

\*Volume V Issue V

Students' Gymkhana

IIT Bombay



## Of Human Bandage

Medical facilities at the Institute hospital have always been a source of dissatisfaction with the students. A few serious cases in the recent past have brought the hospital under strong criticism, particularly from the student circles. Anshuk Gandhi and Srikantan Selvamani discuss.

Being a residential institute, IIT claims to provide all basic amenities within its precincts; and it does. Needless to mention, medical facilities, among others, are the most important ones provided. However, the quality of service at IIT Hospital has always been a point of contention and the skepticism about the same, or should we say fear, is not unfounded. Newsgroups abound with cynical references to the quality of facilities, staff and services of the hospital. In a recent survey conducted by InslghT, students identified the poor state of affairs at the hospital as among the most important problems that need to be addressed.

The capabilities of IIT hospital in handling emergency cases are apparently limited. This is corroborated by the large number of cases where diagnosis of the ailment itself is either incorrect or delayed. Countless cases of late diagnosis or treatment at the IIT Hospital have come to the fore in the past. The hospital drew much flak last year when a mess worker of Hostel 6 died of malaria. His colleagues alleged that the disease was not diagnosed in time. It was another such case of possible grave implications that triggered this probe into the problems with the IIT hospital. (see box) Cases like these put a serious question mark on the competence of the staff and doctors and in turn the quality of health care the Institute deems important for its residents.

We interviewed Dr. Nisha Shah, Senior Medical Officer (SMO) about these issues. Dr. Shah told us, "We are a primary health care center, and

In November 2002, Amit (name changed to protect privacy), a B.Tech. student, was admitted to the hospital with severe abdominal pain and fever. The doctors suspected infection and prescribed antibiotics and painkillers. However, *no tests were conducted on the patient on that day because of the unavailability of pathological and sonography lab staff*, it being a holiday. The visiting surgeon was summoned at night even as the patient's condition failed to improve. An ultrasound test conducted at the hospital's facility the next morning failed to diagnose Amit's condition, and he was put on stronger antibiotics.

Amit's condition continued to deteriorate much over the next two days. Ultimately, the surgeon monitoring the case over the phone recommended the patient's transfer to a higher facility. Amit was transferred to the Lok Hospital in Thane on the night of the 4<sup>th</sup> day, where a thorough ultrasound check revealed that his *appendix had ruptured*. An emergency surgery was performed the next morning at a critical stage. Nearly 1.5 Kg of pus was removed during the surgery. According to doctors there, any further delay in treatment could have led to an extremely serious situation.

InslghT investigated the case chronologically and consulted Dr. Dharap, M.S., Dr. Gautam Yadav, MBBS and Dr. Nishant Khare, MBBS at a reputed public hospital (Sion Hospital) in the city to find out what might have gone wrong and how better could have the case been handled. We also spoke

can only offer limited care to patients. All the cases that we cannot handle, given our resources, are referred to hospitals outside. Sometimes the expectations of students are beyond our capabilities, but we tend to give the best possible treatment to the patients", she added.

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to Dr. Rahul Verma, MBBS, studying at the School of Biosciences & Bioengineering at IIT.

It was noted that since the very first day, the patient had localized pain along with tenderness and rigidity positive in *right iliac fossa* (RIF) (lower right area of the abdomen), which is a conclusive indicator of appendicitis. Further, since the ultrasound report also ruled out renal stones, the doctors could have been sure of this diagnosis.

Dr. Shah (SMO, IIT Hospital) concurs with these observations, adding that appendicitis was strongly suspected from the very beginning, and going by current medical practice, the doctors tried to control the infection by medication in order to minimize surgery risk.

However, according to both Dr. Yadav and Dr. Khare, "In such cases (of acute appendicitis), immediate surgery within 48 hours of onset of pain is the treatment of choice." Dr. Dharap, M.S., who is a practicing surgeon at the Sion Hospital, concurs with them on this point. Dr. Yadav adds, "The appendix infection should not have been allowed to aggravate until the critical state of rupture when surgery was performed. Also, the precious time lost because of tests not being conducted on the first day was unacceptable."

Amit survived. He lost *JUST* 10Kgs and a Semester...

A student goes to the hospital to get himself checked for an ailment because of certain symptoms. The doctor assures the student that he's perfectly normal. A second opinion, sometimes from another doctor in the IIT hospital itself, reveals a condition that requires a 21 day antibiotic

course to treat. Experiences like these are a familiar lore at mess tables. During the course of collecting information for this article, we came across students who would rather travel to clinics in Andheri than get themselves checked by doctors here.

Much of the cynicism of the students about the hospital can also be attributed to inflexibility of administrative procedures. The staff is often accused of being uncooperative. Students also allege that the doctors carry a presumption that students fake ailments in order to get medical certificates, which might be a reason why they wish away their symptoms and do not check them properly.

Dr. Shah however asserted, "90 percent of our staff is very competent. The doctors are all very sincere. At times we are short of people because of some of the doctors or staff being on leave, due to which workload becomes unequal. The doctors are really over stretched sometimes." On the particular case cited here (see box), Dr. Shah commented, "This was a model case for us. We had in fact gone beyond our duties to take the best possible care of the patient."

Among the most common complaints by students are cases of undetected bone fractures, which have later developed into more serious problems, and of simple muscle tears being diagnosed as bone fractures. Dr. Shah said she was aware of certain cases of this nature, and commented that hairline fractures are many times not detectable even by X-Ray scan until they are two or three days old, which is why they fail to be diagnosed.

Students also feel that there is little facility in the hospital to treat sports related

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## In Loving Memory of Those Lost in the Terrible Events of February 14, 2003

## We Salute You

## Letter to the editor

### Indigo Mood: A Rejoinder

Apropos to the Mood Indigo article, the following points are worth mentioning:

The Nite on 27<sup>th</sup> was planned as an innovation, with popular and light music in either language as the theme (which, as a matter of fact, has never happened before). Indian Ocean, for its ever popular mystic numbers, deserved the stage a second time, whereas an option like Orange Street was considered as the music it was supposed to play - Beatles, Bryan Adams, Bon Jovi et al - would have gelled very well with the theme of the nite and the band had enough credibility vis-à-vis its international performances and success at various rock competitions (GIR-2002 et al). It's sad to note that because of some internal problems the band had to trade its original song list with a harder one to keep the show going.

As far as the article on Live-Wire goes one really gets the feeling that some people have been a bit self-opinionated. The paragraph in its very first

statement slams Livewire with a particular genre, but later on goes to contradict itself. Moreover, it fails to appreciate Livewire as a competition, which, with 22 top draw bands in one single day was one of the most successful ever. Also we had participation from regions as far as Assam. Now these are the things which make a competition successful. We believe that the article was far too critical and failed to view Live-wire through this perspective.

What with the performances across the spectrum (Pentagram-AFS-Metakix::AFS of all the competing bands because firstly it lies somewhere in between and secondly it was the best competing band), did we hear someone saying "Death metal all the way"? Agreed that metal dominated (though the language of the article puts that in a very undermining way), but with a niche event like Livewire which merely reflects the flavour of the Indian Rock circuit one can't really help, though we tried to bring in changes that were not only possible but also long due.

Over the years Livewire was getting clichéd with Pro-performances by Parikrama/Moksha and again those "Metal-playing" amateur bands. It was this problem that we had tried to address by getting two new pro-acts (again a first for Livewire) of complimentary genres. It's very disheartening to note that few people were unable to appreciate the freshness of music that Pentagram brought. The article then goes on to label Pentagram as "Disappointing". Of all the adjectives, disappointing? Surprising!

The sales and reviews that Pentagram's new album "UP" has generated makes one believe that the times are not far when alternative rock and with it Pentagram (rather vice-versa) arrives. To quote 'Gigpad', "If you haven't seen Pentagram live, you haven't lived" wouldn't be an exaggeration of sorts. We believe that the time has come for the rock/metal loyalists to take notice of the new dimensions of "Rock".

- Mood Indigo 2002 Team

### Errata

In the article 'Indigo Mood' that appeared in the last issue of Insight, it was incorrectly mentioned that IIT Bombay fashion team came sixth and missed the fifth position by a slender margin of 6 points. It should be noted that the points and the rank were not declared officially. The error is regretted.

- Editors

## Venturing in the Knowledge Space

Professor Prabuddha Ganguli  
Advisor, VISION-IPR  
&  
Adjunct Professor, IIT, Bombay.

Advances in science and technology coupled with the intense Mind-Machine convergence has metamorphosed our ways of living & business processes and it would be fair to believe that the human race has now charted a journey well into the unknown only limited by its own imagination. Competitiveness in knowledge centric technology driven activities now depends largely on one's ability to effectively overlap creativity with knowledge leading to innovations for their rapid diffusion in the market place. Knowledge ownership and its strategic management are beginning to take a centre stage with the demand for reengineered organisational structures and processes to catalyse innovations, speedy value creation and wealth realisation. Intellectual Property Rights (IPR) provides the legal framework for ownership of selective domains in the knowledge space thereby facilitating its ethical & legalised access, utilisation, transfer, trade and enforcement.

