI naturally raises the question of loyalty<sup>1</sup>. Most of the NRIs are either citizens of their host countries or are aspiring to become one. When they acquire foreign citizenship, often they are required to take an oath of allegiance. For example in the case of US, the oath of allegiance reads as follows:

I hereby declare, on oath, that I absolutely and entirely renounce and abjure all allegiance and fidelity to any foreign prince, potentate, state, or sovereignty, of whom or which I have heretofore been a subject or citizen; that I will support and defend the Constitution and laws of the United States of America against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; that I will bear arms on behalf of the United States when required by the law; that I will perform noncombatant service in the Armed Forces of the United States when required by the law; that I will perform work of national importance under civilian direction when required by the law; and that I take this obligation freely, without any mental reservation or purpose of evasion; so help me God.

This taking of an oath is not a mere theoretical exercise as the activities of the NRIs in their host countries clearly

demonstrate. The NRIs identify themselves with their host countries and are very eager to prove their allegiance. Indeed they are under constant pressure to do so. As the oath unequivocally implies, they will fight on behalf of their host country if required. Again this is not a mere hypothesis as the case of the Japanese during the last war demonstrates. Despite uprooting, internment and confiscation of their properties by the government, most of them fought against their former motherland.

Thus the belief that the NRIs are interested in the advancement of India is not wise. On the contrary, the NRIs act in the interest of their host countries, rather than in the interest of India. They only want to exploit India to further their interests and the interests of their host countries. Besides, people who willingly submit themselves despite the obvious historical facts are not suited for leadership roles in nation building. For the same reasons, equally unwise is the concept of dual citizenship.

As the editorial correctly points out, the IITs have been given more than occasional donations from the alumni. When up to 80% of the graduates in some fields emigrate to countries from which these donations are made, the donations can hardly be regarded as acts of philanthropy. The proper word is investment (on behalf of the host country). These investments may be even guided and

controlled by the powers of the host countries. This explains why there have been attempts to take over the management control of the IITs. In this scheme India has nothing to gain; only her losses are increased. The celebration of the NRIs is reminiscent of the celebrations of the Trojans around the wooden horse left by the Greeks.

Indians will stay home if there are meaningful opportunities for career advancement within the borders of India. Lack of career opportunities is a major driving force behind emigration. One cannot create job opportunities with good remuneration and simultaneously purchase weapon systems year after year from foreign countries for hundreds of billions of rupees. These weapons could be produced at home, simultaneously creating good employment opportunities for Indians.

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1. Balaram, P., *Curr. Sci.*, 2003, **84**, 121–122.

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## More on IITs

The editorial on the 'Indian Institutes of Technology'<sup>1</sup> is both apposite and thought-provoking. As one who has taught both at an IIT and at the Indian Institute of Science, I would like to add a few lines.

Hijli is a site of historical importance in India's freedom struggle as pointed out in the editorial. After the tragic incident of September 1931, Tagore made one of his rare political appearances and addressed a mass meeting at the foot of the Ochterlony Monument (now Sha-

heed Minar) in Calcutta. One of his most heart-rending poems 'Prasna' was also provoked by this tragedy. Mahatma Gandhi visited Hijli to meet the detenus, accompanied by two brothers of Netaji, Sarat and Sunil, on 17 November 1937 – some new records of this visit have recently emerged. It was thus fitting that the Old Building was consecrated as Martyr's Memorial in September 1997 by Lakshmi Sehgal of the INA. This building also houses the Nehru Science Museum.

IIT Kharagpur was modelled after MIT of the USA but in the initial years it had a strong exchange programme with the University of Illinois. The science departments – Physics, Chemistry, Mathematics and Geology were among the first to be set up but were deemed 'service' departments with faculty having lower pay-scales. This was corrected after a few years. In fact it was these departments that had vigorous research programmes right from the outset while the engineering departments took some

time to get going. The first Ph D degree in Electronics and Electrical Communication Engineering was awarded only in 1961 and that too to an external candidate.

