As we leave the equinoxal sun behind and the air heats up sharply, most of our flowering trees are in a mood only to make things worse, putting out blazing red and yellow flowers that palpably amplify the heat. There are notable exceptions, though: trees that cool the eye by clothing themselves in blues and purples. The jacaranda, absent on campus, is one such; another is the Queen’s Flower, or Pride of India (Lagerstroemia speciosa), fairly common here. Lagerstroemia is also one of those that puts on its foliage of long, ovate leaves in tandem to its flowers, so cooling things further. Its leaf canopy is roughly oval, and its flowers spread in upturned panicles at the tips of its branches, so when in full cry it calls to mind a crowd brandishing a hundred conical flares of lavender or blue or light purple (different varieties have their own unique shades), the whole display making an arresting sight. On inspection the flowers turn out to be surprisingly frail, their petals thin and crinkly, lending the tree its third name, the crepe myrtle. Later, when the flowers have played their part, they fall while still whole and fresh, now calming the ground as they had earlier calmed the sky. Look out for these trees, presently in bloom, along our central avenue (e.g. along the H11-H8 stretch) and at other places where they have been planted in small rows, such as in front of the CRNTS-SAIF complex.

Technologists for a Better India: From an Instrumentalist to a Humanistic Path

Gopal Krishna Gandhi, grandson of the Mahatma, diplomat and erstwhile governor of West Bengal was at IIT Bombay as the Chief Guest for Foundation Day. He spoke with passion and exultation in a speech that was truly inspirational. For him, Foundation Day at a place like IITB should look at technology and its applications in a foundational sense where technology can see itself in ideational terms not just in technological terms. Technology then would move beyond its vocabulary to have a voice so that it is not just an instrument, but “an attitude, an approach, a path that poses alternatives...”. His contention that “a technologist is a counsellor, not a courtier whether to the State or to corporates. The technologist has to partner planning, not implement orders mechanically. This means that a technologist must therefore be an unflagging observer of the human condition, not just the technological scene” places an almost moral responsibility on technologists and institutions such as IITB. His thought-provoking essay is very much in line with the theme of this issue and powerful enough to take pride of the place at the cover page. For all of you who missed the talk we have reproduced his speech below, and hope that it is not just food for thought but action as well.

Introduction by DAMAYANTI BHATTACHARYA

Esteemed Chairman, Dr. Kakodkar, esteemed Director Professor Khakhar, Professor Sukhatme, Professor Contractor, members of the faculty of IIT Bombay, students, alumni and distinguished invitees, award-winners and members of their families, I thank IIT Bombay for its extraordinary generosity in asking me to give this year’s Foundation Day address. For one who is not a scientist or a technologist it requires more than courage to address an IIT audience. It requires supreme courage. Sometimes such courage comes by a fluke. May that transpire today.
When we use the word ‘technology’, we think of something tactile, even mechanical, something heavy, an installation. But if we think upon it, technology is as subtle, as delicate and fragile a construct of the human mind as any human thought. Arising in the human mind as an idea, a technological process starts off as an idea, in fact, as a ‘mere’ thought. The aggregation of ideas for materially fabricated processes and applications, when it goes beyond formulation to fabrication, becomes ‘tactile technology’. We ought to remember that behind ‘tactile technology’ there lies a ‘tensile technology’ that is supple, that can change shape – its own and that of its context as well. So, at their core, technologies are ideas that have been given a structure and a form to create further structures and forms. And there, as an idea or a body of ideas, made tactile, technology belongs to the realm of thought no less than philosophy or linguistics or logic. Its particular family in the world of thought is the family of ideas that are solution-ideas, that are, in fact, solutions. The technological idea is provoked by a ‘problem’ that seeks a solution. The so-called problem may belong to the realm of abstraction or it may relate to tangible real-life issues. Be that as it may, technology is, basically, about the mind grappling with a problem that seeks a solution, a technological solution and coming up with an idea.

And in the fifteen minute challenge ahead of me, may the rare gifts of brevity in speech, clarity in thought and simplicity in expression happen as well.

Foundation Days are not about the ‘day’ or days; they are about foundations. They are about founding, starting, commencing. They are about establishing, about groundwork. They are about what in Hindustani is called buniyad.

The Foundation Day of an IIT must therefore trigger a foundational sense.

It follows therefore that technology evolves not merely in terms of its assembled sophistication, but also in terms of an ethos. There is an ethos to technology aimed as there is a design to it, and a utility to that design. The solution, as it proceeds from the starting station of an idea passes through several other stations like as a train moving from say, Churchgate to Virar through Marine Lines, Charni Road, Grant Road, Mumbai Central, Mahalaxmi, Lower Parel, Elephanta, Dadar, and so on. These stations on a Techno-Idea’s route include the intermediate stations of Do-ability, to legality, Liability, practicability, Possibility, Feasibility, Suitability, Sustainability, Viability until the Techno-Idea reaches the technological equivalent of Virar, the end of its journey, namely, Actuality. That terminal, Actuality, sometimes brings happiness and sometimes, misery.

I would like to suggest that technology must therefore examine its ethos for an inner monitor that gives it more than a vocabulary, which it has; that gives it a voice, which it seems so badly to lack.

That ethos, that monitor, that voice would ask: Putting together the major technological journeys that India has undertaken, what is the mega-station that they have reached? Have the solution-ideas that began free India’s technological journey, reached their destination?

Our achievements are there for all to see. Taller than the highest altitude attained by our space probes, deeper than the furthest of our plumbings of the ocean’s floor, wider far of reach than our station on the Antarctica, is the sheer audacity of our technological accomplishments. That so many of them have been entirely our own, conceived and crafted by ourselves, by Indian minds and Indian hands, against the heaviest of odds, is a matter of pride. That transmissions from our satellites make us steer our farming and fishing, make us connect to each other through an intricate mesh of mobile telephony, that make us take to the microchip, the semi-conductor and the laptop – and they to us – like no technology has ever meshed into human society, is a wonder of wonders. That our death rate has plummeted, that our life expectancy at birth has therefore shot up, that tools for overcoming ignorance and illiteracy and therefore superstition and prejudice have spread across our ancient land and are riveting our young in no small measure, due to the technology back-up for the initiatives behind all those signal attainments. That Indian manufacturing behemoths, that India’s roads never rest under the rumble of wheels transporting goods and services, that when war – infamously, unlaboriously and unwanted by us – is forced on us we are able to leverage our arms and the means of transporting the engines of self-defence across desert, mountain, marsh and sea to halt ill-designs is again, at its core, a triumph of technological support to the national will. That the ancient chakra, Asoka’s great wheel of Dharma, now stands for both righteousness as well as our material advance as a people, is because India’s wisdom is powered now by India’s enterprise, by India’s prowess, by India’s skills.

And yet.

There is something that is not quite right about this story. Something that is in fact, wrong, horribly wrong about it.

If there were not something wrong, would our cities be as ugly as they are? Would they look, in their smog and soot, their cheerlessness and their wailings, like crematoria and cemeteries? Would they smell like one vast toilet, soot, their cheerlessness and their wailings, like cremation and incineration? Would they look, in their smog and soot, in their wailings, as ugly as they are? Would they smell like one vast toilet, their excretions of their waste, their streets clogged by the extravagant debris of their relinquishings, abandonment and leaving? If something were not wrong, would the mountains of urban refuse be shifted with shameless cynicism to beyond municipal limits where urban India ends and rural India begins?

If there were not something wrong, would our flyovers meant for the vehicle be the lie-unders that they have become, for the homeless and the hopeless? If there were not something wrong, would the exponential change in our road-scapes include another ironic agony, namely, of seeing the Indian pedestrian – who forms the majority – de-fetishising to vehicular India; edging away, cringing, crawling, squeezing himself or herself, moving onto a side to halt, pause, resume walking only to be stopped again by the elbow-whizzings of two-wheelers, three-wheelers and four-wheelers that overtake, one after another, and another, and another till at last you get a clearing and move forward when, suddenly, comes yet another and goes past you as if you are a redundancy or a mistake in Creation. In Norway, a monarchy, the King is often a pedestrian, but the pedestrian is always a King. In India, a democracy, the King-equivalent has right-of-way and the pedestrian has the right-of-luck.

If there were not something wrong, would our technological-driven green revolution have to witness, alongside its great successes, the ironic agony of an agrarian crisis with a farm suicide every thirty-five minutes? If there were not something wrong, would our technology-driven ‘development’ model be so abject an onlooker to illegal mines that disembowel the earth and endanger the countryside, while enriching the mafia, an onlooker to illegal timber-felling that desantises and dispossessestribals while enriching contractors and developers and thereby throw the disintegrated into the death-dealing embrace of Nasal violence and counter-violence?

This is where the ethos, the root, the origin, the foundation of the concept of ‘technology’ comes in. This is where the voice of technology comes in. Technology must see itself in ideological terms, not just in technological terms. For far too long has technology been regarded as a mere instrument. It is that, of course, but it is also something more. It is an attitude, an approach, a path that poses alternatives, discusses reductions, eliminations and conjugations of itself, evaluates itself and not in isolation but contextually.
A technologist is not a cook waiting to be given a menu for the next meal; a technologist is the repository of engineering cuisines, of scientific options and empirical opportunities for material fabrications that have grown out of experimentation and contextual discernment.

A technologist is not a mail waiting to be given a floristic preference for the season by the mails; a technologist is a gardener-botanist, a gardener-arborist, an expert in floristics who knows the soils and the seasons, can read the clouds and the climes, can advise what to and what not to plant and when, what to weed out, what to position where, how much space to leave between a wide-rooting tree and one that is big over-ground but small beneath.

In other words, a technologist is a counsellor, not a courier whether to the State or to corporates. The technologist has to partner planning, not implement orders mechanically. This means that a technologist must therefore be an unflagging observer of the human condition, not just the technological scene. A technologist cannot afford to miss the fact that the world below sinking and garbage above rising, we as a nation are beginning to choke.

A valued friend of mine of Dutch ancestry, Ludwing Pesch has made a deep study of Carnatic music. He visits India regularly. After a recently concluded visit, he has mailed me as follows:

"The only real threat to visitors and residents alike, must be the fact that with water below sinking and garbage above rising, we as a nation are beginning to choke.

We may blame places in East Asia, we may blame vectors, birds, poultry, cattle and swine for the zoonotic pandemics that have hit us, particularly the poor among us, and an anti-gravity soar into space for a manned moon landing, and another landing at an even more elusive surface, namely, a permanent seat manned moon landing, and another landing at an even more elusive surface, namely, a permanent seat. Let us not forget that in the late 1990s, WHO norm 45 ppm – Najafgarh, 138.21 ppm. The Blue Baby syndrome is directly related to nitrate poisoning.

Let me be a conveyer of one more unpleasant truth and say what only technologists can confirm, namely, that in our present conditions of callousness, it is only a matter of time before that is all swept out of our lives. One after the other, cities let in, in our cities. Let us not forget that in the late 1990s, Surat in Gujarat was wracked by that dreaded disease and it was only the ingenuity of a determined Collector that saved the day. Will it be any help then to know, if that happens, that we are an aspiring Super Power? 'Make us a global power' is a callow prescription. 'We should become a Super Power' is a school-kid ambition. If they are Asia's tigers, we are Asia's only elephants. A Jungle Book dream. Technologists should be able to say 'No Sir', or 'No Madame, we must aim not at status but at substance, not at power but at prudence, not at beating anyone at a race but at finding our own right pace'.

There is a point, any at all, in our aiming at a ten per cent growth rate, at our 15 IIT's doubling in number or even becoming fifteen times fifteen, at our miniaturising the potency of the nano, maximising the efficacy of fibre-optics, at our celebrating the ingenuity of genetic modifications for bringing us日趋 and for – dare we say it – tomorrow, of planning a gravitation-aided dive into the sea-floor to collect precious nuggets of sea-floor reserves and an anti-gravity soar into space for a manned moon landing, and another landing at an even more elusive surface, namely, a permanent seat on the moon. Let us not forget that in the late 1990s, WHO norm 45 ppm – Najafgarh, 138.21 ppm. The Blue Baby syndrome is directly related to nitrate poisoning.

The dry wit and self-deprecating humour in Mohit Desai's comic strip also illustrated by Utkarsh on Dr. Singh's account of dilemmas in the life of a student at IITB, beautifully illustrated by Utkarsh Raut presents a perspective you may not be aware of. Shruti Inamdar, a campus resident on what ethics means to her, in smart, dark bottles we sit back to imbibe. A recentawn of expert understanding, that our own lifestyles and work

The dry wit and self-deprecating humour in Mohit Desai's comic strip also illustrated by Utkarsh also illustrated by Utkarsh Raut presents a perspective you may not be aware of. Shruti Inamdar, a campus resident on what ethics means to her, IIT Bombay is not an isolated island detached from larger national realities. The role of ethical practices in an academic institute is multifarious and forms an elemental part of institutional building. For young institutions, the institute needs to engineer an environment where they can aspire to be better human beings no matter what their background. It needs to lay down clear role models that allows them to question their values and moulds their own definitions at the same time.

In this issue of Raintree we've tried to present the definition of ethics in as many different voices as possible. The Essay by Prof. Shirish Jha with opinions from other faculty and staff members makes pointed observations and asks some difficult questions. Sushil Shintre, our young alumnus shares his views on the career choice made by him. We have Shruti Inamdar, a campus resident on what ethics means to her. The R&D story on CTARA prototypes presents a perspective you may not be aware of. The dry wit and self-deprecating humour in Mohit Desai's comic strip also illustrated by Utkarsh also illustrated by Utkarsh Raut presents a perspective you may not be aware of. Shruti Inamdar, a campus resident on what ethics means to her, in smart, dark bottles we sit back to imbibe. A recent

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May I congratulate you and your team for securing such a prestigious award! Given the Institute’s golden past and the glorious future, it is necessary to make available to the community at large, narratives relating to various periods in the life of this majestic institution. Otherwise, such precious information will be lost forever for posterity.

We had a campus diary which just chronicled new entrants, retirements, the occasional conferences, etc. Over time, the diary just got fatter because of increase in faculty strength; but the contents remained insipid.

Raintree on the other hand is an invention. Articles are good, they are contemporary and language is excellent. That the campus stands as a lone green bastion against the concrete jungle of the city is highlighted in many issues of Raintree. That the Institute is a ‘temple of Modern India’ is well brought out by the professors and researchers writing about their specialisations in simple language. Over a period of time, it has encouraged campus residents including home makers to pen their thoughts and be heard. My wife, Malalish is also a Raintree fan and looks forward to each issue. Keep it up!

P.S. You have transferred me from my parent dept of Elec. Engg. to a brother-dept of Mech. Engg. No problem, as I will now be in the illustrious company of the Kalaams of the campus – Prof. De and Prof. Sukhatme! Prof. M. V. Hanthanar

I am not writing below about ethics, but about something else. I just returned from a walk after dinner. I usually go from the Guest House to as far as Sameer and Ananta and circle back by the north end of the academic area. Out of curiosity, I sauntered through the resident complex adjacent to Ananta. Perhaps its name is Vidya House(?). This was the first time I went to see it. In this complex, there are three tall buildings, each with several floors.