The term IPR evokes a spectrum of responses from students, NGOs, professionals, politicians and the public at large with varying

(contd. on page 3...)

(contd. from page 1. Hospital...)

injuries. While there are ambitious initiatives to develop fantastic sports facilities, thought has apparently not been given to setting up of a basic physiotherapy center.

Another complaint is that referrals for treatment of students are not made to good hospitals. Reference and reimbursement facilities for students are extended only for a limited number of hospitals, of which most are municipal hospitals with shoddy facilities, in comparison to the several hospitals recognized for referral and reimbursement of employees' treatment (including Nanavati, Hinduja and Breach Candy Hospital). A complete list of the latter can be viewed on the hospital's website. Does this imply that the quality of health care defined for students is lower than that of the employees, in view of the fact that referrals for treatment of students are by default made to these hospitals?

According to the Dr. Shah, IIT provides direct reimbursement only to its employees. The reimbursement procedure is different for students. Any major expenses incurred in treatment taken by a student from "non-recognized hospitals" in emergency or essential cases, for which reimbursement is needed, have to come from a third source, like funds available with the Dean SA or through student contributions.

An M.Tech student has a rare crippling condition in his right leg, for whose diagnosis the surgeon attending to him required a very specialized facility and personnel, which are available best at the Bombay Hospital. He, however, could not afford the expensive tests costing Rs.8000. This hospital is not in the referral list for students, and no reimbursement for the tests was extended to the student, even after approaching the Dean SA. The student has not been able to receive treatment till date.

The hospital and the Institute administration have received much criticism because of such cases. It is sad that the inflexibility of the hospital and the Institute in recognizing criticality of the disease and the proper treatment, has denied a well deserving student of this world

class Institute the opportunity to receive treatment for his serious ailment.

We spoke to Prof. Shiva Prasad, faculty coordinator of the hospital, about the student dissatisfaction with the hospital due above mentioned problems and the apparent inadequacy of hospital facilities. Prof. Shiva Prasad admits that the guidelines have been made rigid in order to prevent misuse of facilities, but adds that students enjoy "special treatment" as compared to staff members. However, the expectations of students are sometimes higher and become a cause of dissatisfaction with the hospital doctors and staff.

In September last year, an inmate of hostel 11, who was pregnant, suffered an *obstetric condition* known as *false labour*, and needed urgent medication. It is a serious condition in which the patient is under immense pain and cannot even move, and a delay in treatment can lead to severe complications.

Being a doctor herself (DCH), the patient was aware of the treatment required (even the doctors at the IIT hospital confirm this). But the particular medicine was not available at the hospital. It was past midnight and it was raining heavily. Since the nearest shop open at that time was in Ghatkopar, the doctors were requested to send an ambulance to fetch the medicine. The hospital turned down this request, saying that the ambulance can be deployed only for transfer of patients. It is worth a note that the ambulance was free at this time.

Friends of the patient then arranged a transport themselves with much difficulty and brought the medicine. Now, the doctors refused to send a nurse to deliver the injection to the patient insisting that it's the patient who needs to be brought to the hospital for that. They allegedly told the patient's friends, "Rules

Nevertheless, he says, students should bring all such cases to the notice of the HCC though the student representatives, so that the reasons can be looked into and corrected promptly.

On the issue of inadequacy of the hospital's health care facilities, Prof. Shiva Prasad concurs with Dr. Shah in that the hospital was envisaged as a primary health care centre. Earlier discussions for upgrading it to a secondary health care centre have concluded that the investment was

### Case Study

are rules. We can give you the syringe needle. If the patient can inject herself, that is fine with us. But we cannot send a nurse to the hostel to deliver the injection." Ultimately, *another student doctor had to be contacted by the patient's friends to deliver the injection!*

When asked why medical help could not be dispensed at the patient's residence even in such emergency cases, Dr. Shah argued that it was a norm of the medical profession that in this case, such injections are delivered only at the hospital. Dr. Verma however counters this argument on its head, asking "Isn't this what paramedics always do? Isn't the most important norm that of providing timely medical help to patients in such emergency cases, using all the resources that the hospital has at its disposal?" He pointed out that the staff was breaking an even more serious "norm" when providing the syringe and asking the patient to inject herself.

Fortunately, the patient and her friends, being doctors themselves, could help her out of the problem without any serious complications. Are you a doctor?

not justified, given small number of cases requiring such facilities.

However, as Prof. Shiva Prasad informed us, since the residential population has now reached a figure of 10,000 and is expected to grow to around 15,000 in a few years, a fresh proposal for expansion of hospital infrastructure has been formulated and is likely to be decided upon by March 31, 2003. The proposal includes setting up of a cardiac facility, 24 hour X-Ray attendant and pathological lab attendants and availability of common medicines. Also on the cards are a full time physiotherapy centre and dental treatment centre.

Demands for a full time surgeon and an ICU facility have also been raised by several quarters. Responding to these, Dr. Shah noted, "The number of emergency cases that require the presence of specialists or surgeons is very low. It is therefore not feasible to have a full time surgeon here. However, we do have the need for a physician, since most of the cases need to be attended to by the same." Setting up of an ICU is possible, she said, but it requires several peripheral facilities and personnel.

Any expansion is however currently constrained by the lack of space in the existing building, as Prof. Shiva Prasad pointed out. Hence a decision for facility expansion will have to be accompanied by considerations for possible expansion of the building, and the additional costs involved in the same.

The cost consideration should, however, be the least critical while taking a decision to provide better facilities at the hospital. Looking at the enormous sums being invested into building exotic structures for hostel messes in the campus with little apparent benefit for the hostel residents, an investment into the health care infrastructure that would benefit all campus residents immensely, would be entirely justified.

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Established in 1995, Shailesh J. Mehta School of Management, IIT Bombay has come a long way in meeting the objectives it had set forth. In just about seven years, it has made to the Top Ten Indian Business Schools as rated by the leading Indian business magazines. It was recently placed sixth (just below the four IIMs [A, B, C and L] and XLRI) by the magazine Business Barons. All this and more bears testimony to the high quality of student intake, excellent and experienced faculty and the supporting infrastructure. However, there has been a lot of discontent among the students of SOM with regard to the facilities provided to them by the mother institute-IIT Bombay. Through this article, we wish to present forth and discuss some of the issues that have left them displeased. We would also touch upon the roadblocks that SOM is confronting, right now and the growth and expansion issues it may have to deal with, in the future.

#### Living in a box

One of the prime issues that the students at SOM feel is not being addressed in an appropriate manner, is that of accommodation. As told by the students, the JMET brochure includes, in the list of facilities, a single room accommodation to be provided to all the students admitted into the SOM at the IIT's. The accommodation facility provided by IITB is a far cry from what has been promised. The students, at least for a year are put in rooms on a paired basis. The current batch is put up in Hostels 5, 6, 7 and 9 where the rooms can barely accommodate two cots. The sharing could be acceptable had the rooms been meant for sharing and were appropriately sized. There is no space whatsoever for the plethora of reading material and textbooks that each student has to go through, let alone the formal wardrobe that is required to be maintained.

To aggravate the situation, the students are distributed in the various hostels in a random fashion rather than concentrating them in one or two hostels. This makes coordination impossible during project work. As one of the students puts it in an analogical manner, "If the project members are from different hostels then we actually require a GIS to locate the 6 members and bring them together at one place at the same time."

Placating these resounding voices of discontentment, Prof. M.G. Korgaonkar (Head, SJM SOM) said that many a time we have to work under constraints. IIT Bombay is limited by its resources and he feels that the problem will sort itself out when the new hostels, namely 12 and 13 come up. However, the institute has not announced any plans of accommodating the students of SOM in these new hostels.

Taking into consideration the much demanding MoM program and the high fee of

Rs. 50,000 per semester, we sincerely feel that the HCU should draft an alternate policy for the accommodation of SOM students so that the facilities are provided accordingly. If the HCU feels that their hands are presently tied up because of the limited infrastructure and sharing of rooms is necessary, we would suggest that these students should be allotted hostels 2, 3 and the new wing in hostel 4; since the rooms in these hostels are capacious. Such a policy would not only take care of the issue of space but also make coordination among the SOM students much easier.