The dichotomies between 'teaching' and 'research' persist in most IITs to this day, in some form or the other. The idea that teaching is what the faculty is paid to do and research is one's own business may be a hangover from the traditional engineering colleges which supplied most of the directors and faculty for quite some time. At IIT Kharagpur, B. R. Seth of the Mathematics Department played a significant role in guiding and encouraging research in departments such as Civil Engineering. The 'teaching' vs 'research' syndrome emerges from time to time when apportioning teaching load and at the time of promotions. With many of the faculty having foreign degrees and good contacts abroad, a new phenomenon that has emerged is the path of least resistance – do research when abroad and teach when back home. Lack of 'advanced facilities' provides a ready excuse. Evaluation of teaching, whatever its shortcomings, has not been accepted in any of the IITs although this is *de rigueur* in all universities in the USA.

With the emergence of interdisciplinary subjects, the distinction between science and engineering may be expected to diminish. But this is not helped by the outmoded thinking of some faculty who exclude, for example, M Sc Physics graduates of all hues from entry for research into an Electronics Engineering Department. Each director unfortunately

carries his own preconceptions – some want to eliminate all theoreticians from the Physics Department and rename it Applied Physics while others establish irrelevant centres that languish without leadership.

The strong plea made for more emphasis on postgraduate studies and research in IITs deserves support. The mark made by IIT B Techs and their demand in the USA has however prompted some NRI benefactors to demand that postgraduate studies and research be eliminated and export-only products be manufactured! Others have suggested that undergraduate engineering education be left to Regional Engineering Colleges (RECs) who may benefit from the best students. However this is like killing the goose that laid the golden egg. It is not that undergraduate engineering education has been optimized once and for all. On the contrary, it is in a state of constant flux and it is here that IITs should continue to set the pace.

Faculty recruitment is another critical step for ensuring high standards. Here the system lurches shakily depending on the authorities' predilections for 'foreign degrees', be they from unheralded institutions in the far South of the USA, to the plea of 'in-breeding' to destroy research groups which become too successful for the authorities' liking. As has been pointed out, schools of excellence are known to flourish for decades in universities but IITs hardly nurture these, especially if they threaten the director's pre-eminence. In fact often the excesses of one must be first undone by

his successor. No president of a university in the USA holds the power to mould the activities as much as the director of an IIT. This is probably not valid so much for IISc where the reputation of a research group ensures continuity.

The transparent system of entrance (JEE) has maintained the standard of the IITs and the relatively less political interference (compared with state universities) has kept their reputation high. Each IIT has maintained its individuality which is desirable, but there is the fear of them becoming increasingly regional. Surprisingly there is little or no faculty interchange between different IITs in spite of official encouragement from time to time. While it is heartening that the alumni have become active in gathering funds for their alma mater, increased involvement with industry through the alumni would be even more desirable. Fifty years is not a very long period in the history of an institution and it is to be hoped that premature senescence that plagues other academic institutions in the country can be warded off for the IITs.

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1. Balaram, P., *Curr. Sci.*, 2003, **84**, 613–614.

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## Teaching vs research in Indian universities

*A university stands for humanism, for tolerance, for reason, for the adventure of ideas and for the search for truth. It stands for the onward march of the human race toward higher objectives. Universities are places of ideals and idealism. If the universities discharge their duties adequately, then, it is well with the nation and the people.*

—Jawaharlal Nehru

We have been reading articles in *Current Science* on the quality of teaching and

research in Indian universities. Universities impart postgraduate education, and conduct and promote research in a variety of disciplines. Being at the apex of the educational pyramid, universities have a key role in producing quality teachers and researchers for the education, science and technology systems. Are universities effective in building a healthy nation and their contributions noteworthy? These are the questions debated often in Indian academic circles today.

When we compare the teachers of postgraduate departments of universities with

those of colleges, there are a lot of differences in work culture. In degree colleges, teaching is only the mandate and pertaining to this, teachers have to improve their knowledge in teaching by undergoing orientation and refresher courses, summer camps, workshops and participating in seminars/symposia from time to time. On the basis of these activities, teachers are considered for promotion to the next cadre. Some college teachers, who are interested in research may conduct research and publish papers. Research activity of college teachers is invariably