To keep this e-mail short, I will write my bottom line. I was appalled to see how neglected condition this whole complex was in, to say the very least. One must visit this place to see its deplorable condition. I don’t know who lives there; I did see a Honda City car parked there, however.

Sometimes I wonder why we are so conditioned that runs may be in front of us, but we don’t see them and therefore do nothing about it. It seems as though we are under some kind of taboo, inebriation, or delusion that we accept whatever conditions we may be in, don’t talk about them, won’t challenge them, and won’t find ways to improve upon the conditions even within some real constraints such as a budget. (This is, of course, in contrast with what Mahatma Gandhi did to gain independence from British.)

Prof. H. B. Hablani

In my opinion, the comic strip on PG-UG distinction printed in the last issue of Raintree was distasteful. It speaks volumes about the innate ‘racism’ against the PGs that I have, in my three years at IITB, observed time and again.

Aditya Joshi, M. Tech CSE

Congratulations to you and your team for the ACU award to Raintree. The selection of the article, the layout, are all of the best quality.

Prof. U. A. Yajnik

Congratulations on the recent award. You have worked hard to take the campus magazine from a mundane report of events to a collection of thought-provoking articles that all "supposedly intelligent people" (to borrow from Prof. Akuwalala) look forward to. Great work!

Prof. M. Patil

Rainforest for a Better India

(contd. from page 3)

I will conclude with a prayerful request. No one is going to take the perils of climate change seriously if the so-called ‘Greens’ alone are going to talk about it. But if some of you do see that danger, it is you who must speak up about it. You are the ones with domain knowledge; others have only a general anxiety.

No one can deny that the permafrost is melting, or that the Antarctica is getting less and less cold. No one can deny the monsoons have been behaving erratically. But if after a failure of rains, after a drought that depresses into a famine, we have to change from a pattern of two baths a day to a bath every two days, when bottled water even for those who drink that privileges liquid begins to cost not Rs 10 or 12, but Rs 100 and water riots start as they did in Bolivia, when along with the Maldivians, our own Lakshadweep begins to feel the mean sea-level rise and on the other coast, the Sunderbans begin to go under tidal risings, and we see climate refugees in numbers that would make the 1971 experience look like a rehearsal, prodigious users and exploitative wasters of scarce resources will be called to account, as will be policy makers, but so will technologists. Hydrologists, geologists, climatologists will be asked why it is that they did not warn a profligate age betimes.

I conclude with the thought that technology is at its start, a thought, as well, and no ordinary thought but one that can tell the difference between a dream and a nightmare. And can make one come true and banish the other.
So what are you doing these days? Sushil? I took this fellowship with Teach For India. So I am teaching a bunch of Grade 3 kids full-time at an under-privileged school for the past year. It’s a two-year commitment.

What? Why? (with a genuinely puzzled look)

Different people have taken this role of person X from friends, neighbours, relatives, my teachers, acquaintances to random-strangers-who-become-momentary-acquaintances in this past year. Usually, this response of theirs has two connotations - ‘Are you out of your mind?’ or, ‘Oh, what a sacrifice!’

Am I out of my mind? The choice doesn’t seem as absurd if we consider the fact that like most IITians, my final year in B.Tech. was the first time I was making a conscious career choice in my life. I had only chosen IITs so far and never a career. I could hardly put things into perspective and think about what I wanted to do in life at 15 as I could at 21. And coming from IIT Bombay, I did have a few choices about what I wanted to do in life at 15 as I could at 21. I could hardly put things into perspective and think about what I wanted to do in life at 15 as I could at 21.

I have only chosen IITs so far and never a career. I could hardly put things into perspective and think about what I wanted to do in life at 15 as I could at 21.

As for the money, which usually is the biggest concern, the pay is considerably lesser than the celebrated packages of IITians. Even so, it is a notch higher than most salaries that fresh graduates would get in this country. It has never been, at least to me, a hindrance in leading a comfortable life.

On the other hand though, the job has a lot to offer to compensate for the pay. Yes, most of it is intangible but not unworthy of recognition. Firstly, I get the most innocent and genuine colleagues to work with – the kids! To think of it, it’s no different from a typical office. We have targets - average and individual, we have formal plans to achieve them and each of us has a role to play. Unlike many other professionals, I can say I can’t wait to get back to my ‘office’ everyday.

Eventually, when everything is said and done, I am going to have countless stories to tell – good and bad, with tremendous potential to learn from and the satisfaction of having done a bit and an opportunity to do more for an urgent cause in our country. And above all, I am going to have 60 children whose lives I may have helped change for good and who would, irrespective of what becomes of them, remember a certain Sushil Bhaiyya that taught them while in school. I would say it’s hardly a sacrifice!

The year gone by

I started off with a Grade 3 class of 60 students in a school in Govandi in a predominantly Muslim community. Most of my students started with me at approximately a level where students of Kindergarten or Grade 1 should be and have come a long way since academically.

With stiff targets to achieve, it’s been a challenge walking in to the classroom everyday knowing how much each stakeholder expects out of us – the organisation, the parents of our students and most importantly the students themselves. Over the course of the year, we have been privy to the stories of most of our students and the one thing I continue to marvel at is how different my life was when I was nine! Also, for the determination with which my students face the challenges life presents to them, for the maturity that they show in being aware that it is up to them to make things change and for the faith that they have in me, if anything, I owe it to them.

On the other hand though, the job has a lot to offer to compensate for the pay. Unlike many other professionals, I can say I can’t wait to get back to my ‘office’ everyday.

As much as I would like to celebrate the last year, I would be cautious and say most of my assumptions were right and I certainly do not regret the decision. Like any other ‘industry’, this one also carries its own pros and cons. There are as many things to dislike as there are otherwise and one can’t avoid that. It is, after all as we often say at TFI, a choice – to sit it out or dance.

To end with another dialogue, this is an entry in my diary tagged as what I call the ‘I know why I am here’ section. This knowledge isn’t obvious and unfortunately in a field where obvious successes are rare, it helps us to be able to find those moments that make us happy.

6 Dec 2010

(A brainstorming session to decide classroom-behaviour incentives)

What prizes do you want for being Didi and Bhaiyya’s ideal student?

Sheetal: Bhaiyya, I want your hand.

Sushil: What do you mean? I am confused!

Sheetal: You help everyone, I want to be like you.

Sushil: (still confused) “smile”

I will be 23 by the time I fulfill my commitment and it by no standard is a bad age to start my life afresh – in engineering or any other profession considered ‘normal’.

What a sacrifice! Or not?

This perception towards a job like this, if I may dare say, is largely a result of ignorance. Teaching, if not before, has now become a legitimate choice for a career. A number of organisations are working effectively in the field of education for the under-privileged which aren’t for profit but aren’t charitable either.

Their intentions amongst other factors are debated by a lot of cynics, but that is no reason to not venture in to the field at all.

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The possibilities of doing something with this are many. As for the money, which usually is the biggest concern, the pay is considerably lesser than the celebrated packages of IITians. Even so, it is a notch higher than most salaries that fresh graduates would get in this country. It has never been, at least to me, a hindrance in leading a comfortable life.

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W

hat really is an ethical engagement? Does it considerably vary from person to person or could one arrive at points of ethical convergence? The perplexing thing is that one could answer with a ‘yes’ to both these queries without necessarily being contradictory. IIT Bombay, like all liberal institutions in this country, is also grappling with the issue of how to individually and collectively deal with our ethical pre-

The perplexing thing is that one could answer with a ‘yes’ to both these queries without necessarily being radically diminishing the ill effects of injustice as about

the level of ethical commitment and engagement? Do Do hypocritical practices or double standards substantially change when objections are raised against them, or do we continue, even in the face of such critique, to provide superficial explanations for unacceptable behaviour? Amartya Sen in his book, The Idea of Justice suggests something similar when he argues that the provision of justice should be as much about moral courage to raise ethical questions becomes rather
difficult to facilitate. Such refusal, sometimes spread over several generations considerably raises the stakes for sustaining an unprincipled status quo. Unsurprisingly, the moral courage to raise ethical questions becomes rather subdued. We keep rationalising our behaviour by insisting that the emperor indeed is wearing very fine clothes.

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Do hypocritical practices or double standards substantially change when objections are raised against them, or do we continue, even in the face of such critique, to provide superficial explanations for unacceptable behaviour?

Are we perhaps so ethically challenged, that we would rather choose to plagiarise and risk being shamed, than betray our lack of creativity in expression?
If at the broader institutional level, IITB appears eager to be putting institutional structures in place, ethical interactions on a day-to-day basis merit even greater attention. Both Prof. Bhaskar and Prof. Parthasarathy feel rather strained about the fact that plagiarism is rampant across several institutions within the country. Prof. Parthasarathy states, “What is worrying is that the faculty does not seem to be as concerned about plagiarism as they should be. While the usual noises are made, few of them seem to make a serious effort to detect and then take appropriate action. Most faculty members seem to wait until others point out instances of plagiarism.” Other faculty members have also echoed similar concerns. Is plagiarism a result of a severe lack of confidence in our ability to produce originality in expression? Are we perhaps so ethically challenged, that we would rather choose to plagiarise and risk being shamed, than betray our lack of creativity in expression? Such practices need to be carefully examined within our institutional space rather than merely making, as Prof. Parthasarathy says, the “usual” noises.

‘Can ethics be taught?’ is a frequent question that one encounters within the corridors of academia.

The even more serious problem that faculty are generally encountering is the attempt to beat the examination system. The greater the emphasis that society places on degrees, the greater appears to be the tendency set a trend in which a person who is doing an honest job of learning and studying for exams gets a lower grade than one who is not.”

Unfortunately, instances of ethical weakening are not abating. They require careful examination of both the reasons for their increase and ways of subsequently penalising such behaviour. It is interesting to note that in the face of certain pressures there is in place an Honour Code, which students sign at the end of each examination. One such pledge states: “I pledge my honour that I have not violated the Honour Code during this examination”, followed by the student’s signature. I presume that the repeated act of reading and signing such statements by students goes a certain distance in restraining one from engaging in acts of moral misconduct.

Many other issues appear to be unattended on the academic front. Prof. Parthasarathy mentions that for some unfortunate reason we have not created any guidelines for “informed consent while doing research.” He goes on to add that “there is a tendency among some faculty members to see these guidelines as hindrances to research” without “seriously comprehending the reasons for their existence.” Indeed, we do not have a Researcher’s Code of Behaviour, something that is taken very seriously – particularly in European universities.

Another sensitive area of concern, according to Prof. Parthasarathy, is our degree of “winningness to address the educational needs of students from difficult backgrounds, and the need to transform one’s teaching abilities to the context of a more diverse student profile.” He is troubled by the fact that when such issues are pointed out individually to faculty colleagues, “they either lack of time, or simply swear by a ‘sink or swim’ approach for students, ignoring the fact that owing to that section of students’ social and cultural background, special efforts are needed to enable them to perform well.”

Compounding this problem is the fact that an unspoken hierarchy has been created, where courses offered by say, a department such as Humanities and Social Sciences are implicitly valued less than other departments. Perhaps in Prof. Parthasarathy’s view, the ethical call of educa-

Going beyond the academic space, the particularly difficult question that Prof. Parthasarathy raises is with respect to the potential intolerance that is exhibited on issues related to regional, religious, caste or gender issues. He does admit that the institute, to its credit, has taken cognisance of such problems, but he also adds that not enough action has “been taken to prevent such incidents from taking place in the first instance.” By not publicly censuring such behaviour, he feels that we could possibly be sending a signal, even if erroneous, that there is tacit support by a silent majority for such unedifying behaviour. In an institute that provides considerable freedoms and responsibilities.

Many other issues are to a large extent ecologically defined – how does your presence affect the natural world in which you live in? He is therefore critical of practices that are based solely on consumption. How, for instance, do we use our land? Do we pay diligent attention to lesser usage of concrete and plastic? Do we have lesser vehicles with greater space dedicated purely to pedestrians? As India inexorably moves ahead with its rapid urban growth, the concerns raised by Prof. Chatterjee will certainly affect us even more. We can perhaps already see symptoms of certain trade-offs on our campus, that are not altogether environmentally friendly.

In a world where there are no uncontested definitions of right and wrong, and also where perhaps the choices that one makes, at the end of the day depend on one’s personal moral radar, there is a constant maneuvering between the principles that one espouses and the tactics one adopts. Sometimes, however, this moral framework does not provide easy answers. Mr. Joglekar would like us to think that the issues of ethics are also about sorting through our morally wrought decisions, and weighing which direction our actions point us to. Narrating an ethical dilemma from the Mahabharata, Mr. Joglekar asks us to reflect on the ethics of our choices. 

His views allow for a different set of concerns to emerge. “I want to pose a question for you. If you can turn to me you may probably be slightly more unethical than say somebody who uses a cycle or walks, given that both of you have a choice in the matter. My sense of ethics are to a large extent ecologically defined – how does your presence affect the natural world in which you live in? He is therefore critical of practices that are based solely on consumption. How, for instance, do we use our land? Do we pay diligent attention to lesser usage of concrete and plastic? Do we have lesser vehicles with greater space dedicated purely to pedestrians? As India inexorably moves ahead with its rapid urban growth, the concerns raised by Prof. Chatterjee will certainly affect us even more. We can perhaps already see symptoms of certain trade-offs on our campus, that are not altogether environmentally friendly.

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(Un)Ethical Predicaments

the cow moves towards the path lined with bushes and disappears from sight. The man behind cannot see the cow anymore and wonders aloud where it has gone. Knowing his intentions, would you, the religious man, lie to him to protect the cow or would you be honest with him because you also know that ethnically, lying is wrong? In such an intricate context, can one perhaps take a view that sometimes, lying is something that can be used to save another life? That perhaps relative to protecting a life, untruthfulness is less of a predicament?

What all of the above (whether they are academic or extra-academic concerns) indicate is that institutional growth demands a lot more than basic prescriptions of honesty, professionalism and equality. An institute’s culture must not only place normative focus on these qualities but it also needs to actively strive to create an environment which engenders a more nuanced and sensitive questioning of the general ethical values that we, as part of this culture, embody. The obvious question then is, why have we become so vulnerable to acts of ethical impropriety in the first place? Prof. Contractor offers an interesting explanation. He places greater emphasis on the specific circumstances that encourage or discourage such kinds of behaviour. He feels that “the continuous pressure to perform, to produce quality results and how this performance is measured has the potential to drag both students and faculty into ethically grey areas.” In his opinion, we are caught in a bind of sorts. Therefore, while he feels that the institute needs to develop “some matrix to measure student or faculty performance, it is again this emphasis on ‘measurable practices’ that puts great pressure on faculty, particularly on young faculty.” He elaborates on what he calls the double-edged nature of our ethical dilemmas. The importance of personal milestones for young faculty such as receiving the “Young Achiever award by the age of 30 or the Swarnajayanti award by 40 or the Bhatawar award by 45;” he recounts, produces its own ironic set of consequences. Perhaps, as a result, the pressure “encourages some people to take short-cuts, cut corners and become glib in the paper production mill.” The insti-tute, he rec-ommends, should take a closer look at “older patterns of working and find new ways to lead achievements.”