#### Class Composition

SOM through the years has stuck to its eligibility criterion, which is limited to those with a Bachelor's

**Maninder Gulati and Sandhya Hegde look into some of the problems faced by SOM and its students and the cause of their grouse**

## SOMbre Matters

Degree (or equivalent) in Engineering or Post Graduate Degree in Science. Prof. Korgaonkar attributes the success of SOM and its emergence as a top class business school partially to this model and goes on to state that the kind of quantitative approach and rigor that a person requires to gain a thorough understanding of all business functions, can only be expected out of and delivered by graduates who have an engineering background. Many would argue, since the entire world over, the top brass business schools try to balance the composition of the class in a way that people can learn from the experience of others. In the case of SOM, however, this is limited to people from an IT or Manufacturing/Production background. Though SOM is planning to stick to this model for the time being, opening up admissions to people with a first class graduate degree (non-engineering) with some work experience is on the cards. The quality bar would still remain as high as it is now. Such a model would allow people from say, economics/accountancy background, to relate to SOM and include it in their wish-list of B-schools.

#### Coordination for Placements

Through our interaction with SOM students and the Institute placement office, it was apparent that some lack of coordination and miscommunication exists between the two, thus preventing a healthier and a more rewarding relationship. Regardless of this lack of coordination, the institute placement office has succeeded in routing about 15% of the companies, which come for campus placements to SOM. The new companies are given brochures and invited to explore a vista of possibilities in the students of SOM. Mr. N. S. Rathi (Asst. Placement Officer, IIT Bombay) has been personally pushing

for companies like McKinsey, HLL and ITC to take an active interest in SOM. This could go far in building up the image and a brand for SOM that could put it on par with the IIMs in the future!

Mr. Rathi also said that they have a lot of good ideas and innovative concepts, which could change things further, but there is some lack of initiative at the implementation level, which he feels should come from students themselves. On the other hand, due to the demanding academic routine, the students at SOM find it difficult to follow up on these new ideas. A solution to this would be SOM recruiting a full-time placement officer who would work in coordination with the Institute cell. This would take the load off the students and add more efficiency to the whole process.

Commenting on the issue, Prof. Korgaonkar said that SOM is happy with the support it is presently receiving from the IITB placement office and finds it adequate. Responding to the suggestion of a full-time placement officer, he said that such an activity is best managed by the students and as of now SOM does not need to hire or appoint a Placement Officer for the same.

There also have been instances like SOM brochures not carrying the contact information of the placement cell, scheduling of more than one company in a top slot and others, which have shown the lack of professionalism on the part of SOM students. Though we understand that sometimes to appease the companies they have to follow a certain method of operation, there should still exist complete transparency and coordination so that they can benefit from the various kinds of resources available with the placement office.

In spite of the few problems concerning coordination with the placement office, the effort put in by the students at SOM is, without doubt, commendable. This year SOM was able to achieve 100% placement for the 2003 batch in a record time of 10 hours.

#### The Dream Biz Fest

When it comes to keeping pace and interacting with the corporate world, there has been a considerable amount of effort being put in by the faculty and students at SOM. SOM hosts the very well known and much admired, "Leadership Lecture Series", Continuum and other guest lectures. What it needs now is a full-fledged business festival. Constrained by the human

resources it can allocate to this, we feel that SOM should look forward to collaborating with an organization like E-Cell. Such a joint venture would not only help SOM host its first Business Festival but in the process, E-Cell would also gain advantage from the resources at SOM.

#### Growth issues

SOM has been around for the last eight years. It has a faculty base of around 25 (including the visiting faculty) and houses both full time and part time MoM programmes and a Doctoral Programme in Management. Alongside, it also conducts MDP's for corporate executives. Hitherto, SOM has not faced many problems when it comes to the human resources and infrastructure required to host these programmes, but now it seems that SOM would find it difficult to extract more than it already does, especially when it intends to add new programmes and increase the student intake. "Growth", as Prof. Korgaonkar said, "is the most important concern for SOM at this stage". Elucidating the concern, he said that SOM not only needs to expand but also add variety to its programmes. The SOM library has reached its physical limits and as it stands now, neither does SOM have the required infrastructure nor the much necessary faculty strength to increase the intake and house the ever-demanded new programmes.

As envisioned by Prof. Korgaonkar, within the next four years, SOM should also be meaningfully able to contribute to the B. Tech and DD programmes at IITB. In regard to this, he talked about the possibility of a DD program comprising of a B. Tech degree from IIT and a M.B.A from SOM being offered as an option to the new entrants through IIT-JEE. Another value addition program can be that of a Diploma course at SOM open to all the B. Tech and DD students.

Considering the value proposition that SOM has for both IITians and the MoM students, we believe that IIT Bombay should sincerely apply its resources to meet the demands of SOM students and provide SOM with the much needed platform for its growth.

We would like to thank Prof. M. G. Korgaonkar, Mr. N. S. Rathi and the students at SJM SOM, IIT Bombay for giving us valuable inputs and expressing their concerns. We hope that the concerned authorities would pay heed to these issues and try to resolve them.

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(contd. from page 2. Venturing...)

ownership through patents in biotechnology led advances including human-cloning, newer business methods linked to e-commerce has added further turbulence in the already existing whirlpool. Progress in technology has far out paced developments in Intellectual Property Laws. The situation gets further complicated as copying and piracy supported by technology makes it difficult and often impossible to differentiate the "original" from its unlawful "imitation". As competition becomes intense, sticky issues of copyright, design registration, trademarks, service marks, confidentiality, trade secrets, and privacy gain significance. As the knowledge space gets segregated into aggregates of proprietary domains and non-proprietary domains, contemporary knowledge of "prior art" becomes an imperative to ensure that one is either not trespassing into

"someone's owned knowledge space" as when confronted with infringement claims, the results could be expensive and disastrous. There is no excuse for ignorance!

The academic world has now to come to terms with such realities of knowledge dynamics. Our student community must gain familiarity with the basics of IPR and also understand how it will impact their professional and personal future. The working paradigm has already shifted in the academic institutions as contract research, sponsored collaborations, working in cross-functional teams, industry-university joint projects etc. become the order of the day. Working with high-tech companies also involves developing complex licensing agreements. Time is knocking at our institutional doors to evolve

effective means of transfer of house-grown technologies to the industry.

Among other professional expertise, our students especially in the technology institutes and management institutions will have to master 21st century techniques in Knowledge Engineering, Information Metering, generating and managing Intellectual Property Rights (IPR) to meet the industry and society with a sense of confidence and positive responsiveness. It will essentially involve the management of the intellectual property of the institution in terms of maintaining a targeted and strategic IPR portfolio, enforcing ones' rights when necessary, transferring intellectual property rights appropriately and at the optimum value, striking collaborative linkages, in tandem with the institutional business and research strategies.

With these objectives in mind, this semester an institute elective course HS438 titled "Intellectual Property Rights for Technology development Management" has been offered in IIT Bombay from the Humanities Department". This course is designed to introduce the subject of Intellectual Property Rights to professionals / students interested in the development / transfer / commercialization of technology. This appreciation will enhance their ability and skill to innovate and exploit the fruits of their learning, and serve to enrich their creativity, and appreciate the path to wealth generation for themselves and for the organizations they will be working for in the future. This course is structured in the form of lectures, tutorials, and case study debates.

**Opening the Pandora's Box**

"IIT may be the most important university you have never heard of" goes the host of a popular program in the US as she extols the technocrat-treasure-house of India. And there is more glorification of IIT's in the media available. Such praises are always welcome, especially when they are coming from the otherwise ignorant west. But the whole picture portrayed sometimes throws up some nagging questions. While there is no denying that IIT's have played a crucial role in shaping the future of their now-famous alumni, the other expected output of IIT's i.e. the research and development of technology is conspicuous by its feeble presence overall.

We begin the search for answers at home, at IIT Bombay. On Teacher's Day 2002, the Chief Guest, Prof. S. K. Joshi, Chairman CSIR made no bones about the poor quality of research in India, in general and indicated that IIT's had to rise to the challenge. The general view shared by a number of faculty members and a majority of students we spoke to, is that overall there is hardly any research at IIT Bombay. Prof. N.L. Sarda, Dean of Academic Programmes and Professor of Computer Science prefers to take a more conservative view. "Let us not make a sweeping statement that there is very poor research in IITB. There exist areas, e.g. in Database Systems in Computer Science where IITB has some of the strongest research groups in the world." But then, looking at the overall picture, are we even anywhere close to the MITs and Princetons we are compared with?

Many faculty members we spoke to felt such a comparison was not fair. Dr. S.K. Mitra who has newly joined the Mechanical Engineering Dept after completing his PhD from Waterloo, Canada sums up the view, "There is a need to look at things in a different perspective. Remember, India is a poor country and research requires a lot of money to be pumped in".

Prof. Sarda adds, "Consider the industrial environment and the state of technology in our country. When we talk of research many such factors go against us. We simply cannot garner the kind of resources which are at the command of some top universities in the world. Well, there is much we can still achieve and we are aiming at that".

Prof. Prakash Apte, who joined the Electrical Engineering Department last year, after more than 30 years of experience at TIFR, is more forthcoming. Implicitly accepting that IITB has a long way to go in research, he says, "The IIT's have realized that there is just one way to maintain their brand, especially the B.Tech brand, and that is through research. The change is happening but things like stimulating research environment do take time to evolve."

The question is - are we really serious about creating environment that promotes research? And if initiatives are being taken at the highest level, are they actually being transformed into results at the ground level? Ask the students and the answer is an almost deafening NO. Some faculty members who spoke to us on condition of anonymity agree with the view that barring a few exceptions, 'real' research and development hardly ever takes place at IIT Bombay. We decided to speak to a mix of faculty and students to get to the factors responsible for the current state of research at IIT Bombay. Research does need BIG money. It is also a valid point that the overall industrial environment in India does not tend to back research fully. But the IIT's have been an exception to the rule in many other respects too. Then why lag in research?

Is lack of resources the 'only' constraining factor? During the course of our discussions, it started to turn out that lack of resources was just an excuse. Much could be achieved even in the conditions currently prevailing but opportunities are being wasted away.

**the big WHY**

Probably the most important reason cited was lack of 'motivation'. It is not that everyone who comes to IIT does so due to genuine interest. Many are attracted by the brand-value that the IIT's have created. These students prefer to gain competence in other avenues and let academics take a back-seat. But there are a large number of students who lose interest due to the kind of research atmosphere here.

As one student put it, "The spirit of publish or perish is just not there". Another quips, "My interest in academics on the whole got killed in the second year." It was a common complaint across departments that many professors do not take enthusiasm in introducing the subject to students. Many times professors themselves are found to be unaware of the state of research. A student added, "It is not that all professors are bad. If a course runs badly, we try to provide our feedback. But if the course continues to run in the same way, in spite of the complaints from batch after batch, what interest will be left?" We found examples of such courses and professors in almost every department and hardly anyone had the faith that this situation could ever be corrected. "Until there is a way to make professors accountable for their courses, this unfortunate situation will persist" is a sentiment shared privately by an overwhelming majority of students.

Prof Sarda counters, "Let us also talk about falling attendance then. We know very well that a student who has reached IITB will pass his courses without attending a single lecture. But it is the value addition that you are missing. And this sets off a cycle of decreasing enthusiasm. The faculty has limited effectiveness in averting such a thing". But the students in general do not concede to this argument, stating that one or two "bad" courses every semester is all it takes to drive out interest from academics.

Grades are another point of contention. And surprisingly, it is not the harshness of grading but the suspect grading of one or two courses that crop up in the discussion. If there is a doubt regarding how the end-sems were evaluated or were they evaluated at all, the students are bound to feel cheated. There is at least a direct solution to this: the students should be allowed to view the end-sem papers. "But do the 'authorities' even care about such issues? And when such simple issue are not being addressed, why do you think they will even bother about reasons for falling interest in research?", comments a dejected student. Such examples are not hard to find.

Prof Sarda shows willingness to address all complaints/suggestions from students. "If students are really concerned about end-sem evaluation, it is not a major problem to allow viewing of end-sem answer sheets. But this will come with a rider that trivial cribs shall not be entertained."

In case doubt still persists in the mind of a student regarding evaluation, he/she can directly approach the Dean Academic Programme. There are enough provisions to ensure that there is absolutely no injustice towards any student.

--Dean Academic Programme

**Student Research Projects: A Farce?**

There is a stunning unanimity in views of the faculty and students regarding the BTPs/DDPs/MTPs. It is widely accepted that BTPs have very little research value. But the higher expectations from DDPs and MTPs are not met either. A student described the case of BTPs as, "The BTP is actually to be done only till you get the 'recos'. Completion of BTP seems too far-fetched an idea to cross someone's mind once the 'schols' are on their way". This attitude of students is unnerving.

will have to be exhorted to grade a student looking at the amount of work he/she has done". Many professors also believe that the system of paying DD students remuneration for TA ship removes a handle to make the students work. A DDP based on a sponsored project will invite immediate withdrawal of monetary incentive if the work is not satisfactory, while there is no such provision for DD students with institute scholarships.

A sparkle of hope is seen in the wave of enthusiasm amongst students about UROP

# NO Research @

The subject says it all.

Amol S. Gogate does the research for you.

Students have to be made accountable for their project work. Many faculty members said they believe that there is lot of potential in the post-graduate students, especially the DD students. "There is a huge workforce for research of about 1000 plus people comprising of PhDs, MTechs and DDs. We definitely expect substantial research from them. The output achieved currently leaves a lot to be desired. The onus is on the faculty to engage these students in projects and we need to get tough, if required, to arrest the complacency that has crept in", says Prof Sarda. The lenient grading of BTPs/MTPs/DDPs could be one factor.

(Undergraduate Research Opportunity Project). Many 4<sup>th</sup> year students were agitated that such an opportunity was never presented to them! Well, 'Better Late than Never'. There is a large pool of students fed up of the routine workload of 5-6 courses and 1-2 labs every semester. What is urgently required is probably a 25% cut in the course-load and simultaneous introduction of avenues where there is more scope for self-learning. It has been seen that the 'authorities' are too resistant to 'drastic' ideas. But the students are looking for an Arun Shourie or a Vijay Kelkar amongst the authorities' ranks.

Prof. Sarda agrees, "A grade is, after all, a figure of merit and it gets diluted if everyone is in the As (AA/AB). I personally believe that the faculty

On the part of the students, there is a demand across departments for changes in the rigid course structure and evaluation criteria. More flexibility needs to be imparted to the process of

## an Interview with Associate Dean of Research & Development

**Could you give us an overview of the research and development work in IIT Bombay?**

The R&D work done in IITB can be broadly classified into two major categories - long-term research work or basic research work and the industrial/consultancy projects.

The long term work is oriented towards establishing infrastructural facilities for the long haul. These are mainly funded by government agencies (viz. Ministry of HRD). The industrial consultancy projects are further divided into *retainership, designing and testing jobs*. In retainership, industries retain faculty members as advisors; designing and development projects involve a *deliverable product/technology* at the end or solving a problem at hand. The testing jobs mainly make use of the facilities available in IIT, thus providing service to government agencies, industries and the society.

**Who is involved in the research and development work?**

The R&D work is mainly done by PhD students and by M.Tech students to a slightly lesser extent. The faculty members are also involved but mostly as guides, in charge of various projects.

It is seen that not many UG students take part in the R&D work in the Institute. Do you think that if the various projects undertaken by them are complemented with cash incentives, it might motivate them to come up with better results in the BTP, DDP and other summer projects?

No, I do not think so. There might be few exceptions, but on the whole I do not think it would create much of an impact. 95% of the B.Techs get involved with projects etc. just to achieve their target of 3 recommendation letters and then to go abroad to pursue further studies. Research is a long term project which needs commitment.

But at the same time, B.Techs do not have that much time at hand to get seriously involved with research. Also, at B.Tech level, they want to get an exposure to as many fields as possible rather than stick to one topic. The DD students, however, should be in a position to do as good a work as the M.Tech students, if not better.

The IITs were basically set up for the purpose of research and development in the country. However, of late, we find that they are mostly in the news for the achievements of their students after they have passed out rather than the R&D work being done at the IITs. Please do comment.

The IITs lay a lot of emphasis on R&D. Most of the research labs in the country have large number of people from IITs working in them; however it is not fashionable for the newspapers to write about that. A waste-water treatment plant is just not flashy enough for the newspapers to include it in their articles.

In spite of claiming to have excellent R&D facilities, the IITs fail to attract their own B.Tech students to pursue their further studies here rather than go abroad. How do you explain this phenomenon?

selecting courses. Electives in various fields of interest should be available as early as possible (4<sup>th</sup> and 5<sup>th</sup> semesters). Moreover, it is better to break away from the rigid 50% end-sem + 30% mid-sem distribution, giving more weight to course projects, assignments, seminars etc. Many students feel bogged down by the number of courses that are offered. These students felt that projects/seminars were much more stimulating and should be introduced in lieu of courses.

Another issue to be tackled is the lack of group projects. All BTPs and most DDPs and MTPs are

and faculty alike, that the poor equipment in labs could be hampering research much more severely than the student unhappiness with some courses. Most students said they would prefer to have labs synchronized with the theory courses. In most departments, we found that labs and theory courses dealing with a particular subject do not necessarily go together. Ideally all such course should have the lab as an extension of the course. Millions of rupees are being spent on renovating the hostels. Hostels were definitely in dire need of the money but then the labs deserve at least a matching contribution.

responsibility of each department to ensure that the labs are in good shape. Even suggestions regarding course structure are to be directed to the DUGC which has student members".