The presence of ethical tensions between norma-tive rules that ought to be followed – and pragmatic considerations that arguably constrain ethical behav-iour – is indeed a very healthy sign, since it shows that there is cognisance and a certain discernment about the nature of our private and public ethical concerns. Most of our everyday choices do not require sorting through very grave ethical quandaries. They are mostly about relatively ordinary concerns, be it behaviour during examinations, acts of plagiarism or indifference among colleagues for the same.

The institute has clearly shown admirable standards of professional and academic commitment. For instance, the earlier Dean (R&D) invited a group of faculty to engage in open discussion with the senior executives of Dow Chemicals, India over their interest in funding proj-ects at IITB. Several faculty members appreciated the creation of such a space and came away with a greater belief in open forms of conversation. On another occa-sion, Prof. Contractor recalls that Monsanto wished to fund a project at CTARA. “It took just one phone call to Prof. Date, who was then the head of CTARA. He in turn had a quick consultation with his colleagues, who decided upon politely but firmly declining Monsanto.” The Women’s Cell, on its part has also rarely shied away from acknowledging the concerns of women students and faculty members. Mr. Joglekar also attests to the fact that the institute is sensitive to the concerns of indi-vidual students when facing disciplinary charges.

Are we, however, still missing something in our institu-tional efforts? Are there deeper sets of cumulative and inter-related ethical concerns that need to be addressed? We live in a world filled with insider trading within blue chip firms – the very deliberate malfeasance by the who’s-who of banking, consulting, credit rating and policy-making professionals (i.e. the American housing loan crisis that has been so tragically captured in films like Inside Job). Closer to home, consider the Indian season of a scam-a-day. Some would argue that in light of this, is it fair to expect behaviour (other than unethical) from students, faculty or staff? Are our actions so truly unforgivable? Perhaps not, but once objected to, it is our subsequent actions that really count.

The ethical predicaments that we face daily are not altogether alarming. Nevertheless, if the societal air that we breathe is laden with, shall we say, ethically disruptive particles, then without obviously noticing it, our moral fibre would erode as well. At the very minimum, we could institutionalize more spaces for open discussion of our ethical concerns. Their repeated articulation may just provide that extra degree of ethical engagement for our community at large. I think the angst and distress that we collectively feel about any conscious and sustained embracing of attitudes and rationalisation that are seem-ingly impervious to ethical arguments, suggests to us that such institutional spaces can be created.

With inputs from Neha Chaudhuri, Bhavini Pant, Damayanti Bhattacharya and Jaya Joshi.

IIT Bombay’s Affirmative Action

IT Bombay not only teaches but also houses its stu-dents, and puts into effect a number of rules and policies. One of the more prominent rules affects the interaction between boys and girls in particular. For example, Hostel: ‘2 rules state, that “Female guests are not allowed to stay in hostel between 10 pm to 8 am” and another example is of the multi-purpose hall’s rules and regulations, “Athletes are expected to avoid personal interactions between a female and a male student.” Of course these rules are given without worrying much about justifications. Giving justifications would put a seri-ous doubt on the high intellect level among students of this elite institution. So assuming that rules are not put up just for the sake of it, we know that there is a justification and that we should be able to deduce it.

A naive explanation would be that girls need to be pro-tected from boys. This theory is easily disproved by the fact that female guests are allowed to stay in boys hos-tels between 8 am and 10 pm without problems. Maybe a slightly less naive explanation would be that boys need to be protected from girls. But again the same argument invalidates this theory.

It seems to be tougher than expected to come up with an explanation, and we will have to try harder. Given our academic standards, though, we should not give up easily and try a more systematic, scientific and logically sound approach than just guessing theories.

We first observe that these rules are strictly about the interaction between a female and a male student. Therefore, something must be special about this two-person constellation – but special compared to what? Obviously, special compared to the other possible con-stellation, that is relations between two male students or between two female students.

We also observe that other kind of relationships are actively encouraged by the institute: boys are put in the same hostel as other boys, and sometimes made to share a room. The same rule applies to girls. Having the messes situated as parts of the hostels also ensures that even the very important social activity of eating is done together with students of the same gender.

Before we deduce from the observations the rationale behind the rules, let us recall the definition of the term “affirmative action”:

“Affirmative action refers to policies that take factors including [...] gender [...] into consideration in order to benefit an underrepresented group.”

This affirms the intention: that ITB is following a policy of affirmative action towards same-gender relationships by encouraging their genesis, while enforcing rules to make hetero-sexual relationships less attractive. Under these cir-cumstances, if a student had to decide between a partner of the other gender and one of the same gender, both equally attractive with respect to other considerations, he will surely pick a person of the same gender, thanks to this rule.

Now that we understand these policies better, one can ask: are they effective? Specific numbers are hard to obtain, and we cannot know what happens in the double occupancy rooms of the hostels, so here is my sugges-tion. Observe the students walking on the streets of the campus and count: how many boys are holding hands or putting their arms around other boys? How many girls occasionally touch other girls? And, in contrast, how much body contact between girls and boys can be observed? You will easily see that affirmative action has been successful.

We should be proud to be members of an institute progressive enough to actively and openly support and encourage same gender relationships between its students!

Disclaimer: The views expressed in these articles are those of the author’s and do not necessarily represent those of IIT Bombay or of Raintree.

BOOK REVIEW

Pagalkhana
Introduction and compilation by DAMAYANTI BHATTACHARYA

Most of the stories covered here are in a time-line of less than ten years (roughly a period ranging from 1972-1985), out of IIT Bombay’s more than 50 year history. It is an unpublishable book, particularly for the young at heart. Even if you are not an ITian and have never been a hosteller you are bound to love this collection of comic cameos. It has been reviewed by almost every newspaper in the country but at Ranitree we still decided to do a review at even this late a juncture, as this is a review with a difference, from people within the IITB family. Also, you know what they say – it matters not what others say about you, but what matters most are the opinions of those closer to home. So here it goes:

“7:37 pm: Received three copies of Madhouse 7:45 pm: A major scream of laughter in a quiet Detroit suburb. Chaos continue for one hour. 4:45 am: Reading Madhouse in toilet. Another LOL. Neighbourhood disturbed and pissed. Am now worried that police will be at the door. 5:00 am: LOL continues. Should I really care about police? That ends my review of Madhouse. Thanks guys.”

Nitin Anturkar, B.Tech, 1982, Chemical Engineering

“Though I was gifted with Madhouse for my house-warming ceremony, I could not read it because it was monopolized by my daughter, followed by my mother and then finally, my sister. I got my chance to read it on a flight to Kochi and had to sit up most of the night to complete it. Could not put it down. I could understand why my 75 year old mother and my 20 year old daughter enjoyed it equally.”


“It’s not just the old timers who could relate to this book.

Deepu Panicker a current student from the Department of Mechanical Engineering at the institute thinks that this is a book written by erstwhile “delinquents” and “that there is no real storyline”. He continues, “Yet as a student of IIT B, I felt an instant connection to the story because of the familiarity and the knowledge that this is what we would have been like if we lived in those times. Well maybe not so insane, but a little? The book in two words is a laugh-riot. Some of the stories are downright hilarious and will make you LOL and ROFL and LMFAO for hours ever after. Even the most adventurous people among us would now probably not have lunacy quotients close to what these guys had. All in all, a great read for any occasion and very hard to put down.”

The appreciation extended to the book by IITians. Jitender Kanwar, IIT Delhi writes to Bakul:

“I am about half-way through with Madhouse and marvel at not only your survival skills, but also at your thriving skills!! The interesting thing I noted was that you did actually seem to have kept yourselves incredibly busy in your five years there, doing whatever it is you did. Normally good folks tended to spend their time in a smoky haze, or some in bridge or 3-patti, and most of it at night time. Thankfuly, we guys at IITD were a tamer lot, though it revives our own memories all too well! It is not just the irreverence and the about rampant humour in the book which makes it special. An interesting trivia: the word virtue appears in the book only once. My personal take is that it is not just the unbridled humour or the youthfulness of Madhouse that makes it transcend age groups, interest groups and takes it well beyond the tribe called ITians. The book talks of incidents set in the days when there was no internet, TV, mobiles, iPods and computers and yet the fun element was at its peak. Hence, it is symptomatic of a time perhaps lost to us forever. A Paradise Lost where the colourful tales of the book enables travel to a less complicated era. A time of infinite freedom untramelled by the immense pressure to live up to parental expectations, where the modern gizmos of the new information age do not let you replace the joyous simplicity of human contact with the dubious pleasures of social networking. Take for instance how Udit Sood, a generation-next son of alumnus Sanjiv Sood (B.Tech, 1983, Civil Engineering) writes to his father about the book:

“I’ve just finished the book. And I’m terribly disappointed that it got over so early. This book is beyond brilliant. The last time I’ve read a book I could not put down was when I read a P.G. Wodehouse (that too a Jeeves or a P. Smith, the others I can put down). I’m not even kidding you. I could not put the book down. In a way it’s good it’s over. Now I can go back to finishing my engineering.

Amazing book, Dad. And the best thing is that it isn’t like I’m watching a TV show with many episodes. There’s always that ‘what did they do next’ feeling. The stories are downright hilarious. And the flow of the whole thing is superb.

Looking back, your stories may not have been as funny if they happened in today’s era. Bakul Uncle could just have googled, ‘Elephant hire near Powai’ and that would’ve been the end of it.”

Bakul before; dancing willy-nilly to a distant tune played by this madcap piper. But oft bitten and you tend to get suspicious. So I hardened my heart and told him, “A horse every time you have not ordered one, then why is a letter with your legs, one long tail, the one you see at a hose race… if you have not ordered for a hose. No why I needed a ‘hose’ for Alumni Day.

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About a week back

A bout a week back, we were sitting around the oval table at the PRO office eating those fantastic samoosas we get at Raintree meets, when the PRO decided to fling her empty ‘Random Meanderings’ rectangle at me – on a whim, I’m sure – unfortunately confident that I’d fill it successfully. Now I’d already written two articles, one rejected for being too outspoken, and the other for being too… outrageous. This was my chance for redemption, so I spent about a week poring over what I could randomly meander about, and wrote out a list of the little things in life at IIT to ramble about.

I thought of penning down all the charming (read: shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appalling) anecdotes from the late nights we’ve spent at the H2 lounge and mess post-shocking), amusing (read: appallin

Snatch sessions we’ve had there and at the Shackla fast-paced word game that has taken the campus by rage). I even longingly thought of writing about the friends I’ve made over these months, all of whom are unstable, barmy, batty, fantastic freaks – an overgrown child, a guy who climbs every tree and scales every wall for the heck of it, a chronic kleptomaniac with a thing for number-plates, hostel plates and tyres lying on the street, trivia-hungry barbaric quizzers – not to speak of a whole host of temperamental geniuses. Oh, the deeds we’ve done, the conversations we’ve had. These people make the best times at IIT, and make the worst a little better than they would be otherwise. I considered talking about the agonising, torturous process of hostel and institute elections. Imagine trying to make that a fun, light read! I considered a verbose little article about the trials of trying to sleep in class without your friends destroying it for you – and of course, keeping it hidden from the professors. But when I went to the editor with these possibilities, she waved them off as ‘too student oriented’, almost like swatting away a couple of rather annoying mosquitoes.

We often claim that IIT by itself is different from the outside world – an island world. Which IIT do we really mean?

On Saturday, we decided to scale the heights of the IIT landscape. We went through the staff residences, saw the unimaginable sight of children running about through the construction workers’ temporary residences, and then the untamed roads that lead to Sameer Hill. We trekked up, not for the first time though, so this time we were less overwhelmed by the thrill, and stopped, at regular intervals, to enjoy the view. We pointed out our hostels, the main building, the lake, SOM and KReSIT. One of my friends could even see his wing. These places, our world, could be traced along with the campus view. We knew the student side. To start with, let me present the paragraph above this one?

We often claim that IIT by itself is different from the outside world – an island world. Which IIT do we really mean?

Oh, smiling land so lush and green
God’s Sunshine bathes you in light
This land it is that farmers plough
To make it yield Treasure bright
And when the bounty is high
To our table it finds its way
How many of us think of the Power around
And it sure took me time to adjust to the fact that IIT wasn’t just students and professors – and that too professors who existed only within the green-fenced academic area and moodle.iitb.ac.in. As I flipped the pages of last time’s magazine, I even realised that I usually skip articles which aren’t student-authored. The sheer alien un-relatability of them keeps me away from them, because honestly, how many of you actually felt for the paragraph above this one?

We often claim that IIT by itself is different from the outside world – an island world. Which IIT do we really mean?
Since this article comprises only of the student perspective, it might be biased. Attempts were made to get in touch with the concerned authorities for their comments, but I did not receive any response from them on the article.

The question of moral responsibility is one that is sensitive and subjective. The government in all its sensibilities decided a few years back that students from all sections of society should get the opportunity to go to this wonderful school called the Indian Institute of Technology. It was decided that there must be reservations for people from weaker sections of society and at the same time an increase in the number of seats in each IIT to ensure that the general category students are affected in no way. While I endorse the government’s idea to ensure concessions to the weaker sections of society, it is also important that the seat rise qis backed by requisite infrastructure. As always, we fail in implementing our well thought out policies simply because as a country, we fail in implementation.

The institute has a fixed amount of space which implies that there exists an upper limit to the number of buildings in the institute, and therefore of professors and students who can live and work here. While the number was much lower about a decade back, the increased intake in the past few years has put the system through a great deal of stress. Class sizes are much bigger with some courses now running in the Convocation Hall; the entire batch snoozing away happily.

With students being compelled to share rooms till their third year and poor mess facilities, the mood in the hostels is bound to be grim. The institute is on steroids as far as construction is concerned, but unfortunately it is not happening fast enough to handle the greater number of students. The lack of space is an issue which as far as construction is concerned, but unfortunately it is not happening fast enough to handle the greater number of students. The lack of space is an issue which the students feel about the course.

The cut-offs for students have dropped since the seats rise in the number of seats in each IIT to ensure that the general category students are affected in no way. While IIT is clear that it will take students with low cut-offs, so I found it very hard to cope with Maths.”

Later when I asked him why he fared poorly in his first semester, he said, “I didn’t know calculus when I came here, so I found it very hard to cope with Maths.”

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It is a necessary start in the right direction. One could take this effort a step further and provide weak students a crash course in fundamental concepts before joining IIT.

Another major problem faced by students is the inability to read and write in English fluently. The JEE Admissions Board allows students to take the exam in various languages. Many students are now facing problems in their courses because they are unable to understand what the professor is teaching in class or the course content from the prescribed textbooks. This can again be solved by having a month-long crash course on English before the students start classes in July. Such courses are conducted by many colleges abroad for students who don’t have English as their first language. The importance of knowing English can’t be emphasised enough. Right from taking exams to sitting for placements, good communication skills are mandatory. Many companies don’t recruit students if they find that they are unable to express themselves in the interview.

Many times, I find myself blaming the institute for a lot of problems I face. In part I feel I have the right to be angry at IIT for not tackling issues quickly and appropriately. However, I concede that it must be difficult for the students to handle the first year course load. A fresher tells me, “I am surprised I got into IIT after getting four marks in my Maths paper.”

Later when I asked him why he scored poorly in his first semester, he said, “I didn’t know calculus when I came here, so I found it very hard to cope with Maths.”