Most students we spoke to either did not know what the DUGC (Department Under Graduate Committee) was or were not aware that there are student members who can plead their case directly with the HoD. "The most important student representative in this case is the Department General Secretary," informs GSAA, and adds, "The performance of most Department G.Secs has been terribly poor. Many of them have no interest in their work. They do not attend meetings and are themselves ill-informed about how to address queries/complaints from students". This definitely is a fall-out of the D.G.Sec post being considered a low-key one as compared to the hostel G.Secs. We found that in the case of at least two departments, the D.G.Secs were actively involved in department-related issues and in precisely these two departments the anguish over many of the issues stated above was minimum. There were two other departments where, in the GSAA's words, "The D.G.Sec has just not done any work". The dissatisfaction amongst the students was very high in these very departments. **The students should realise the importance of these posts (yes, these are powerful posts) and grill their representatives if they do not work. Also, there should be a mechanism through which these posts become more answerable to the students.**

The person who can probably play the most important role in the department is the HoD. But the HoDs in most departments seemed unwilling to tackle the pressing need for resurrection of the labs. While some HoDs are aware of the problems of the students, others were founding wanting in terms of enthusiasm to address the issues brought up by students. Prof. Sarda believes that the office of Dean AP can play a supportive role in matters related to the departments. A suggestion that came up in course of the interview was that a status report of labs be sent to the Dean's office and there be at least one student member on the panel that compiles this report for every department.

#### Quick Address of Students' Grievances

Prof. Sarda believes that given the kind of channels available to the students to convey their feedback, students should be forthcoming with ideas to improve conditions which they believe hamper academics or research. He questions, "When there are student representatives at the highest decision making bodies of the Departments and even the Senate, why do students shy away from making themselves heard at the right forum?" Complacency of students in these matters makes things worse and it is only students who complain when they are affected. Students should play a more proactive role in changing things for better than merely crib.

Here, the reason could also be the despondence amongst students. Those of the students who have worked at the hostel posts or departmental post relate their disappointing experiences with the decision making at IITB. Most new proposals are backed by the faculty privately. But the faculty takes up a rigid stance in meetings and most of the proposals students consider essential and implementable are shot down. There is a large number of Professors who, the student community feels, understand their problems better. But precisely these Profs have little say in the actual decision making. Under one pretext or the other, attempts at incorporating new ideas are thwarted.

# IIT Bombay?

individual projects. Shantanu Shah, a 4th year BE student from Vishwakarma Institute of Technology, Pune and a member of the team which won the Open Software contest at Techfest had to say, "IITians work alone. But in the real world, software is never made by a single person. You have to work in a group. This is the reason why Pune University recommends a group of about 4 students for a project." Such group work for major projects could be beneficial to all departments; there could even be inter-departmental groups.

#### How far are the Departments responsible?

"Labs in IITB could be said to be ancient," says Dr. Mitra. Prof. Apte agrees, "The state of labs is very poor in some cases." Many believe, students

The GSAA, Manan Chauhan, presents the work needed to be done at a glance, "We would like much stricter performance-based evaluation. There could be an upper bound on the number of FFs and very severe action if a student fails to pay heed to warnings about the poor academic record. Evaluation of BTPs/DDPs should be such that it reflects the actual work put in and the ingenuity of the student. This, together with a flexible course structure, redressal mechanism for students' complaints and improved lab facilities would be ideal for rejuvenating the research interest amongst students."

Here comes the critical question: who is responsible for looking after the above requirements. Prof. Sarda clarifies, "It is the

## Prof. Kannan Moudgalya

He talked to Anasua Chatterjee and Prateek Singh.

We would definitely like to see the numbers increase in this direction. But you would also note that never have the IITs complained about it. IITs believe in excellence, in freedom. We like to give our students the best that we can and also the freedom of choice to make their own future decisions.

**The Dean of Student Affairs has recently taken several measures to arrest diversion of students in extra-curricular activities. Do you think these might help in improving matters in the R&D scene?**

The situation in Indian colleges is very peculiar. Out here, the students are actually forced to attend lectures, with not much of interest from their side. However on going abroad, I find that it is the faculty who are forced to give attendance to students. The students demand their presence, and try to make most of what they are provided. If the students actually start to show interest in the course program, I'm sure it will improve dramatically.

**Do you think that measures like better publicity of the R&D work in the Institute and also better interaction among students and faculty will help in increasing the interest of the UG students in serious research work?**

The interaction among the students and faculty can certainly be improved. So can the publicity. Our R&D work is publicized through IRCC's newsletter 'Update', which is distributed to a lot of people outside IIT as well as within IIT. We also distribute it to student hostels.

Very often, we receive complaints that the UG students are not interested even in their

BTP work. Some faculty members are even quoted to have given up on the B.Techs. If there is some indication from the students that they are interested in their project work and are willing to devote the requisite amount of time and energy, I am sure that the situation will improve drastically. If the 5% quoted earlier increases even to 15% or 20%, it will make a big difference.

**Have you completely "given up" on the UGs? What do you feel went wrong with the cream of the nation?**

I am not sure but there is a rumor that most of you got burnt out while preparing for the JEE... I agree that the preparation for JEE is very, very rigorous. However, I do not think it should be an excuse for the students to lose all interest in academics once after getting through it. That kind of attitude will definitely not get us anywhere.

**How would you like to conclude this interview?**

I feel that we should improve the standing of the Masters and PhD programs and give them the credit that they deserve. Also for the UGs, they have the freedom to come and join here after obtaining their B.Tech degree. In fact, we would love to see more of them joining our research programme. This will add variety and help improve the research at IIT, as well as constantly looking for people who can do good research.

### Musings from Berkeley

by Rohit Karnik, B.Tech Mechanical Engg. IIT Bombay. Currently doing his PhD at University of California, Berkeley. (as told to Amol S. Gogate)

It is obvious that universities here have much higher funding and consequently better facilities. Another point is that only motivated students seem to go in for graduate studies here. There is more flexibility and a wider range of options as regards field of study. There is almost no emphasis on grades although this may not be the case for undergrads. But one change felt is that trying to get good grades does not distract one from learning. There is flexibility regarding choice of classes we could never think of at IITB.

Courses here are easier and sometimes less rigorous. Professors are organized and teach effectively. Emphasis is on assignments as opposed to exams in most courses.

The relationship between professors and students is very informal. Even small and seemingly non-academic things do make a difference. e.g. things like taking printouts are not hassles. Availability of good and affordable food DOES make a difference!

### Work Culture at IITs

Rohit Karnik, B.Tech Silver Medalist from Mechanical Engineering, 2002 batch and currently at University of California at Berkeley (UCB) gives a first hand account of the major differences he experienced (see box). Providing an insight into the work culture at top universities abroad, Dr. Mitra states, "Universities abroad consider training their students and providing exposure to top class research as a moral obligation towards the tax-payers who finally fund these universities through the government. Maximum attention is therefore paid to student benefit. In India, the general tendency is to take students for granted". Prof. Apte describes research as the 'bread and butter' of the top US universities. "A professor at a good university in the US cannot say that he/she will just teach and do no research. After all 'teaching' becomes boring after a few years until one is not actively involved in research and developmental projects. Students too can learn the most from such professors". Imbibing this kind of culture in an Indian setting definitely seems a formidable task, but since the need has arisen, is it now not necessary to make Professors at IITs at least accountable for research work? Another problem Dr. Mitra points out is the "too formal" relationship between professors and students. To facilitate easy communication, the interaction should be more informal.

### Endgame

It is a very clear 'reality' that we are in a third world country and the consequent dearth of resources cannot be used as blanket excuse for lack of quality research and development across departments in IITB. Today, we as IITians enjoy attention and admiration due to the IIT brand-name although we ourselves have made little contribution to it. While we students, bask in the glory of those who passed out from this institution when many of us were not even born, we should bear in mind that it is our efforts that shall decide the status IITs shall enjoy 15-20 years from now. While students use IITB as a base for honing their overall skills, they fail to realise the necessity of contributing towards research and development within IITB. Sad indeed.

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Techfest 2003, the sixth embodiment of our very own technological extravaganza concluded on the 2nd of February after a three day razzle-dazzle of spectacular events. And to add the icing to the cake was IIT Bombay's claim on the inaugural Techfest Trophy under the able leadership of CL Ravi Jain. So much for performance!

Right from day one, this year's Techfest had a different feel to it. It was the magnitude of the fest. TF 2k3 witnessed the biggest ever turnout of competitors and spectators, surpassing all the previous records since its inception in 1998. About 1900 out station participants were provided accommodation. A total of 280 contingents from over 200 colleges participated in the fest. The site witnessed about 46,000 hits during the last week before the fest. The fest was covered by National Geographic Channel, The Week, Digit and it was also webcasted live on the internet!

What puts this Techfest apart from its previous counterparts was the strong and interesting line-up of Competitions. Six new competitions: SimCity, Water Rockets, Chem e Car, Trebuchet, Krazie Idea and Exhibit were introduced. Though the aforementioned events were all well received by the participants and spectators alike, Exhibit (design a trade show exhibition) was a new competition that did get not an enthusiastic response, plausibly because of the complicated task of the problem statement. Apart from this, the regular competitions like Open Hardware, Open Software, Contraption, Yantriki, LaS'raw, etc saw very worthwhile entries which were appreciated by the judges, faculty and audience alike. The pick of the lot was Yantriki, the most celebrated "robo-sports" competition in India. The student community was provided a chance to try its hands on practical problems posed by the industry as Techfest 2003 featured Industry Defined Problems (IDP) where companies like Mastek and Tata offered mentorship to the winners. A whopping 5 lakh of moolah was given away as cash prizes to the winners. No wonder, such participation and prizes make Techfest the biggest fest of its kind in Asia.