While IIT is clear that it will take students with low cut-offs, it doesn’t exactly have a plan on how to deal with these students when they are unable to handle the load, thus failing in multiple courses. However, a noteworthy effort is being put by the team of professors and students in the form of remedial classes to help the weaker students come to par with the rest. While the effort was a last-minute start, it is a necessary step in the right direction.
Global management experts have attributed India’s rapid economic growth to jugaad. In the eighties, innovative Punjabias mounted a diesel irrigation pump on a steel frame with wheels, creating a vehicle they called jugaad. The sooty open bonnet and other factors meant that it was not a roadworthy vehicle and lay outside the pale of transport laws. CTARA too had developed its own version 15 years ago. Officially called a 10 HP ridge ploughing tractor, it is affectionately called the ‘jugaad tractor’, and is the embodiment of Indian grassroots innovation at its very best.

Its back wheel is a standard issue car differential. Its front wheel has been taken from a scooter (bought from API, a defunct scooter company). Its 10 HP engine is from an agricultural pump. A chain and sprocket transmission replaced the conventional gearbox and the clutch plate replaced with the incorporation of two meshing gears. This is a valuable innovation, as it dispenses the need for frequent trips to mechanics for costly repairs, all of which can be done at home by the farmer himself. In addition, it comes with a wheeled trolley and a ground plunger or scraper. Apart from ploughing and harrowing, the tractor doubles up as an irrigation pump and can transport goods weighing up to a tonne. It is ideal for marginal farmers with small farms of less than four hectares and is ultra cheap.

IITB may work at technology development and transfer, but in the absence of the requisite public-linkages between rural micro-enterprises and the private sector agri-business, attending to the problems of rural India is bound to remain a pipe dream.

With all these innovations, it seems baffling that this fantastic example of frugal engineering has not managed to see mass commercial production. Perhaps its very frugality has acted against it. Eight years ago, CTARA had approached Mahindra for the commercial production of the jugaad tractor. Its cost of production then was at Rs 90,000. Mahindra had thousands of tractors already in the jugaad category that would sell at a third of their product’s price. Mahindra eventually got back with the view that they were not really looking to go into the small farm sector, but I am sure the spectre of thousands of unsold goods, languishing in its godowns, messing up its bottom-line bottom-lines must have also been a factor in their considerations. In short, the rural agri-business is good so long as it is about high-cost seed and fertilisers: products, which foster farmer dependence on a company’s products but are not about low-cost alternatives that actually foster farmer self-reliance.

CTARA is not interested in the Intellectual Property rights of its products. All it is interested in wide-scale dissemination of its products and the benefit of their end users.

Of the three sectors of economy in India, the tertiary sector has diversified the fastest, the secondary sector the second fastest; while the primary sector, taken as a whole, has scarcely diversified at all. Liberalisation of agriculture and open market operations has vast ramifications for two-thirds of the rural farm sector who are marginal farmers. Information Technology, Genetic Engineering and Bio-Technology, which are the ‘drivers’ of globalisation with their complementarities of liberalisation, privatisation and tighter Intellectual Property Rights, are bound to create new risks of marginalisation and vulnerability for marginal farmers.

In this environment, low-cost, energy efficient engineering devices at CTARA is truly the hardware that can fuel the growth and development of the rural, marginal farm sector. CTARA is not interested in the Intellectual Property rights of its products. All it is interested in wide-scale dissemination of its products and the benefit of its end users.

Much of the IIT system is based upon the western model of research and development, where innovation depends upon scientists and engineers using expensive equipment. Often it might be out of necessity, but even within this system, there are exceptions, where there is no need of high-spending R&D, just creativity and imagination. CTARA prototypes are examples of native resourcefulness, i.e. Indian jugaad at its best. Not content to sit and wait for the government or the private sector to show investor interest, CTARA has taken jugaad a step further.

There is a school of thought here that IITB should involve itself increasingly into a terrain, which has been so far unexplored – extension services. CTARA has initiated supervised undergraduate learning programmes, which have been designed to attract and enable students to do live projects, urban or rural, within the development agenda. These involve direct interaction and interface with the larger society, and formulation of solutions, which could be new gadgets, protocols or studies. Not satisfied with concentrating on just devices and tools – or in other words, hardware solutions that can enhance effectiveness and efficiency of the transfer of agricultural technology to end-users – CTARA now also concentrates on the software (process) to ensure that the next generation of change agents – be it rural entrepreneurs, engineers, social scientists – can be created. Then again, that is a tale in reserve for another day, a new issue of Raintree.
The novel is structured in episodes where each chapter focuses on one aspect of the struggles of Satish Sharma, the protagonist, as he goes from being a student to a man sure of himself, with a great circle of co-workers and a happy family. While the language is simple and makes for an easy read, I would have liked to see more of the central character’s inner workings as he went through different stages of his life.

Satish is the quintessential middle-class boy-turned-man for whom hard work is a habit and humility, a custom. Right from the first chapter where he, though tired of the night-out, consoles Kutty (an exceptional character) into the early morning, to the job hunt in Texas in the latter half of the book, he is shown as a protagonist who cares about people. However, the struggles in his personal and professional life are externalised. For example, in the chapter titled ‘The Pilgrimage’, the author writes that Satish “could not ignore the yawning gap between the sleazy side of his professional life and his principles” which ultimately leads him to apply for a work-visa to the US. As a reader, I would have liked to see the troubles Satish faced in his professional life in India and how he came to the conclusion that going to the US was a better option.

The struggles of Satish’s professional life in the US are better documented than his similar struggles in India. In two chapters – ‘The Interview’ and ‘The Hunt’ – the first one chronicles in detail Satish’s fight with discrimination whereas the latter is about his considerable and tedious hunt for a job. The backdrop of the oil and gas industry which forms the setting for these professional battles is quite realistic. However, on the personal front, when Satish faces a backlash in the form of a bad relationship while the oil and gas industry, his doubts about going home and troubles Satish faced in his professional life in India and how he came to the conclusion that going to the US was a better option. The struggles of Satish’s professional life in the US are better documented than his similar struggles in India. In two chapters – ‘The Interview’ and ‘The Hunt’ – the first one chronicles in detail Satish’s fight with discrimination whereas the latter is about his considerable and tedious hunt for a job. The backdrop of the oil and gas industry which forms the setting for these professional battles is quite realistic. However, on the personal front, when Satish faces a backlash in the form of a bad relationship and marriage abroad, his doubts about going home and the ensuing conversation with his family are endearing.

People who live between countries and consequently between cultures have to straddle both with their often contradictory dictats. However, his enthusiastic family constituting of his parents, sister and brother-in-law leave no stone unturned to find him a ‘good woman’ in the two weeks that he is in India after ten years of being abroad. Finally, he does find a wife and the book ends happily with a strong job and a happy family at home. It is too neat an ending in my opinion.

Pradeep Anand was born and brought up in Mumbai. He has lived one part of his life in India. After his move to the US, the second half of his life unfolded in Texas, amid the oil and gas industry. Though the life of the protagonist closely follows the life of the author, the author claims the book is pure fiction. He lives in Houston, Texas with his family and is the president of Seeta Resources.

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BOOK REVIEW

Straddling Two Worlds

NEHA CHAUDHURI, Campus Resident

An Indian in Cowboy Country by Pradeep Anand
JAICO Publishing House

Straddling Two Worlds

Book Reviewed
An Indian in Cowboy Country by Pradeep Anand
JAICO Publishing House

An Indian in Cowboy Country is a debut novel written by IIT Bombay alumnus Pradeep Anand, about the life and struggles of an Indian professional immigrant to the US. It carries a glowing foreword from Nandan Nilekani who knew Pradeep as a student on the campus.

The novel is structured in episodes where each chapter focuses on one aspect of the struggles of Satish Sharma, the protagonist, as he goes from being a student to a man sure of himself, with a great circle of co-workers and a happy family. While the language is simple and makes for an easy read, I would have liked to see more of the central character’s inner workings as he went through different stages of his life.

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From Chaddi-baniyaans to External Hard Drives

ANTARISH BOTHALE and ANASUYA MANDAL Fourth Year Undergraduates, Mechanical & Chemical Engineering Departments

While most students know about Disha Stationery Store, most other residents of the campus are unaware of the existence of this tiny convenience store housed in a small room in H12. One visit here and you would be awed by the veritable treasure chest this place is. From the quintessential chaddi-baniyaans to luxury electronics like 5.1 surround sound systems and iPod earphones, this place has it all.

We have a sort of monopoly on External Hard Drives here. Even people from outside come to buy them as they are around 5% cheaper.

The store is run by Mr. Himesh Cheda, a cheerful local from Dombivli who had a stainless steel business before coming here. He has been manning the shop (which started as a small STD booth in the pre-mobile phone era) for the past six years. Ask Himeshji about his shop and you can see him beaming. “It is a one-stop solution for all your everyday needs (and more), whether you want namkeen, pen-stands, disposable plates/cups or just plain bathroom slippers. We have a sort of monopoly on External Hard Drives here. Even people from outside come to buy them as they are around 5% cheaper,” he explains proudly.

Take a look at some of the more curious things we found here – a USB vacuum-cleaner with brush attachments to clean your keyboard/screen, Venetian masks, a USB powered mini-hot-plate to keep your coffee warm, customizable mugs and mementos, computer RAM chips (“you want 1 GB or 2 GB?”) hung alongside shampoo sachets and of course, sports equipment.

Readers, please take note: the next time you are looking for everyday stuff, make sure you check it out this mini-store before heading out of campus.

SALT AND PEPPER

PROF. ARUN INAMDAR

...’n replace that Karma crap by a business model if you want some audience to hang on till the end of your talk! ..."
You arrive at your hostel gate and the first thing you notice is seniors running off to class in dirty clothes and slippers (but the security officer told us to wear shoes at all times!). Enter the mess and sundry relatives of random juniors and batchmates are being made to do unmentionable things by way of phrasing. You almost recoil in horror and disgust at the unprincely language being used at one of the premier institutes of the country. You go to your room and oh-your-goodness, you have a person from the same unclean XYZ community for your roomie! No hassles, you'll deal with it, or so you tell yourself.

Now you've decided to study after NSO in the evenings but every time all your wingies are at your room discussing some burning or not-so-burning issue of the day, by the look of it, while all they all are really trying to do is to bond. You want to sleep at 11 to get up in time to bathe and have breakfast for tomorrow's 8.30 class but you fear being left out of the great discussion that's happening two rooms down, where everyone's laughing and someone's case is being taken. You miss next morning's class, and the fear of XX means that you just have to proxy-sign for you. And the second lecture quiz at convocation hall, it's not as difficult to cog you know. You might as well have fun now and look around a bit during the quiz - The Harm Principle says that as long as no one's getting harmed, you're not doing anything wrong. Then there's Physics lab. Fresnel Biprism experiment. There's no way in heaven you're ever going to get the correct reading for this one. Marks needed desperately because as it is experiments have been allotted unfairly and you were unlucky enough to get an impossible experiment. It's justified for you to tinker with the reading a bit. It is totally justified.

A couple of wing seniors return from their foreign interns with chocolates and scores of tales. Man. You just have to go for a foreign intern. The sights, the scenes, the name, the checkbox titled “foreign university intern” and the exquisite crowd. What do you do? Your resume's not as good as most of your peers. But it's okay, you're in your third year. You've seen it all, and you know what is to be done and what isn't. You take on some inconsequential PoR to shore up your resume just that extra bit. You also take up a Minor/Honour/SLP for the same reason. Assignments/attendance are not hassles for you, you've learned how to beat the system with ease. You'll figure something out.

Oh also, the senior has also gotten the good stuff from wherever he went. Duty free implies two litres of exquisite alcohol. Taste karna toh banta hai yaar. And it's not like you're becoming a regular drinker and all you know, this is a special occasion and a heck of an expensive bottle of single malt whiskey.

What about the others in the wing? Well, it turns out that your parents were wrong since you're far dirtier than the XYZ character, who's now a good friend of yours, isn't he? But what the heck is the issue with this group of ABC wingies? They've still not left their linguistic cliques. Who gives these kids funds in life. Chuck it. Not your concern. You better start focusing on your CAT classes now. Some relative innocently asks you, “CAT? But weren't you doing engineering?” You look at them as if they've asked the dumbest question possible. It's IM to what it is. Bullshit, they don't get it.
You've scraped through your first year and even managed a seven point something! Phew! But where did that one year go? Wing discussions? Nightouts? Getting cigarette packs from Main Gate for Seniors? Sheesh, sophies already. Different to the new you. And intro time all over again. First year was a breeze. You've already lost three umbrellas in your first year and someone has relieved you of the cycle your parents so lovingly bought for you. But it's cool, you never rode it anyway, and you'll get an umbrella from somewhere. Or you'll get wet, big deal. Classes start, but it's okay, MI is in December, Techfest in January. If you want to become a CG, you better start working right away. Acads will take care of themselves. All you've got to do is be regular with classes and get the mug's notes rehashed one week in advance (instead of one day earlier, like you did last sem).

No time for assignments and all this sem. MI/TF/intern/Acad project/PoR/XYZ. But if you don't submit your assignment on time, you won't get marks. Everyone's submitting assignments on time and yet they're having as much fun as you are, if not more. How do they do it? Cogging a bit from here and there and then intelligently changing data at strategic points. It's not as if the prof's punishing people from cogging. And then, how much really can one stupid assignment help your understanding? You'll study well before the exam and the purpose will be served.

You look at your phone as you snap out of your reverie. Your MI CG's calling. You still haven't finished last week's task and you were supposed to meet him ten minutes back. "Haan aap cha raha hai shafta tha." Heck, you can lie through your teeth. There's going to be a late night session today. Everyone there smokes. You might just end up being the odd one out, and it is such things, you decide, such little things that make the difference between a CG post next year or none at all. You can't get what you want without compromising a bit - you'll smoke if it comes to it, but only with the boss. That's it.

Phew! Now, Laxmi kaun kaun chal raha hai shaam ko? Four years is a long time you know. You've sure you couldn't have gotten by without a little help from friends. While studying for JEE there was that sharply contracted image of every IITian being an achiever by design. You know how unfounded that is. You know how fighting your way through, needing people along the way and being in places you had no business being in, is really what makes you who you are. And that the set of commandments your parents gave you - no, it does not work. The world outside thinks that you're the odd one out, and it is such things, you decide, such little things that make the difference between a CG post next year or none at all. You can't get what you want without compromising a bit - you'll smoke if it comes to it, but only with the boss. That's it.

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Look around with an open mind. Unethical behaviour is frustratingly widespread and incorrigible. Now smell the pain and fallacies of your fellows and taste some bitter reality. You may feel like quitting. Surely, perturbing times do call for unwarranted actions.

You have a rush of blood to the head and you start speaking out. You brutally attack anything that is wrong, unethical and unreasonable. But this is a deviation from normalcy and you are branded with the ‘un-social’ tag. Your seemingly heroic actions are not so heroic anymore. You steadily lose ground as you raise the bar. Nothing works as planned while your support-system caves in. You slowly learn to give up. You learn to guilt-trip your ethics and virtues. ‘Chalta hai’ creeps in. The world shrinks, the adrenaline loses steam. What is left is ‘a socially acceptable Mr. Somebody’.

Mr. Nobody is an opportunist. He walks with his head held high. He is a glib talker and reads appearing sections of the newspapers. He is thrilled by pay packages. His aim is to climb ladders and befriend snakes. He questions no one but those below. He begs before no one but those above. He is a courteous charity donor but his social obligation ends there. A promised hand in reality is just a finger tip to him. He cries over suffering but dares to do nothing. His life is optimised towards the unconstrained maximisation of his own happiness index.

I accept being a Mr. Nobody. It is a disgusting feeling and my guts shiver while I think about my zero contributions. There is this uncertain uneasiness now, a combination of too much of remorse over the years of inaction and pity over the fact that I would be survived by millions alike.

But experience says that all this drama is temporary. Quitting is not even hypothetically feasible and I will resume being a Mr. Nobody very soon. But for now, I plan to capitalise on this dilemma with a hope that this writ acts as a potential reminder of the state I am currently in. I sincerely wish to be survived by this writ which, as the years go by will grow into something somewhat inspiring and motivational.

Someday I will really have to quit. But by then I hope to have done some good for the society and have a positive influence on the lives of others. How many lives is a number that perhaps my funeral will measure. I cannot be as ambitious as, ‘when I die the whole world will cry’. But I will feel redeemed if my funeral abounds with people, commemorating a life well-lived.
I must have been a thunderous PAF, which compelled both InsIghT and Raintree to write a spontaneous review barely hours after the performance. Intending to stay only for fifteen minutes and leave after sufficiently cheering for a friend, I ended up sitting for the entire performance, riveted.

Possessing the distinct detachment of being a campus resident with no hostel loyalties, judging a PAF based on the complexity of prods, costumes, choreography, etc. is beyond my capabilities. The story and the storytelling is what truly matters, everything else ought to blend in seamlessly. And for their story and storytelling, Golden Quadrilateral was a unique and peerless production to watch and also importantly, to interpret.

Over the years, PAFs have suffered from two chronic disorders: overkill and stereotype. With the pop culture flood to ‘be yourself’, one would expect that irreplaceable desire to express itself in PAFs. What has actually happened is the opposite. PAF’s banal track record has prompted the audience to anticipate a certain level of creative bandwidth in a team’s scope of thought and delivery. However, Golden Quadrilateral broke those white fences beautifully—when a junior lawyer kept repeating himself, “Ye keh toh ekdam saaf hai, Judge saab, ekdam saaf!” the Judge asked him to shut up at the precise point it was about to become a boring repetition. The storytelling was powerful, the message revitalising and the entertainment cathartic. Stereotypes were second-guessed by the scriptwriter and dexterously avoided. Indeed, there wasn’t one cry of ‘dayal’ throughout the 80 minutes.

The story of Golden Quadrilateral possessed many typical themes that have been relentlessly portrayed in India’s visual media: fighting against corruption, a young man’s journey as he comes of age, refusing to accept the experiences and lessons that our previous generations live by. These ideas could have been depicted in another overtly sentimental performance, removed from reality. But Golden Quadrilateral completely shook all the presumptions I have developed about the quality, potential and intention of PAFs.

PAF audiences are in many respects like 16th century Elizabethan audiences: critical to a scratch and quickly completely shook all the presumptions I have developed about the quality, potential and intention of PAFs, which had compelled both InsIghT and Raintree to write a spontaneous review barely hours after the performance. Intending to stay only for fifteen minutes and leave after sufficiently cheering for a friend, I ended up sitting for the entire performance, riveted.

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PAF audiences are in many respects like 16th century Elizabethan audiences: critical to a scratch and quickly bored or roused. In light of this, it was an accomplishment in itself to be able to make them sit up and take notice of a story they already knew about. As a generation, we live in a stupor. Golden Quadrilateral went miles ahead in shaking up the audience and leaving us rattled about the motivations that guide our choices. “Participation is more important than performance, it felt like the audience was responding, not reacting. For instance, when Ravi asked Anand for his reasons behind fighting the Satyendra Dubey case, one could feel the audience thinking. The dialogues were well-proportioned, keeping in mind both the character and the message. The choreography was brave and fluent; it meant to convey and not impress. Even though there were times when some dancers faltered for a few seconds, their hearts were in the right place. I want to significantly point out the Cage sequence which was dazzling in its conceptualisation and presentation, as was its voice-over by Mohit Sharma. The song selections and original music performed by the music arrangement team was liberating and integral to the message.

Speaking of faults, perhaps the one area where Golden Quadrilateral failed to impress was its pace. The lift was essentially present to play into the prod credo – any performance could have done without a lift which worried the audience when two people decided to descend on it together. The revolving prod set-up was an innovative idea, but moved with questionable engineering skills. I do know that there were Civil engineers involved in throwing about their deep-throated, arresting voices in the performance, but I wonder if there were any involved in the production department at all. With respect to acting, Kunal Shelar who played Anand’s father was possibly the only actor slightly lacking in his performance. Golden Quadrilateral had a strong script but perhaps where it disappoointed was the abrupt way many scenes often ended. Although this depends on the seamless interactions between the voice artists, the actors and the lighting artists, one did feel that some scenes ended in limbo.

But there was immense dedication to detail where it truly mattered. The entire team of Golden Quadrilateral has given special importance towards creating a believable North Indian environment. Although there was no female presence, one didn’t miss it. When it was introduced in the script (Anand and Ravi talked about his sister coming alone from the railway station), it successfully conjured the plight of a young girl alone at night in small-town North India. Whether it was the crass Lipton chai joke, typical of men working in the construction industry or the police officer’s ‘bra-voor purse’ Freudian slip, nothing felt out of place, as if it was included in the script simply to cater to the kind of sexist humour an overwhelmingly male audience might enjoy. The voice artists for Anand and Commissioner Bhatia, Mohit Sharma and Ganganjeet Singh respectively deserve special mention for their scintillating vocal expression. They breathed new life into the characters on stage, which also rose up to the challenge of coordinating with them and gave us convincing and commendable performances. Anand may have inadvertently stumbled on the stairs after fighting with his father, but thanks to his intense performance, I attributed his shaky descent to being carried away with anger and betrayal.

The overarching expectation of any audience – the desire to be blown away by a gripping story – was fulfilled. This PAF has changed the rules of the game. It has been a wake-up call, not only in terms of its story and the message, but also in terms of what the audience can now expect from future PAFs. It stood out not only in comparison but also as a performance in itself. From now on, it’s not just going to be about how intricate your prods are, or how slick your dancing is, or how smart-aleck your characters are. Do you have a story to tell?

Sameer Mishra and his team deserve congratulations for choosing Satyendra Dubey’s story. Mishra intelligently created a fictional parallel of the father-son conflict of ethics with Satyendra’s true story. I could not help but marvel the irony between both sets of father and son: one son makes his choices by being inspired by his father, the other son makes his choices by being disillusioned by his father. More importantly, Satyendra Dubey’s story needed to be retold to us in a stringing, passionate manner as did Golden Quadrilateral. It is easy for us to forget such stories. For my part, I had been reduced to footnote in the brief history of India’s whistle-blowers. A shoddy production of Golden Quadrilateral would have belittled the struggles of this phenomenally courageous young man and his family. The audience would have trooped back, satisfied with their “Is desh ka kuchh nho sakta” conclusion. This production made sure that we remembered his sacrifice with renewed vigour, in the hope that when the time comes, we think carefully and honestly about our ethics and choices.
Ethics equals Respect

SHRUTI INAMDAR Campus Resident

The theme of ethics for this issue couldn’t have come at a better time. I recently saw a disturbing picture of a woman with a triumphant smile on her face holding a crocodile with its mouth taped around tightly. Others may have been able to see humour in it, but I could not. I’m sure everyone has their personal meaning attached to ethics. For me, ethics means respect.

The recent lecture by Robert Swan was brilliant. During his talk about melting ice caps, he showed his audience a picture of a polar bear barely able to stand on a piece of ice. The whole audience was appalled and gasped in response. Why did that picture elicit such a strong response? Is it because polar bears are glamorous animals, just like our tigers, that one feels they deserve sympathy and protection simply due to their elevated status? Or is it easy to feel bad for them because they draw out lesser guilt in comparison to all the birds, reptiles and the cattle we have displaced for our infrastructural needs? We did not feel bad for these animals because we “had” to cut those trees to make way for buildings, we “had” to drive the cattle from their homes on to the roads outside because, of course, how could they be a part of one of India’s best educational and technological institutes? We did not feel bad when a young calf, barely equipped enough to follow its mother is made to cross the road with mad traffic that we, being adult humans fear so much. This is despite the fact that they deserve sympathy and protection simply due to their elevated status.

Often we do things simply because we have the power to do them. But it isn’t necessarily the need for power which makes us do these things, it is insecurity. We can’t tolerate co-existence on the same level. Why can’t we be a society that wasn’t enough; in India it is rather unusual to voice your opinion about religion, cultural prejudices and such socially unstable topics, or even to talk so forcefully of the sole importance of science. With his disarmingly informal approach and spirited examples from all over the world of research, the lecture was a pleasure to attend.

Sir Kroto is, apart from many other things (and I do mean many: he is a versatile man to unimaginable degrees) a very public atheist. He is outspoken to the point of the afternoon for me was when someone in India, so to a devout atheist myself, the dramatic high point of the argument for me was: when someone from the audience asked him this question: “the Pope says that all men including scientists should accept without argument that god exists and he created us”. At this, Sir Kroto’s hitherto casual demeanour changed to a mildly serious one. “Well, I ask the Pope,” he said piercingly to the audience, “to give me proof!”

Sir Harold Kroto gave to Techfest was definitive. It was strong and boldly outlined everything a festival celebrating technology and science should stand for.

We did not feel bad for these animals because we “had” to cut those trees to make way for buildings, we “had” to drive the cattle from their homes on to the roads outside because, of course, how could they be a part of one of India’s best educational and technological institutes? that is unconditionally nice to other humans, animals and trees? There may not be any legal obligations on us to be open, accepting and sensitive to the needs of others around us. But if it is simply legalities that prompt us to behave in a certain manner, then perhaps we need to rethink our ideas of ethics.
There are very few at IIT Bombay who may have escaped the phenomenon called Prof. D. B. Phatak. Known for his unconventional teaching ways, he is fondly remembered by his current and past students as someone who can assume conflicting dual roles with ease and zero dilemmas. On one hand he is an inspiring teacher with years of learning and drop-dropping wisdom that one could look up to and on the other he is someone who is quick-witted, ‘one-of-us’, with an array of times, and somebody who can easily tune in to you regardless of your age. Trusted by his colleagues as a problem-solver, he is a gifted orator, adept at making integral and astute observations in discussions of varied natures. His office is a veritable fortress of people, buzzing with preparations for successive meetings. His time comes at a premium and it is almost impossible to get an appointment in one go. Paradoxically, when you do meet him, his disarming modesty and forthrightness leave an invisible mark on you. A big open-source enthusiast, he has adopted the same philosophy in his life, helping people academically and otherwise.

Prof. Phatak’s professional life has been lived with the spirit of a renaissance man. Chair Professor, he was the founding head of Kanwal Rekhi School of Information Technology (KRSIT) and the administrative initiatives and is credited with break-through technology applications. Having served on various national committees, he is currently involved with the Ministry of Information Technology. Having been at the institute for over four decades, Prof. Phatak is intimately familiar with the human psyche. He narrated an intriguing story which prepared me for the rest of my life.

Recently, I saw him on the scooter returning from market with a grandson with him to college sometimes. One evening, I visited Ludhiana during vacations, he used to take his grandson for a vacation. I noticed he was adhering to a certain discipline. For instance, later you may try to book a flat using your official position or pay money to another area of life. For instance, later you may try to book a flat using your official position or pay money to

There seems to be a thin line between punishing the mistake and punishing the person. Does that mean we need to look at other ways of discouraging wrong behaviour? The alternate means, i.e., attempting to glorify good behaviour, do not happen at all. People do not take cognizance of good behaviour because it is expected and it is presumed that unless you're caught, you're behaving well. I think that if there are instances of exceptionally good behaviour, we should acknowledge them. For example, on 26th January, we honour watchmen who do actions beyond their duty, say somebody returning a purse full of money. In a way, you can say that the person was doing his duty. But there was a possibility of temptation which the person did not succumb to. We honour and recognise that. Why can't we do the same for our students? This is not easy but it is a positive way of reinforcing good values.

Writing technical papers and writing exams are two cases where students are most likely to succumb to temptations and disregard good values. In fact, next cases where students are most likely to succumb to temptations and disregard good values. In fact, next temptation in later life often involves money and wealth is so for elders, then marks and academic recognition is equally so for students and visible good research output is so for research scholars and for the senior academic community.

Could you give us some real-life examples of ‘impeccable integrity’? How many people know the story of the great Visvesvaraya? He was an engineer and became the Diwan of Mysore. Engineer’s Day is actually celebrated on his birthday. As an engineer, when he was on a site visit and was doing some work late evening in a guest house; a friend of his came to meet him. Immediately, he extinguished the oil-lamp that was burning and lit another lamp. Amused by this, his friend asked him, “What did you do that for?” Visvesvaraya replied, “That was government oil. This is my personal oil!” Even after he became Diwan of the state, he used the Government car strictly for official purposes, and used his own car for private work. These are non-trivial cases exemplifying high values.

Now how many such important cases do we remember? How many do we recall with respect and honour and consider them worth imbibing in our lives? I'm sure most people have encountered incidents like this from their near and dear ones and from others. But you have to have an open mind, a ready mind. Some of my own lessons have come from some extraordinarily simple people.

That sounds interesting. Could you share some of those experiences with us? My father was a professor in medical college in Ludhiana and was a stickler for such values. When we visited Ludhiana during vacations, he used to take his grandson with him to college sometimes. One evening, I saw him on the scooter returning from market with a bag containing two boxes of chalks. I asked him, “Why have you bought them, Baba? You get chalks in the college.” He replied, “Yes, but my grandson picks up chalks from there sometimes. So now, I will keep these there.” This is a small incident but has a strong message.

Another example I can give you is of one Abdul Jabbar. In the seventies, he was Maharashtra chess champion and a renowned national chess player. Jabbar came from an extremely humble family. Once he was playing in a tournament in Mumbai of which I was also a part. At the end of a round, Jabbar asked the secretary of the Maharashtra Chess Association how to go to Zandu canteen in Lower Parel, where the Bombay Chess Association used to have its office. When he said he had some official work, the secretary told him that he could go by taxi; the Association would pay his fare. Jabbar replied, “Why not?” he said. “I am a student for the Association! How many government office workers actually do the same?”

You’ve been at IIT Bombay since 1971. Have you encountered any such incidents involving your colleagues? Oh, there are many. Talking about IIT faculty, I’ll share a few:

A large number of answers in our examinations are stereotypical, rugged up answers from the textbook. Unfortunately, this is considered perfectly acceptable. What message are we giving out? That reproducing text written by someone else is perfectly fine. Another incident with you. Prof. Sinha, my colleague from the Physics Department was also the warden of H7. On one of the summers, I noticed him often going to H1 to have lunch. It was known that his own hostel food was good, and he was also known to regularly visit his hostel each day. One day I asked him, “Why do you leave H7 and go to H1 to eat food?” He replied, “Phatak Sahib, mere hostel mein khansana khate hue sabh desk lege, paisa deta hue koi nahi dekhega. (In my hostel, everyone will see me eating food but they will not see me paying for it). People may wrongly assume that I am eating for free because I am the warden. That is why I go to H1.” Just doing the right thing is not sufficient, appearing to be correct is also equally important. What better example than this?