Tech-e-Tete, the Lecture Series was very well attended. The speakers included Prof. M G K Menon, Chairman, Board of Governors, IIT Bombay, Dr. R. Chidambaram, Principal Scientific Adviser to Govt. of India, Dr. Bernhard Schoelkopf, Director, Max Planck Institute of Biological Cybernetics, Germany and Mr. Ajit Balakrishnan, CEO, Rediff. There was also a lecture by Prof. Manindra Agarwal, IIT Kanpur on Prime Numbers. And one person who certainly had the audiences' attention was Ankit Fadia, 17 yr old hacking whiz with lecture(s) on "Computer Networking and Security". The popularity of the event could be gauged from the fact that a repeat lecture of Ankit Fadia had to be organised to oblige eager fans standing in long queues. Dr. Richard M. Stallman, President Free Software Foundation and founder of GNU project spoke through a Video Conference from Boston, USA.

**A report on Techfest 2003, the annual technology extravaganza of IITB, by Zishaan M Hayath, Suraj Ravindran and Vikram Chopra**

## Techfest 2003

However, the discussion by Mr. Sandipan Deb, Managing Director, Outlook, was a let down. Also, most of the panel discussions ended up being individual speeches by respective speakers.

Workshops at Techfest 2003 covered a wide range of subjects, from the most contemporary ones, to those which each one of us always wished to learn, but never got the opportunity. The current interests like Wireless Networking, Robotics, MEMS, GPS/GIS and Computer Aided Process Engineering were well received. The response for the "not so common" subjects among students, namely Astronomy, Cryptography and Archaeology was heartening.

The highlight of the workshops undoubtedly was the Live Telecast from Mount Wilson Telescope stationed at California. The whole Astronomy workshop amazed each and every participant. And if anyone thought that the students were there only to listen, take a note of a couple of IIT Bombay students who delivered arguably the most appreciated parts in the respective workshops.

Hub had the audience struggling over their grey matter with on-the-spot contests and documentaries, courtesy National Geographic Channel. Hub also featured the R&D Exhibition which could boast of long queues of eager enthusiasts. The participating institutions included ISRO, BARC, TIFR, JFWTC, PHILIPS, ADA, NCL, DRDL and IITB among others. Nataraj, "the 6 foot tall, 6 legged robot", ingeniously developed by IITB, walked the corridors of the Mechanical Engineering Department, much to the delight of the tech connoisseur.

"Techfest at Dark" took over from Technohelix of the yester years and enthralled the capacity gatherings in the SAC lawns and OAT, providing the right mix of entertainment and competitions. True to its shibboleth, there indeed was 'Something for everyone!' However, what would leave a lasting impression on the minds of the visitors in Techfest 2003 were the 3D Laser show, Aibo' Robo Cup show and the Air show. The laser show had the crowd gushing in awe. Then there was the Aibo League Robo Cup where robots played "a game of soccer and performed to the same mettle that the humans do (well almost!)". Aibo means "companion" in Japanese. It is also an acronym for Artificial Intelligence robot; and yeah, the Sony-powered dogs even danced to the beat of popular tunes! The surprise package was Air

Borne, the air plane flying session on the Gymkhana grounds on the last day of the fest. The scaled down models of World War II air planes caught everyone's fancy with their high-flying acrobatics. However, poor choice of the movie in the OAT on the last day left people with a disappointing ending. Also, the Pyro show in an academic campus was not very well received by the faculty.

On the flip side, Techfest 2003, with all its grandeur, was not without a few failings, particularly when it came to providing accommodation for the participants. Almost all the people asked for feedback complained of the lack of proper accommodation. Vanee Seth, CL of VIT, Pune who walked away with the Techfest Runners-Up Trophy said, "We've been regulars at Techfest for the last three years. Though accommodation was not splendid last year or before, this year was an awful experience. We were accommodated in the Type-1 quarters (behind H-4) where the rooms were filled with water, had electrical faults and pigeons to sleep with!" Crammed rooms are understandable, as the fest happens when the semester is still on, but serious lapses as these, do dampen the enthusiasm. The organisers say that confirmations for accommodation was sent to 1500 participants. However, about 400 extra visitors turned up without confirmations and they had a tough job managing the crowd. Participants from KK Wagh College, Nasik, winners of Contraption, mentioned registration problems in the Workshops. The "Jaws" team, that won Yantriki Level-I opined that the organisation of the event, though not inefficient, could certainly be more enjoyable if the events could be started according to the schedule.

Another issue was the non-availability of venues like Convo, MB and IC class rooms due to the scheduling of CEED exam and other conferences on the same date. This was in spite of the PR Office being informed about the dates of the fest much in advance. Even in case of the guests, participation from about 25 R&D scientists and another 20 speakers for the Workshops and Lecture Series had the organising team hunting for Hotels and other guest houses as the institute guest houses were on their full capacity owing to the exam and conference.

All in all, except for a few glitches, the ambience and spirit of Techfest 2003 could be summed up, in the words of a participant, as "...the most fantastic Techfest ever...it was a mind blowing experience - the lights, the sounds, the competitions, the crowd! Hope we'll be treated to the same spectacle next year".

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## Memoirs of a Comperere

Gaurav Sharma

"You can't sing! What else can you do to be on stage?" I still remember hearing those words of my NSO Vocals instructor as a clueless freshie, trying hard to sing for an *sur*. It was compulsory at that time for all NSO vocals students to present a devotional song on 2<sup>nd</sup> October. Attempts to match the scale failed and I was deemed fit to comperere the event if only to be on the stage. Thus started a journey that is in its 5<sup>th</sup> year now.

In all these years I have realized that to get noticed as a comperere who otherwise is a "kabaab mein haddi", you should have the capability to "putch" which comes from lack of homework and ignorance about the programme itself. The other programme that I did in my first year was the Foundation Day Concert. The artiste had completed a piece and I asked the erstwhile GS Cult if the concert was over. Getting his nod I took the stage and thanked the artistes for a truly wonderful evening. All cheering and applause only to find a guy waiting at the exit to tell me that the concert had not ended! I fled from the venue and don't know till today who gave the "actual" vote of thanks later that night!

There have been occasions when offers have come out of the blue. Once in my second year, I undeservedly got an invitation from Sydenham College to host a Jagjit Singh Nite. I say undeservedly because a person from that college had heard someone else comperere a Mood I Pronite and on approaching for his contact, was sent to me instead. Lucky?? Wait...you haven't heard the end of it. The girl who was the co-host was a RA in Elec Deptt and was into modelling!! But the experience was not as fruitful as it promised to be, because the organizers did not offer us any grub or even water the whole night!

Jagjit Singh brought along another lucky coincidence. His performance at Mood I 2000, was to be hosted by a professional.

With a bunch of friends, I was seated at a vantage location in the OAT anxious to hear Jagjit Singh. There was an announcement for me to come backstage where I was asked to comperere at the last moment because the "professional" host could not make it due to the traffic. Instead of being shocked I grabbed the opportunity. It was actually a dream come true as I used to rehearse for this very moment before the other guy was finalized! In fact I feel that there is hardly any need for professional compereres in IIT. The 2000 batch is yet to see a good VJ at Mood I Informals.

There are exciting perks that go with the job - the opportunity to interact with big names, easy entrance to the venue and free grub at the guest house, to mention a few. Some such brushes with eminent personalities in the last 4-5 years have left an indelible mark on my heart. Pt. Ronu Majumdar who performed last year was associated with R D Burman since 1981. He was kind enough to talk to me about R D before his performance and also gave me an invitation to his place. One person who stands out is Ustad Amjad Ali Khan who respects the comperere as a co-performer. He asked me to address him as Khan Sahib while reading the profile so that the youngsters would know how to address Ustads. There have been artistes who wanted me to say as much as possible about them and there are some who are content with just their names announced. Keeping artistes happy is not easy. One performer was "too hot to handle" for the organizers with demands like special tea and no tomato in food during this MI! A famous ghazal singer is also infamous for having drinks during his performance!

Comperere in IIT is something not many people show enthusiasm for. It cannot be attributed to stage-fright or the lack of

enthusiasm alone but possibly a mixture of both. Last year at MI, we had to coxa a girl from AFMC, Pune to co-host the classical nite. We are impelled to take aid of a lot of paper while reading out the profiles as it is difficult to remember so much about so many artistes from various fields and genres. It is possible for a Gary Richardson to introduce the Fash Comp judges without paper as he belongs to the same profession. As an interesting trivia, Gary was caught twice in the last three years to comperere at the OAT during Mood I when he came only to be a part of the audience. He never cribbed on being called to do the job and also helped on one occasion to cover a goof-up in announcing the sponsor's name by spending half an hour extra after the event to distribute sponsor's freebies to the crowd in the OAT.