When you have such people around you, your desire to be absolutely scrupulous in your behaviour and integrity is buttressed for you. I have been fortunate that I have come across many such people. Of course, there are always exceptions. But this is the kind of atmosphere we need to create across the country and in every walk of life.

What do you feel about the culture of ethics on campus? Do you think there has been a change in our ethical standards? In general, I feel the campus does take the topic of ethics seriously. Wherever there are aberrations or wrong behaviour, people would tend to take action. I wouldn’t say ethical standards have lowered or become higher. We maintain our ethics in a general sense. Some things were there before as well, like the temptation to copy existed when I was a student and I suppose, even earlier than that. It exists now when I am a teacher. Good, exceptional behaviour was there in the past. It is here now as well. My gut feeling is that in general, the campus has a good appreciation of ethics.

Let’s talk about your experiences with one of the larg- est campus communities: the students. What are your opinions on the ethics followed by students not only at IIT Bombay, but at large?
Amongst the student community in general, copy- 
ing is said to be rampant. I do not know why that is so. One incident that happened the year before last was when I was teaching CS 101. It was a very large 
class and lectures were held in Convocation hall. My 
TAs caught students cheating on some programming 
lab assignments; I announced in the class that I had 
noticed some copying and warned them that they 
would get a Fail grade in the course as a result of this. 
Since I would be very sad if I had to fail many people, 
I announced an alternative that they could write an 
apology letter, rewrite the assignments and submit 
them within a stipulated time without getting any 
marks for them. We had caught about 35 or 40 stu- 
dents. But I got 35 letters. One of the more interesting 
letters stated that, ‘I have reworked the copied assign-
ments myself and learnt a lot while doing them. I wish 
I had done that in the first place’.

People do not take cognizance of good behaviour because it 
is expected and it is presumed 
that unless you’re caught, 
you’re behaving well.

What about plagiarism? Does it start at the under-
graduate level or does it have deeper roots? 
Indian society faces a lacuna in the sense that in 
general, our written articulation is not well-developed. 
We find that when we ask our postgraduate and PhD 
students what they do when they are caught in the 
act of cheating, they are unable to articulate what they do. 
Many say that English is not their native language, 
which is a fact. I politely tell them that this is the case 
with many others, including me.

I did an experiment to find out how truthful this 
contestation was. For five years, I gave the shortlisted 
candidates for our M.Tech (IT) entrance a short second 
test. In one of the questions, I would ask them to write 
something in English about their family, then rewrite 
the same thing in their mother-tongue or in any other 
Indian language they knew. Invariably, people who 
were good in English also wrote bad Hindi, bad Marathi, 
bad Telugu, etc. My belief, therefore, is that poor 
writing is a result of lack of mental discipline to write 
properly. Also, it is language-independent. If you’re 
good in one language, it means you’ve disciplined 
your mind to write well and carefully. Then you usu-
ally imbibe that discipline when you write in the other 
language. Inadequate preparation on the topic may be 
one aspect, but invariably, lack of discipline and train-
ing in writing is the problem.

Whatever the reason, because people are unable to 
articulate well, they tend to reproduce whatever is 
written in a textbook throughout their academic life, 
that is, from first to twelfth standard and then continue to do so in 
college. A large number of answers in our examina-
tions are stereotypical, mugged up answers from the 
textbook. Unfortunately, this is considered perfectly 
acceptable. In fact, people get very high marks for 
doing this. What message are we giving? That repro-
ducing text written by someone else is perfectly fine. 
Eventually, this goes into the psyche of every individual. 
When it comes to referencing, we assume that people 
would know that when writing in another language,
they must maintain the distinction and give a chance for a 
teacher to change ways.

Do you feel that over the years, the temptation to 
cheat academically is increasing among students? How do you approach such transgressions? 
You have to have mechanisms to catch such wrong-
doings, you have to have the willingness to rap such students on the knuckles and you have to blow hot 
and cold. With reference to the incident I recounted, I 
would feel heart-struck if I had to fail so many people, 
but I would have failed them had they not corrected 
themselves. I found it more meaningful to give them a 
chance to correct themselves. 

As a teacher, I’ve held that you should punish the 
student and not the person. Has copying increased amongst our students? I would say yes and no. If the teachers are careful, then copy-
ny reproductions can be avoided. But students and particularly undergraduate students are young. If they give into these temptations, I would 
be concerned but not worried.

The worrisome block is at the Masters and PhD levels where students are adults. Even one incident among them must be taken 
seriously. They must send alarm bells. By the time they reach the level of Masters, students should have reached a certain 
maturity and be reprimanded more strongly.

As you mentioned, cases of copying and cheating 
are widespread in the student community at large. 
But have you ever had any opposite encounters? I have. One incident took place in the same course I 
spoke of earlier, CS 101, during the Autumn semester of 
2009 -10. After the mid-semester examination, I had 
put up a slide in my class listing the top performers 
with their marks. A student told me that his friend N’s 
name was under review and he would definitely be a part of 
the list of honours. I briefly 
told him to let N 
tell me his updated marks, and that I would be glad to 
include him in the list of honours.

A few days later, I got a mail from ‘N’. He wrote that 
he had got his paper back, but when he checked his 
report, he found that the TA had made a totaling error, 
giving him two marks more than the correct total. His 
final marks should thus be only 41.5 and not 43.5. 
The significance of his admission was rather deep. He 
was not only ruling himself out from being recogn-
ised as a top performer, but was also putting his final 
course grade in jeopardy (he eventually missed an AA 
grade by 1/2 mark). More importantly, he need not 
have acknowledged the correct total at all, as we had 
43.5 marks firmly recorded against his name on our 
score sheet.

How did the rest of the class react to this event? 
In the next lecture, I put up his name in an ‘extended’ 
honours list, without showing his marks. I briefly 
recited this episode, and observed that in my opin-
ion he deserved to be in the honours list as well. I 
asked the class if they agreed with me. A very loud 
“yes!” from over 800 students in the Convocation hall 
endorsed my observation.

When ‘N’ sheepishly stood up at my request, the clap-
ping from the class was much louder than for those 
courses called list of in the far just share of that then 
really respect ethical behaviour, even though we may 
ocasionally be tempted to behave otherwise. When 
we see it, it is for us to recognise, respect and emulate 
it, if we so dare.

My generation feels benef of people we feel 
enthusiased to live up to. Like John Mayer says, we’re just waiting on 
the world to change. But it is heartening when someone 
so knowledgeable in human nature is convinced that 
greatness is hidden inside each of us. We need not force 
ourselves to relate to the ideals of another generation. We 
can find our own, we can be our own heroes.
52nd Foundation Day

IIT Bombay celebrated its 52nd Foundation Day on 10th March, 2011, by honouring the signal contributions of its teachers as well as erstwhile students, who, as alumni, have left their indelible mark on their chosen fields of profession. The Chief Guest on the occasion was Mr. Gopal Krishna Gandhi, Chairman, Dandi Memorial Committee.

The Professor S. C. Bhattacharya Award for Excellence in Research in Pure Sciences, 2010 was conferred on Prof. Gautam Kumar Lahiri, Department of Chemistry, in recognition of his outstanding research contributions in the area of experimental and theoretical manifestation of valence and spin interactions in metal complexes, and the Professor H. H. Mathur Award for Excellence in Research in Applied Sciences, 2010 was presented to Prof. Prithivi Ramanathan, Department of Computer Science and Engineering, in recognition of his outstanding research contributions in the area of distributed real-time and data intensive systems.

The Distinguished Alumnus Award, 2011 was bestowed on four alumni, namely, Mr. Girish Solhani (B.Tech, Mechanical Engineering), President and Managing Trustee, B&F Research Development Foundation, in recognition of his outstanding contributions to rural and community development; Dr. Jayant Sathye (B.Tech, Mechanical Engineering), Department Chair and Professor, Department of Energy, Environmental and Chemical Engineering, Washington University, USA, in recognition of his outstanding contributions to research in the areas of climate change and renewable energy; Dr. Pratim Biswas (B.Tech, Mechanical Engineering), Department Chair and Professor, Department of Energy, Environmental and Chemical Engineering, Washington University, USA, for her outstanding contributions to research in the field of interdisciplinary engineering; Dr. Subhash Kor (B.Tech, Computer Science and Engineering), Associate Professor, Computer Science Department, Courant Institute of Mathematical Sciences, New York University, USA, for his outstanding contributions to research in the area of computational complexity; and Dr. Viral Acharya (B.Tech, Computer Science and Engineering), Professor of Finance, New York University, USA, for his outstanding contributions to research in the field of banking and finance.

The Lifetime Achievement Award, 2011 was conferred on Prof. Dipan Kumar Ghosh in commendation of his outstanding contributions as a teacher, researcher and administrator.

In his introductory remarks, Prof. Devang Khakhar, Director, IIT Bombay, gave a brief account of the progress of the institute over the years. He stated that the institute continues to be rated as one of the top five in India amongst IITs in terms of its assembled sophistication, but also in terms of an ethos. There is an ethos to technology as much as there is a design to it, and a utility to that design. He suggested, “Technology must therefore examine its ethos for an inner monitor that gives it more than a vocabulary, which it has; that gives it a voice, which it seems so badly to lack.”

The Young Alum Achiever Award, 2011 – a newly instituted award to recognise alumni who have achieved extraordinary success and accomplishments in their respective fields of profession at a very young age – was presented to five young achievers in the field of design, innovation, finance and academic research. They are: Mr. Udaya Kumar (M.Des, Industrial Design Centre), Assistant Professor, IIT Guwahati, for his outstanding contributions to research on the subject of typography; Mr. Pranav Mistry (M.Des, Industrial Design Centre), Research Assistant and Ph.D. Student at MIT Media Lab, USA, for his outstanding contributions to the field of artificial intelligence; Dr. Surey K. Mallapragada (M.Tech, Chemical Engineering), Department Chair and Stanley Chair in Interdisciplinary Engineering, Iowa State University, USA, for her outstanding contributions to research in the field of interdisciplinary engineering; Dr. Surya K. Mallapragada (M.Tech, Chemical Engineering), Department Chair and Stanley Chair in Interdisciplinary Engineering, Iowa State University, USA, for her outstanding contributions to research in the field of interdisciplinary engineering; Dr. Subhash Kor (B.Tech, Computer Science and Engineering), Associate Professor, Computer Science Department, Courant Institute of Mathematical Sciences, New York University, USA, for his outstanding contributions to research in the area of computational complexity; and Dr. Viral Acharya (B.Tech, Computer Science and Engineering), Professor of Finance, New York University, USA, for his outstanding contributions to research in the field of banking and finance.

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As a teacher, his constant refrain was that students should get a flavour of practical side of Aerospace engineering and design, and he tailored all assignments in his courses with this in mind. We have taught several courses together and in all my interactions with him, I have always admired his grip on the subject and depth of knowledge.

SDG also had a creative side. He had prepared thermo-cold glider models for teaching the principles of flight. For several years, he impressed us with his lecture-cum-demonstration on this topic, which was a regular feature at the Aviation Day programme organised by the Aeronautical Society of India.

During his nearly two-decade long career as a member of the Aeronautical Society of India, he contributed to “trigger thoughts about technology and its applications in a foundational sense.” He said, “…technologies are ideas that have been given a structure and a form to create further structures and forms. It follows therefore that technology evolves not merely in terms of its assembled sophistication, but also in terms of an ethos. There is an ethos to technology as much as there is a design to it, and a utility to that design.” He suggested, “Technology must therefore examine its ethos for an inner monitor that gives it more than a vocabulary, which it has; that gives it a voice, which it seems so badly to lack.”

OBITUARY

Prof. S. Gogate
(Former Faculty, Aerospace Engineering Department)
28th August, 1951 to 3rd April, 2011

Shashikant Digamber Gogate or SDG as we used to call him in the department, was a dear friend and an associate later. He was among the very few people in the institute with whom I could discuss our common passion, viz., Aircraft Conceptual Design. He was a very hands-on person; his Master’s thesis in IIT Bombay was on design and fabrication of a homebuilt aircraft. Throughout his life, Shashikant pursued his passion and did not get deterred even one bit under the several adverse situations that he had to face in his life.

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During his nearly two-decade long career as a member of faculty in our institute, SDG wore many hats. He was in charge of the NCC battalion on our campus, and even had an honorary rank in the Army. He used to quip that he was very “useful” for campus residents, since he was a Gazetted Officer who could verify their testimonials; in fact this is how I too first came across him when I joined the institute. I also know several students who have been counselled by him when they were facing academic and personal difficulties.

SDG was well-known in the Aerospace community of India as the “hovercraft guy”, since he built the prototype of a two-seater hovercraft using the engine of a Yezdi motorcycle. During the last few years, SDG was totally committed to his dream project of making a low-cost safe two-seater car for the masses of India. It pains me a lot that he is gone when he was so close to reaching his lifelong ambition, since he had secured investors for his project and it was soon to be a reality.

He is survived by his wife Shalaja and their daughter Namrata, and may God give them the courage and strength to face the situation.
A team of seven students from the Mechanical Engineering Department, IITB have created a three-wheeler that runs solely on human power. The power is generated by the driver pedalling in a reclining position, resulting in more force being applied on the pedals. Named Param, it runs at a maximum speed of 50 km per hour and looks similar to a car. The team behind Param have confirmed their participation at an international competition for human-powered vehicles organised by the American Society of Mechanical Engineers. The competition, called ‘Human Powered Vehicle Challenge’ is being hosted by the Montana State University from 13th to 15th May, 2011.

Rohit Singwal, a third year Mechanical Engineering student and a part of the team spoke about the vehicle. “We have designed a tricycle with an aerodynamic shell to cover it. The shell is crucial as it will reduce the resistance one feels when someone travels against air and will increase the vehicle’s speed. The final product will look similar to a car with human muscle power or pedalling as the only source of energy.”

He adds, “The aim was to design a vehicle which is engineered for everyday use, from commuting to a nearby workplace or commuting within a big campus or for carrying goods from the market, among others.” In addition to the basic design, the single-seater vehicle will also have accessories such as a windscreen, headlights and reflectors.

Building the prototype and the final design was difficult owing to lack of resources, said the team. Materials were often not available in the country and had to be imported from the US. While the prototype is ready, the final design has been sent for manufacturing and will be ready this week. This project is funded by ONGC and GAIL (India) Ltd.

Speaking about Param’s participation in human-powered vehicle competition, the team’s mentor Prof. C. Amarnath, Mechanical Engineering Department remarked, “The human-powered vehicle competition has been taking place for several years and it’s for the first time that our students are participating in it. The western world has access to better material, infrastructure and standards of manufacturing. Despite these limitations, our students have met international standards and have done a good job. The best speed achieved at such a competition has been 90–95 Kmph. So, coming first in the contest is not our criterion at the moment. By and large, our team should perform well there.”

While designing the vehicle, the team took into consideration four main factors: practicality, reliability, speed and endurance. “It is a sustainable and practical transportation alternative for covering short distances. The health benefits are an added advantage,” said Singwal. The team has been working on the project since last July, their main aim then being to extract maximum human power. “The maximum speed that such a human-powered vehicle has achieved is 132 kmph. Since this is the first time we have attempted to build such a car, we limited our speed to 50 kmph,” said Ayush Chandak, another third year Mechanical Engineering student.

“We have been encouraging and supporting student-driven projects. Our student-satellite programme is going strong. Our students have been doing well at competitions abroad, like MIT’s Genetically Engineered Machines competition. This time, too, they will do very well. Such initiatives enable them to do hands-on work and translate what they’ve learned in class into a real project,” said Devang Khakhar, Director, IITB.

It was unveiled for the campus audience on 26th April, 2011 at the P. C. Saxena Auditorium.

‘Poor-ani Jeans aur T-shirt’: Clothes Donation Drive

To those who are new to the institute, and to those residents who were probably unaware, an old clothes donation drive called ‘Poor-ani Jeans aur T-shirt’, was conducted last April in IITB by a group of volunteer students. In the span of four to five days, the volunteers managed to collect more than 3,000 clothes, far exceeding their expectations.

A majority of the clothes have been donated to Goonj (see http://www.goonj.org/), a large organisation that channelises the clothes to the needy across India. About 160 articles of clothing were donated to Shradhha Rehabilitation Foundation while the rest were donated to the Good Samaritan Mission at Vikhroli, and a couple of ashrams at Vasai. Scans of receipts and photos of the campaign are available at http://www.speakupindia.in/category/poorani-jeans/.

‘Poor-ani Jeans aur T-shirt’ will be back again this year, and urges residents and students to donate as vigorously as ever! This time around, they plan to scale up to city-level, and will be carrying out a ten-day long campaign around Mumbai, tentatively on the second week of May, 2011. The campaign will involve different clothes donation checkpoints throughout the city each day. Also, a system is being put into place, whereby all clothes will go to NGOs through the volunteers involved, so that they are aware of the beneficiaries. In this regard, the volunteers of ‘Poor-ani Jeans aur T-shirt’ urge students, especially the first years to be a part of their initiative and help them realise their dream.
IT Bombay and Applied Materials, Inc. launch state-of-the-art laboratory to develop new materials for Advanced Solar Cells and Electronics Devices

Event commemorates Five Years of IT Bombay, Applied Materials Inc. collaboration and the inauguration of the Chemistry Laboratory for Energy and Nano-electronics

Applied Materials, Inc. (NASDAQ: AMAT), the world’s leading supplier of manufacturing solutions for the semiconductors, display and solar industries and IT Bombay recently announced the inauguration of a state-of-the-art Applied Materials Chemistry Laboratory for Energy and Nano-electronics (CLEAN) in the institute. This new laboratory expands the scope of collaboration between ITB and Applied Materials to include the development of new materials that can potentially be used in a variety of electronic and applications focused on renewable energy, including the fabrication of next-generation solar cells.

“This is a great example of the kind of university and corporate collaboration that is helping to advance technology by enabling world-class research, innovation and workforce development,” said Mike Splinter, CEO, Applied Materials, Inc. “Our goal is to serve as a catalyst for developing the critical technology needed to solve the many challenges of next-generation electronic and solar device manufacturing.”

“Applied Materials has grown to become ITB’s most important industry collaborator, in terms of the scale of research collaboration,” said Prof. Devang Khakhar, Director, ITB. “We welcome the establishment of the Applied Materials laboratory through their generous support. This will begin a new phase of the collaboration in areas related to renewable energy, which are a focus of ITB’s research”, he added.

The event also celebrates a successful five-year relationship between ITB and Applied Materials on nano-electronics and solar photovoltaic technology research. During the course of this special alliance, Applied Materials has endowed ITB with over $12 million for the following projects:

• The establishment of the Applied Materials Nano-manufacturing Laboratory, India’s first 200 mm semiconductor fabrication facility and one of the few university-based 200 mm facilities worldwide

• Collaborative research on nano-electronics and solar PV technology

• Applied Materials Inc.’s donation of three state-of-the-art physical vapour deposition and chemical vapour deposition process chambers to the National Centre for Photovoltaic Research and Education (NCPRE) for depositing thin films for solar cell applications.

• A solar PV and LED lighting system that lights up the main avenue at ITB’s campus

would be awarded to the best hostel in terms of cleanliness, hygiene and facilities. Student Achievement in Research and Scholarship (STARS) is designed to support high achieving students for the next level in their educational continuum by providing support for their research projects while in ITB.

The Alumni Day was also an occasion to announce and present the prestigious Distinguished Service Award (DSA), to the alumni who have contributed in a notable and sustained manner to the progress of the institute. This year’s award went to Mr. Hemant Patel (B.Tech, Chemical Engineering, 1979) and Prof. Pratim Biswas (B.Tech, Mechanical Engineering, 1980).

IIT Bombay celebrated its Alumni Day 2010 on 26th December, 2010. It was a great occasion for old students to reminisce, to network, to get updated, to get rejuvenated and to reconnect with their alma mater. This year’s Alumni Day is unique in that a lot many new initiatives were launched this year.

The highlight of the Alumni Day was the Silver Reunion of the 1965 batch who came together in large numbers and ceremoniously handed over a cheque to the institute Director, Prof. Devang Khakhar as part of their Legacy Project on Promoting Technology and Sustainable Development (TLSD) through academics and entrepreneurship at IT Bombay. This batch has set an unprecedented goal of raising approximately Rs. 4.5 crores for their alma mater out of which a sum of Rs. 2.0 crores has already been committed.

The Hostel Alumni Teams Stewardship Programme (HATS), which is currently confined to only two hostels, will now be expanded and launched in ten hostels. HATS now proposes to reconnect the alumni to their old hostels in order to contribute directly not just to their betterment in terms of infrastructure but to assist old mess workers. To facilitate this, hostel level reunions will be organised in all hostels on every Alumni Day. Another initiative launched by HATS is called “Make Hostel my Home”, for the purpose of encouraging and empowering students to improve their living conditions and facilities. The elected Student Body will conduct periodic audits of hostel facilities. A rotating trophy has been instituted which

The Indian government is enabling the creation of an ecosystem that will promote research in photovoltaic and nano-electronics to drive expertise and competence in these fields,” said Dr. Omkaram Nalamasu. “We see a very strong synergy between our objectives and those of the Government of India. We are committed to working with universities and institutions such as ITB to develop innovations that will improve people’s lives.”

Applied Materials Inc. began its association with ITB through several research scholar exchange programmes. This association led to the company recognizing the rich faculty and student research talent available here and in building a very good synergy and relationship. The inauguration of the CLEAN lab marks another milestone in Applied Materials’ longstanding relationship with ITB.

OBITUARY

Prof. T. S. Raghunathan (Rtd. Faculty, Chemical Engineering Department)
From: 25th July, 1943
To: 31st March, 2011
Anybody who knew T. S. Raghunathan for any length of time would have failed to notice his passion for teaching. Reaction engineering (especially polymer reaction engineering) and thermodynamics were clearly his favourites, but he was always enthusiastically prepared to teach other subjects as well, and had definite views on how they should be taught. He was a classicist in his approach to teaching; from the manner he decided the content to the way he delivered it. He read widely, and his choice of books – it had to be Aris for Reaction engineering, and Denbigh for Thermodynamics - showed that he was a discerning reader. I have known him to spend hours in the library (the late eighties or early nineties were still pre-google days) trying to get a number right for a system of industrial interest so that he could set an interesting problem. He was a man of strong opinions – particularly when it came to teaching – and did not shy away from expressing them.

While he took Aris’ point about the utility in pedagogy, of systems such as a+BB, his own preference was definitely for introducing real systems. He had thus collected a lot of data on systems of industrial interest, and this combined with his phenomenal memory, no doubt stood him in good stead when it came to advising industry. Another point comes to mind in connection with his memory. He practiced ‘three-dimensional filing’ and his desk was an organiser’s nightmare, but amazed me by always being able to quickly find a piece of information he needed.

TSR’s outspokenness did earn him a few detractors, but I have a feeling they recognised the innate worth of the man and rallied round to support him when the need arose. He was thus able to form an inter-departmental, inter-institutional team to successfully handle the Continuing Education Programme (CEP) he ran for Reliance Industries for several years. He certainly has a huge fan following among the alumni.

He himself always had a special place in his heart for his students, and would recount, time and again, stories about past students.

While we did not do much research together, we did guide a student or two jointly – I don’t remember whether he was officially involved or simply offered his advice generously as he was wont to do – and he brought the same analytical approach to his research. Friendly to the point of often being intrusive, TSR was quick to seek out the problems of his friends and would go out of his way to help them. And in this, it certainly did not come in the way that he and you had had violent disagreements just recently. He had become somewhat of an occasional visitor after his retirement, having moved some distance away from the campus, but made it a point to visit his friends and exchange notes when some reason brought him to the campus. I am sure his friends in the academic community will sorely miss him.

PROF. A.K. SURESH Chemical Engineering Department
IIITB-Monash Annual Symposium

The theme of the symposium was “Challenges in a Resource-Constrained World”. On this occasion, the key researchers from both IIIT Bombay and Monash University, the two premier institutions of higher learning, came together to share, review, and form views on the intensity of the IIIT-Monash collaboration, the progress of the Academy, the new areas, challenges and research themes to focus on and on the existing challenges that are common to both India and Australia in today’s resource-constrained world.

The IIIT-Monash Academy depends vitally on three principle stakeholder communities – students, supervisors and external partners. This symposium engaged all the three stakeholders communities in a compelling manner. Supervisors, external partners and students engaged themselves to develop new ideas for collaboration, expand on existing ideas and build new partnerships.

The symposium also focused on developing common research programmes of interest to society, the government and industry. The event provided a platform to air opinions and views and to listen to the industry on needs, goals and challenges.

On this occasion, IIIT’s director Prof. Devang Khakhar said, “The IIIT-Monash Academy is already engaging strongly with industry in Australia and India and we expect this to increase in the coming years. As a result, it will intensify the innovation ecosystem that IIIT Bombay exists in, whereby industry-driven innovation is carried through cross-disciplinary teams that include talented students along with industry.” Prof. Ed Byrne, Chancellor and President, Monash University, was very happy about the collaborative efforts, and he expressed this as follows: “IIIT Bombay and Monash University have together worked hard to develop a vibrant research joint-venture that will focus on grand challenge research in six key themes that are of critical importance to both India and Australia. With 60 PhD students in the programme and a growing list of publications, I look forward to the Research Academy creating significant scientific impact in both India and Australia.”

The 3-day symposium featured many eminent personalities such as Mr. F.C. Kohli, former Deputy Chairman, TCS; Mr. Arvind Sitaraman, Managing Director, CISCO; and Mr. Manish Gupta, Associate Director, IBM Research Laboratory.

The symposium concluded with the Student Annual Awards ceremony. Dr. Narayana Murthy, Chairman and Founder of Infosys and Chair of the Academy’s Advisory Board, was the Guest of Honour on the occasion.

Bose Memorial Lecture & ‘Think Policy’ Conference

The Fourth Brigadier S.K. Bose Memorial Lecture and the Seventh ‘Think Policy’ Conference were presented by IIIT in partnership with US India Forum and Indian Public Policy Form at the Victor Menezes Convention Centre on 28th January, 2011. At the ‘Think Policy’ Conference, Prof. Uday Bhawalkar spoke on Ecology Clean-up Using Bio-Sanititizer Ecoships and Mr. Alok Sharma, Head, Corporate Sustainability, Larsen & Toubro, spoke on ‘Green... Good & Growing: What Makes L&T Different’.


Energy Day 2011

The Department of Energy Science and Engineering organised a panel discussion on ‘Green Jobs and Energy Education’ on the occasion of Energy Day, 2011 on 19th March at the Victor Menezes Convention Centre. The panelists were:

- Prof. S. Pau
- Mr. Datta Kuvelekar, GM-R&D, Forbes Marshall, Pune
- Dr. Uday Lajmi, Dean, Management Education (Training & Development), Reliance Energy

Their story has now become an inspiration for several students in the institute who want to break away from the norm and be a part of something similar. “I was always interested in drama and comedy, but only after I joined the company did I realise that this is what I want to be,” said Prashant Chandra, 19, a first year Mechanical Engineering student, who looks after the company’s business development. In the near future, he hopes to become a comedy professional as well.

IITB Alumnus Develops Breakthrough Fog Harvesting Technology

IITB alumnus Shreerang Chhatre has created a technology that can absorb water from fog. Inspired by a desert beetle, he hopes the device will help the millions of poor people living in arid conditions, with very poor access to pure water.

On the west coast of Africa in the Namib desert, a species of beetle called the Stenocara gracilipes has found a distinctive way of surviving. The Namib Beetle, as it is also known collects water droplets from the morning fog on its back and lets the moisture roll down into its mouth, thereby being able to drink water an otherwise parched environment.

A graduate of Material Science and Engineering from the institute, Chhatre is an aspiring entrepreneur at Massachusetts Institute of Technology, presently working on fog harvesting. Chhatre’s fog-harvesting device consists of a fence-like mesh panel which attracts droplets, which then drip into containers connected to the panel. Using this unique device, villagers can collect water near their homes, instead of having to trek vast kilometres in search of water.

Speaking of the device’s aims, Chhatre says, “The beetle only needs to drink a few micro-lites of water. We want to capture as large a quantity as possible.” In some field tests, fog harvesters have captured one litre of water per one square metre of mesh, per day. Currently, Chhatre and his team are conducting extensive tests to enhance the capacity of the meshes to collect water. The beetle’s biological build has been an inspiration but the team has had to work on a different format to create the fog harvesting device so that it can work efficiently for a human environment.

Keeping it Light – IITB Alumnus starts Stand-Up Comedy Company

Declining the plentiful job offers available to every IIT graduate, Nitin Gupta, an IITB alumnus started his own stand-up comedy company called Entertainment Engineers in October, 2009. Two years later there is a team of ten running the successful company, known to be a favourite at college and corporate events.

To give our readers a taste of the humour that our institute may have unwittingly produced, god is a geek whose experiments create vegetarian lions and compassionate crocodiles, till he falls in love with an atheistic woman.

Nitin Gupta, a graduate in Chemical Engineering started Entertainment Engineers with two of his IITB friends. Speaking about the company, Gupta says, “The aim is to make stand-up comedy a respectable profession in India and, of course, profitable.”

Starting as a comedy professional took some time to take off for some. “I actually took up a day-job in the IT sector for three months but left it because I realised that stand-up comedy deserved my 100 percent,” said Tushar Upadhyay, a B. Tech in Material Science and now a stand-up comedian for Entertainment Engineers.

IIT Alumnus Shreerang Chhatre has created a technology that can absorb water from fog. Inspired by a desert beetle, he hopes the device will help the millions of poor people living in arid conditions, with very poor access to pure water.
John Paul Xavier, a student at IDC, has won the auto-Contest. IDC Student wins Chevrolet Design Contest.

The award-winning Tanko Bole Chhe (The Stitches Speak) film by Prof. Nina Sabnani of IDC has won two more awards. It was named the best short document-
dary at CINEQUEST Film Festival, San Jose, USA. At the 30th annual Black Mana Film & Video Festival hosted by Cornell Cinema, it took home the Stellar Selections Animation award.