As a comperere, it's imperative that each and every word comes out forcefully and clearly. A major putch while comperere would be pronouncing the name of the performer or a guest incorrectly. In informal events like Surbaahaar, junta wants the comperere to shut up fast and let the singers come on stage and that is what makes the whole thing interesting! When the event was conducted in SAC, the people on stage used to get freebies from the crowd! But all said and done, a comperere is face of the organizers for any event and can give any programme a good start and structure. My failed efforts to match the scales and sing in *sur* that day have given me memories I would so fondly look back at, after passing out of IIT.

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## Fear of the DAK

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By Jatin Mamtani

Kalwinder didn't have a clue as to where he was being led by the two GSeS- Gaas and Gash. When sober, he knew them to be his friends. He was still recovering from the binge they had together the previous night, and in such a state he as always had mixed feelings towards them. He had more reasons for that now because he had been made to walk (remember bikes won't be allowed in these days) for almost an hour on dung-covered roads in a blindfold. He had a feeling that he had been going in circles. At six occasions, he was made to rotate about himself and was now completely disoriented. At last after what seemed to be like descending 99 steps (he could only count till n) he was led into a room and un-blindfolded. Instinctively, he shielded his eyes from the sudden glare of light and his heart shuddered with dread as the full realization of what he was going to be subjected to dawned upon him.

On the surface, life in IIT showed all signs of normalcy and even a few signs of intelligence. An average IITian was still what he used to be. But what lied beneath this surface was utter fear and insecurity. Few dared to word this fear. And fewer would talk about it. Codenamed simply as the DAK, it was the highest institutional punishment that one could be awarded. The DAK could be placed on anyone and everyone. There were no rules. And technically, there were no limits to the power it wielded or the punishment it could impose. And not many were willing to find out more.

Kalwinder, of course, was going to do exactly that. Presently, he had entered the strong room, a secret chamber specially constructed 10 feet below the lake level for such grilling, and a topic of hushed gossip. Nobody knew where it exactly was but it was believed to be below H-12 and H-13 because that was the only construction that had taken place in years. People had stopped building after that. The strong room was so called because it was made entirely out of concrete. A circular room with eight corners, it had no chairs. None were needed as the nine concrete projections that jutted out of the wall at equal distances served the purpose rather economically and well. The room was bare of tables too. Instead a robust circular concrete block erected in the centre had filled the place. The room made you sweat, which was probably because there were no fans that worked. There were no windows either, only a gate through which students came in. It would however be wrong to dismiss the room as entirely Spartan, for from the ceiling swung a beautiful chandelier with golden bells which intermittently made sweet tinkling sounds. It was under wraps now though, as the chandelier came

crashing down into a hundred pieces. A single bulb glowered menacingly somewhere from the dome shaped ceiling and in its glare Kalwinder could vaguely recognize the six stern faces staring at him from their seats. He and the two GSeS occupied the remaining three.

"03819089?", a voice began from the seat opposite his. "You are aware that you have been summoned to this room for now you are under an action of the DAK. You know what that means don't you? The charges on you are - watching and distributing pornographic material, consuming alcohol in campus premises, contempt of the national flag at hostel functions, complicity in activities leading to trauma in pious postgraduate students, stalking sophomores after 10:30, loitering around women's hostels after 7:30, dressing provocatively in lectures, inciting antisocial and insurgent behavior in students, and leading fellow students to suicidal tendencies by planning excursions to dangerous places - under sections 13c, 18h, 19n, 913, 78 c iv) respectively of the SACK constitution. And listening to rock music after midnight, under section 82."

"Do you plead guilty or innocent? Before you say anything, let me inform you of your rights. You have the right to remain silent. However, since anything that you say can and will be used against you, in your best interests, we have made exercising of this right mandatory on your part. You see son, we are like your parents. We know what is best for you. So, do you plead guilty or innocent? Silence will be considered tantamount to acceptance of guilt."

"Innocent Sir", was Kalwinder's sputtered reply. "I feel as an adult citizen of 24 years, I am entitled to certain rights." He saw knowing frowns on the faces around him. He considered the expressions for a while and then frowned knowingly himself. At last after long silence, the voice said once more. "Tell him."

"What? Am I not considered an adult? I am 24 years old. I've spent 6 of them here. Ask my wingers if you don't believe me."

"Of course you are, but", obliged Gass, "there's a catch". "A catch?" "Sure. Catch XX. The SACK constitution recognises every student as an independent adult capable of making decisions on his own. However, through special clause XX, it also requires that an essential ingredient of maturity is a manifest realisation on part of the student that he is after all quite immature and therefore lacks the maturity to make any important decisions

about his life himself and hence must leave those to the senate and the authorities. Any resistance to this tenet is a clear and unambiguous sign of callow and immature tendencies and this automatically forfeits the students claim to maturity. He is therefore rendered incapable of deciding for himself."

"Wow, that's some catch."

"You figured that out soon enough. You are smart. You shouldn't be here."

"So, continuing further. Under the aforementioned sections your offences are culpable to a combined sentence of 23 semester drops, 3600 hours of rigorous community service and 1,10,000 rupees of monetary fines, payable in your own person to Canara Bank, IIT Powai. So do you now plead guilty or innocent?"

"Innocent, sir."

"On what grounds?"

"On the grounds of immaturity, sir. I do not contest my involvement in the actions mentioned. The decisions I made that led to the actions taken as mentioned were the workings of a mind not yet developed fully to maturity. As such, I may plead that I not be held responsible for any actions that led from such decisions. I beg forgiveness and consideration from you."

"Very well. Have you written this down?"

"No, Sir"

"Please do so and file it and submit it."

"Yes, Sir"

"Since, the student has admitted to his offences there is a clear indication of willingness to improve. It may be well-advised to pardon him this once and give him a chance to improve his behavior."

"Thank you, sir. But, what about the SACK constitution?"

"Well, in most cases, decision of the senate is final and binding. You see son, we are like your parents. We do what is best for you."

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Hey there folks...the insti's still reeling from the 'Techfest' hangover...got to say, one of the best we have seen. Managed to attend Prof. Manindra Agarwal's 'Primes in P' lecture...which was about the first ever deterministic algorithm with polynomial time complexity to check whether a number is prime or not. It's being hailed as India's most important contribution to developments in theoretical computer science. The mission was to find an algo with time complexity  $(\log n)^c$  where  $c = \text{constant}$ ...before this, there had already been found a *probabilistic* algo with the same time complexity...and the probability of it failing was said to be lesser than the probability of the computer giving a wrong answer because a particular circuit in it malfunctioned! There was also this deterministic algo with time complexity  $(\log n)^{c(\log(\log n))}$ ...where  $\log(\log(\log n))$  is such a small number, that its estimated to be 5 if  $n$  is the total number of atoms in the universe...whew! But as they say, hardly anything satisfies a theoretician...Anyway, "our" men have got it down (probably) to  $\log n^{10.5}$  and possibly to  $\log n^6$  which still requires proof...for any practical application though,  $c$  has to be brought down to 3...any takers??

Primes, for one, have always fascinated anyone who understands the language of numbers...music for his/her ears, so to say...probably a good way for intelligent life to contact us, just as in Jodie Foster's 'Contact'

Also, kudos to Anand Gautam (anand@che.iitb.ac.in) for solving last time's questech in record time...to be precise, by 10:43 am on the same day.! Time to raise the bar I guess...The first one is on prime numbers (what else?)

1. *Twice as Important!*

Prime twins are prime numbers that are two numbers apart. For example 41 and 43 are prime twins. Can you PROVE that the sum of prime twins is divisible by 12? (This proof doesn't work for the prime twins 3 and 5, of course)

2. *Talk about changing colors...*

A strange phenomenon surfaced only recently around a certain important nuclear installation in the US. (Inside news... FBI assignment... Type C-35 classified... don't ask me how I know!) There was a radiation leak, not very serious but enough to mutate all the rats living in the dome. There are now three kinds of rats, red, yellow and blue...as if that's not strange enough...The curious phenomenon is that when two rats of a different type touch, they will both take on the color of the third type, e.g. a red rat touching a yellow one results in two blue rats. The Reactor HR director says that all these rats are well documented and there are 2001 red, 2002 yellow, and 2003 blue rats in the beginning and were all males. (IIT for rats, maybe...)

Anyway, the HR Director wants to know if all rats can become of same color after some time by an appropriate series of "meetings"? For example, if there are 2 red and 2 yellow rats to start with, it is possible that a red touches a yellow, and then the remaining red touching the remaining yellow, leaving us with 4 blue rats.

Also give necessary and sufficient conditions on the starting numbers of each type of rat so that it's possible for them to all become the same color. What can be said about this color?