The 12-minute film celebrates the art and passion of Kutch artisans associated with Kala Raksha. The film traces multiple journeys made by the participants towards defining their identities and forming the Kala Raksha Trust and the School for Design. The film uses their narrative art of applique and embroidery through which they articulate their responses to life, including events as traumatic as the earthquake and as joyful as flying a kite. Through conversations and memories, four voices share their involvement in the evolution of a craft tradition.

It is more of ‘emotion in motion’ at the start of the design process and ‘engineering for motion’ towards the end. I draw a lot of inspiration from nature, robot-
ics and aerospace domains.”

Speaking on automotive design in India, he said, “Automotive design is a budding field in our country with institutes like ours starting to offer specialised courses in Mobility and vehicle design. The scope is going to be positive with a lot of Indian and foreign automobile manufacturers setting up their design stu-
dios in India.” Not to forget, he says, “It’s a tough field. We have to compete with designers from Italy, Europe, USA and South East Asian countries where design is given a lot of weightage. But we have a bright future ahead of us”, he adds.

Due to India’s economy becoming flexible and open over the years, the automobile industry has grown enormously. This has also affected automobile design, which has now evolved from its past concerns of giving priority to technology, to becoming a crucial aspect of automobile manufacture keeping many criteria in mind. Sumit Sawhney, Marketing & After Sales, General Motors, India adds, “I see manufacturers bringing their design studios to India in the coming years. India is going to rank in the top three major automotive markets in the world by 2020.” Anil Saini, Director (Design), General Motors, India added, “We are interested in designing cars for India, and it will be an added pleasure when the talent comes from our own land and culture.”

The other awards that The Stitches... has received are:
- Best Short Film at the Bollywood and Beyond, 2010 Film Festival at Stuttgart, Germany
- FICCI Frames 2010, India: Best Short Professional
- FICCI Frames 2010, India: Best Short Social Welfare
- ISFFI (International Short Film Festival, India) 2010: Best Creative Film
- IDPA (Indian Documentary Producers’ Association) 2010: Excellence Award, 2010

John Paul Xavier, a student at IDC has won the auto-mobile design competition called ‘Design the Next Chevrolet’ hosted by Autocar India, in association with General Motors, India. The contest is targeted at attracting talented Indian designers and engineers from across the country and also showcasing their work to Indian automobile manufacturers.

John Paul graduated with a B. Tech in Electronics and Communication from Model Engineering College, specialising in robotics. He worked as a roboticsist for a year before joining IDC for a Masters in Product Design. It is this combination of his work and edu-
cational experience that gave him an edge in the competition. Speaking of education, Xavier strongly felt that the design industry ought to initiate more programmes and design schools so that aspiring designers are able to get a perspective of the require-
ments of the industry while learning automotive design.

John recounts how the leapard sighting at ITIP inspired the crisp curves and the swift, lean postures in his design. Elaborating on his inspiration, Xavier said, “My way of design is usually form following function. It is more of ‘emotion in motion’ at the start of the design process and ‘engineering for motion’ towards the end. I draw a lot of inspiration from nature, robot-
ics and aerospace domains.”

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Prof. K. Narayanan Department of Humanities and Social Sciences has been appointed as Head, Department of Humanities and Social Sciences, on 18th November, 2010.

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Prof. N. Hemachandra Industrial Engineering and Operations Research (IE & OR) has been appointed as Convener, IE & OR, on 24th January, 2011.

Prof. Milind Sohoni Department of Computer Science and Engineering has been appointed as Head, CTARA, on 8th February, 2011.

**Lectures**

Prof. Gautam R. Desiraju, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore, spoke on ‘Science and Engineering Education and Research in India’ on 11th February, 2011.

Dr. Andrew Kerr, Director, Edinburgh Centre on Climate Change, University of Edinburgh, spoke on ‘Bridging the Intimidating Gap between Good Ideas and the Practical Actions required for Delivering a Low Carbon Economy’ on 15th February, 2011.

Prof. Ronnie Belmans, Katholieke Universiteit Leuven, Belgium, spoke on ‘The European Smartgrids Scene’ on 15th February, 2011.

Dr. Nitish V. Thakor, Professor of Biomedical Engineering, Electrical and Computer Engineering and Neurology, Johns Hopkins University, USA, spoke on ‘Building the Brain Machine Interface - Engineer’s Journey into Brain and Mind’ on 2nd March, 2011.

Ms Rohini Nilekani, Chairperson of Arghyam, Bangalore, spoke on ‘Social Challenges, Personal Responses’ on 4th March, 2011.

**IITB-Nomura Lecture Series**

Nomura has planned a lecture series in partnership with IITB to promote education and research in the field of engineering, technology, sciences, arts and finance for advancement of learning and dissemination of knowledge in such fields. The first lecture in this series was delivered on 24th December, 2010, by Shri Montek Singh Ahluwalia, Deputy Chairman, Planning Commission, the Government of India. The topic was ‘Challenges before the Indian Economy’.

**Public Lecture**

Mr. Kapil Sibal, Minister of Human Resource Development, spoke at IITB on 8th January, 2011 on a very topical subject: ‘Role of Technology, Knowledge and Innovation in Transforming India’. At the outset, Mr. Sibal talked about the need to confront with the imperatives of the new global situation, and today, for the good of the nation, we acknowledge a greater sense of responsibility and urgency to make science, technology and innovation major driving forces for the economic and social development more conscientiously and resolutely than hereto. The Government of India has declared the second decade of the twenty-first century to be the ‘Decade of Innovation’. The National Innovation Council (NIC) has been set up to prepare a roadmap to promote inclusive development. Mr. Sibal put forward an agenda to realise the ‘Vision of India’ as an innovation hotspot, as follows:

“First, realise long term academia-industry collaborative relationships with open access to resources and free of intellectual property (IP) entanglements. Second, put in place better integration of corporations with higher educational and research institutions to create a pipeline for skills that will support growth industries. Third, encourage multidisciplinary collaboration among business, government, academia and R&D thereby creating an environment that supports technological development which is aligned with and driven by industry needs. Fourth, recognising the contribution of young researchers to the vitality and quality of the research system. Fifth, enhance significantly publicly funded research that reaches out to the market by engaging corporate executives as champions. Sixth, take up in collaboration with concerned government economic ministries the modernisation and upgrading of technology in use by the small and medium enterprises. Seventh, encourage the formation of International R&D, technology and innovation consortia between Indian and foreign entities. Last, provide tax incentives to businesses that collaborate with academia and R&D researchers.”

**Russian President at IIT Bombay**

President Dmitry Medvedev visited IIT Bombay on 22nd December, 2010, and had an interactive session with the faculty and students of the institute at the Victor Menezes Convention Centre.

**IIT Bombay and IITBAA launch Nashik Chapter**

Meeting focuses on Entrepreneurship, Opportunities for alumni from Nashik and nearby regions

IIT Bombay Alumni Association and IIT Bombay held its maiden outreach event and the formal launch of the Nashik chapter of the Association in Nashik on 30th April, 2011. A meeting was held at the Express Inn from 5.30 pm onwards for all local IIT Bombay alumni, it focused on entrepreneurship and IITB alumni.

The inaugural address was made by Prof. Ali Contractor, Dean (Alumni and Corporate Relations) and an IITB alumnus and entrepreneur himself.

Prof. Contractor has his own incubator company and is a member of IIT Bombay’s Society for Innovation and Entrepreneurship.

Research indicates that IIT graduates have unique entrepreneurial abilities and the ventures founded and run by them have at an least five to seven times higher chance of success. There is great opportunity in provid-

ing mentorship and guidance – along with the required growth funding – to alumni entrepreneurs, enabling them to be future industry leaders. The two keynote speakers at the meeting were both local stalwarts who have achieved distinction in national and global businesses. Nashik-based entrepreneur and IITB alumnus Narendra Goliya, MD, Rishabh Instruments Pvt. Ltd. who spoke on ‘Global Opportunities for Indian Businesses’ and Satish Parakh, MD, Ashoka Buildcon Ltd, who spoke on ‘Business opportunities for IITB alumni with Ashoka Buildcon Group’.

Also speaking at the meeting was Vikram Gupta, CEO, IvyCap Ventures. It is India’s first innovation and technology venture capital fund with an approach to focus on entrepreneurs with high-quality educational backgrounds. This fund will be anchored by a large number of alumni from all IITs, and is focused on investing in entrepreneurs with professional degrees from premiere institutions, mainly IITs and other top-league institutions. This fund has a target size of Rs. 300 crores, with a strategy to prioritise investments in the early and later stages of growth of companies, which are based on innovation and technology-driven businesses in sectors such as Healthcare, Education, and Food.

IITB alumni will elect an ad hoc co-ordination commit-tee that will carry the new chapter’s activities forward and discuss future areas of activity of the association.

**APPOINTMENTS**

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MS VAIDEHI SHRIRAM GALGALE
Draftsman (Gr.I), Estate Office, retired after 29 years of service in the institute

MR. MADHUKAR V. BHAGWAT
Attendant (SG), CSRE, retired after 33 years of service in the institute.
Shri Madhukar Bhagwat was working with the CSRE’s ‘Geotechnical Group’, later renamed as ‘Terrain Evaluation and Land-use Division’. Shri Bhagwat regularly accompanied the field teams which were responsible for taking care of the amenities in the campus. He did his work sincerely and honestly. We wish him a happy and healthy post-retirement life.
- Prof. (Ms) P. Venkatachalam, Head, CSRE

MR. GAMBIHAR J. SOLANKI
Cleaner (SG), IIT Hospital, retired after 35 years of service in the institute.
Shri Hanumante assisted in UG Lab experiments at S2 Bay Laboratory of the Chemical Engineering Department Shri S.V. Deshpande, Technical Superintendent

Mr. Gambhir Solanki served IIT Hospital for the last 14 years. He came across as a quiet, hard-working and obedient person and performed his duties admirably well in keeping the hospital clean.
- Dr. Nisha Shah, Chief Medical Officer, IIT Hospital

MR. NANA M. SOLANKI
Cleaner (SG), Public Health Office, retired after 35 years of service in the institute.

Mr. Nana Solanki was a sincere and hardworking person. We wish him a peaceful retired life.
- Mr. A. G. Tambe, Sanitary Assistant

MS SHAKUNTALA DHONDU KADAM
Cleaner, Public Health Office, retired after 15 years of service in the institute.

Ms Shankutala Kadam was an open-minded, quick-witted person. We wish her a peaceful retired life.
- Mr. A. G. Tambe, Sanitary Assistant
31st January, 2011

PROF. ACHYUT NARAYAN TIWARI
Department of Metallurgical Engineering and Materials Science, retired after 31 years of service in the institute.

Prof. Achyut Tiwari joined the institute in the IDP of Materials Science in 1980 as a Lecturer. Subsequently he moved to Metallurgy Department as Assistant Professor in 1983 and has continued there since then. He has been a committed teacher and has always taken a deep interest in the well-being of his students. He has a deep sense of devotion to his duties and was always ready to accept responsibilities given to her. Ms. Antony rendered her duties admirably well in keeping the campus clean.

Mr. Shrimp is popularly known in the campus as the “Yoga Teacher” and has a large number of students who benefited from his teachings.
- Prof. Raman Chande, Department of Earth Sciences

MR. SUBARAO D. KURNE
Watchman (SG), Security Section, retired after 35 years of service in the institute.

28th February, 2011

MR. AVINASH G. KOTIYA
Sr. Technical Superintendent, Department of Chemistry, retired after 39 years of service in the institute.

MR. SURESH D. MAIN
Sr. Technical Superintendent, Electrical Maintenance Division, retired after 36 years of service in the institute.

MS RATNA CHANDRA
Sr. Superintendent, Academic Section, retired after 35 years of service in the institute.

Ms. Ratna Chandra worked with diligence and without any lapses on her part while performing her duties. She has always been very helpful to students.
- Shri. H.S. Verma, Ag. Deputy Registrar (Academic)

Shri R. Velusamy, Junior Superintendent in the Account Section joined the institute in 1974 as a Lower Divisional Clerk. He acquired a BA from Bhopal University in 1981 and an MA from Bombay University in 1988. He did his work with utmost sincerity and showed a high level of commitment in managing the Post Office’s Salary Saving Scheme, group insurance, remittance of professional tax recovered from salary and of life insurance premiums to LIC and the Post Office.

However, Mr. Velusamy was more popularly known across the campus for preparing annual Income Tax returns and resolving various Income Tax related problems faced by anyone. He will be greatly missed by the hundreds of staff and faculty members who have relied on his help for many years.
- Mr. Indrajit Romani, Asst. Registrar (F&A)

MR. PRakash V. HELODE
Mech. Asstt., Department of Mathematics, retired after 36 years of service in the institute.

MR. VITHOBA D. JANGLE
Sr. Helper, CRNTS, retired on after 29 years of service in the institute.

MR. GANAPAT R. AHEDA
Mali (SG), Estate Office, retired after 36 years of service in the institute.

31st March, 2011

MS ELSAMMA ANTHONY
Sr. Staff Nurse, IIT Hospital, retired after 29 years of service in the institute.

Mr. Eapen Ninan Jr. Technical Superintendent, Department of Aerospace Engineering, retired after 39 years of service in the institute.

Dattatraya Vasantakumar Nimkar worked in the Propulsion Laboratory where he has been maintaining and operating the rigs for many years. Mr. Nimkar was known for his straightforwardness and no-nonsense approach in interacting with his colleagues as well as faculty members. He will be fondly remembered by his professional and personal community alike.
- Prof. A. M. Pradeep, Head, Aerospace Engineering

MR. SHRIKANT M. KHOPKAR
Jr. Technical Superintendent, Department of Mechanical Engineering, retired after 39 years of service in the institute.

MR. BABU S. BHALEKAR
Mech. Assistant, Electrical Maintenance Division, retired after 38 years of service in the institute.

MR. RAMANBHAI B. SOLANKI
Library Att&d. (SG), Central Library, retired after 39 years of service in the institute.

Mr. R. B. Solanki was a sincere and dedicated worker. He would keep the shelving work up-to-date and was known to help library users with great love. He was a friendly and cooperative person. We wish him a happy, peaceful and long retired life.
- Manju Naika, Senior Library Information Assistant, Central Library

MR. SUBARAO D. KURNE
Watchman (SG), Security Section, retired after 35 years of service in the institute.

Mr. Eapen Ninan will be remembered by his colleagues as a guiding personality in work and personal ties. He was a very punctual, sincere and hardworking person.
- Dr. Nisha Shah, Chief Medical Officer, IIT Hospital

MR. DATTATRAYA V. NIMKAR
Jr. Technical Superintendent, Department of Aerospace Engineering, retired after 41 years of service in the institute.

Mr. Shimp is popularly known in the campus as the “Yoga Teacher” and has a large number of students who benefited from his teachings.
- Prof. Kanchan Pande, Department of Earth Sciences

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- Manju Naika, Senior Library Information Assistant, Central Library
The first part of this comic strip in the last issue was about our thoughts on Raintree. In this concluding part, alumnus Bakul Desai has mischievously conceptualised and first year undergraduate, Utkarsh Raut has evil-mindedly illustrated to give you what they think is the real picture.

Here’s to Raintree! (part II)