3. *Powerful Sum!*

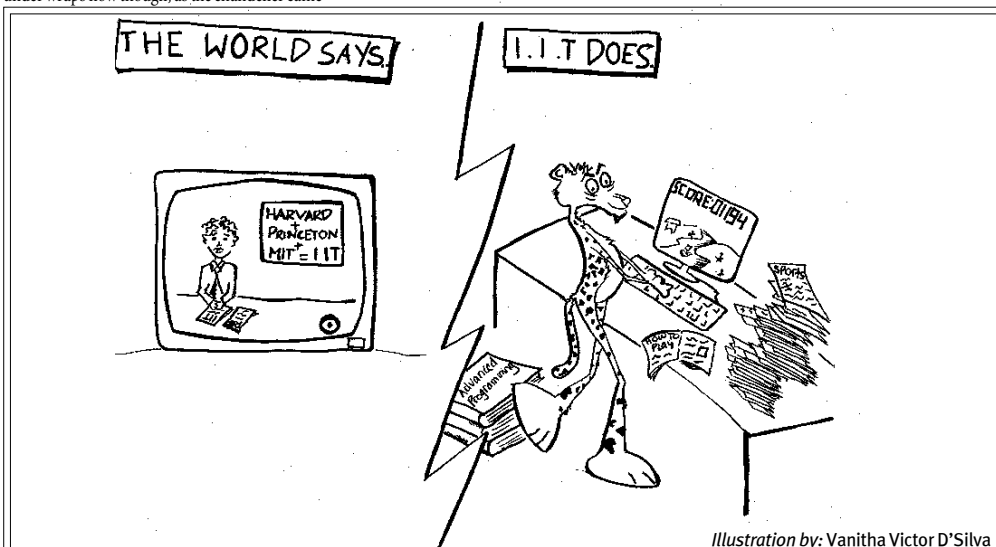
Find the last decimal digit of the sum

$$1^4 + 2^4 + 3^4 + \dots + 2001^{2001}$$

4. *Frontline tactics?*

Find the smallest natural number with 6 as the last digit, such that if the final 6 is moved to the front of the number it is multiplied by 4.

Send your solutions to jam@ee.iitb.ac.in



As I boarded the flight to the US, I could sense a lack of something. A lack of emotion I mean. Here I was, leaving India for at least 5 years to pursue a PhD (leaving aside the vacation trip of a couple of weeks every year or two) and not a tear or sniffle threatened my eye. It is - I learnt from the junta here - always like that. The student smugly thinks he is above such mundane human weaknesses as teary emotions, as he wriggles comfortably in his airplane seat - when it comes. No, not the soft-drinks and the appalling food. Well, that too, but basically the home-longing. I guess it must be the bad food which sets in the reaction - reminding one so of the bad old IIT messes. But luckily the food is so appalling, that if you dab away a tear or two, people next to you just attribute it to the bad food and might even, as the old lady sitting next to me did, attempt to console you that the food would improve in the next leg.

And then before you know it, you are there. The US I mean. Most of the airports here are located at the outskirts of a city. Thus, for 20 minutes of the taxi ride I could see just trees and leaves. And then it came in front of me, one of the most beautiful things that have come upon me so suddenly. The taxi came out of a long tunnel - and bang in front of me - tall lighted buildings (it was night), fountains, lakes (Pittsburgh has a lot of them). It was breathtaking.

"To succeed in the world it is not enough to be stupid, you must also be well-mannered", Voltaire is said to have remarked. No wonder the Americans are so successful. They are impeccably well-mannered. You see somebody, even an utter stranger, in the eye and you will get a "Hello, How are you doing", "Good Morning" and the like. Thank You's and Excuse Me's float perpetually in the air. Imagine my surprise then, when somebody told me that east-coasters (where I am) are 'brusque' and that the west coasters are very 'polite'. Ah well, that's one piece of information for us gaali-ridden IIT fellows.

One thing that any warm blooded IIT male would like here is - the plethora of cars (There is a plethora of females too, but lets not get into that here). So many designs, so many models (of cars I mean) that no two on the road would be of the same model.

*Life in uncertain. Eat dessert first.*  
- E. Ulmer

The above quotation sums up the attitude of people here. People here \*consume\*, with a capital C; and yes, they eat a lot of dessert too. Thus, even an occasional nibbler at Vanilla ice-creams

like me ends up always keeping a couple of gallons of ice-cream in his fridge. Talking of food, if you are a veggie, well... life is tough. At an American restaurant, the only things veggie AND edible would be salad and sandwiches. Mexican and Thai are the only choices for a poor old veggie. Lets \*not\* talk about the abominable blots on the landscape here that go by the name of Indian restaurants. Mexican food is really nice, much close to our Indian food. The Chinese food here is very much different from the Chinese we get in

**Does life change (culture shock?) for an IITian the moment he steps on the Amrikan soil? Here is a random sampling of experiences of two of them in the initial period of their stay in the US.**

tragic your defeats, approximately one billion Chinese couldn't care less!

And the question that many people from India ask. "How is your social life?" And

Yes, I cook. Cook decently I mean, though the initial enthusiasm for cooking 'fundooly' wanes rapidly. Right after coming here, when I talked about making chappathis daily and the like, the ever-wise seniors here just nodded sagely, one or two even shook their heads at the sadness of it all. Needless to say, within a day, I ended up with the wise conclusion that rice is good for health and that chappathis are the root of all evil on earth.

Though there are a lot of females in the university campus, the Desi Male to the Desi Female population ratio is as bad, or should I say worse, out here. For all those who still aspire to endeavour on the romantic front, perhaps this colourful quote by Jean Gieraudeau might be of help - "The secret of success with women is sincerity. Once you can fake that you've got it made."

IITians find the coursework, et al, easy with the math skills and all that. People, professors and others too, really respect Indians in general, and IITians in particular, for their analytical skills. As a tailpiece, consider this quote by St. Augustine, "The good Christian should beware of mathematicians and all those who make empty prophecies. The danger already exists that mathematicians have made a covenant with the devil to darken the spirit and confine man in the bonds of Hell." I found it on the door of a Math professor! Guess that explains away all that frequent "you devils" and "Rakshasas" (as my grandfather used to call me) we used to get in our childhood, eh? Ah, there I go, am homesick again. It is always the little things that always get you. That and the bad food.

**When IITians Drive On The Right Side**

*For ideas, I acknowledge Dave Letterman and his Late Show. I guess he's right: his show has been dead for a long time.*

Top Ten Things that strike the IITian in you when you cross shores:

1. It is possible to create employment out of virtually nothing. I remember Mithun (of H2 fame) telling me about the time weather authorities put up drought warnings all around Chapel Hill, NC, only to be greeted by torrents of rain. Down went the drought signs, and up came flood warnings!
2. The only literary activity on campus is probably the publication of a college newspaper. What's worse, classifieds occupy the centerfolds.
3. You get to watch the latest episodes of *That 70's Show* - but you don't have to trade movies on iitb.general to get your hands on it. Instead, you jot "1930Wed FOXS" on your calendar.
4. Apne pyaare ever-adjusting DASaites are now replaced by ABCDs, or American Born Confused Desis. These undergrads of Indian origin with pitiable ultrasonic accents are precisely those who frequent your TA help sessions.
5. Your hawaii chappals (from CC or otherwise) and your painstakingly collected round-neck shirts take a backseat in your closet. Your razor meets cheek more than once a week. Likewise for the shower.
6. No more four servings of *anda-dosa* at *Maddu's*. Any food that you don't
7. The percentage of entirely-english sentences spoken by an IITian rises drastically. Even the "gaaon ka gawaar" munches Rapidex English during his convocation, so that the stewardess on his US-bound flight brings him the BEVERAge he wanted. More likely she understood it through lip-synx.
8. <http://www.census.gov> reports that the sex ratio in the US is 51:49 in favour of the sex that is fairer. Talk about a reversal of fortunes for us poor IITians, who see MoodI and Malhar as a godsend.
9. You get to cook your own vegetables. Even if they turn out bad, you have no mess-workers whom you can passively curse; instead you fall on pizza as a backup option.
10. This one probably takes some time to sink in. You just crossed over from UG to PG; and the stereotypes conform to IIT standards.

Fine Print (look out for it if you land up in the land of Uncle Sam): As always, the only way to digest this chronicle is with pinches of salt. Check out previous issues of Insight for articles by S.P.Arun and Mokshay for believable versions. This Top Ten List will most likely degenerate into the subjects of group email circulations!

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India. What used to be lip-smacking food in India, here is something that any warm blooded veggie would duck under the table at the mere mention of. Talking of Chinese, there are a \*lot\* of Chinese here, in the universities I mean. They outnumber the Indians at least by 3 to 1, though they are a rather aloof kind. As the Chinese Relativity Axiom goes - No matter how great your triumphs or how

as I always end up telling them "Never ask me about my social life". Not just because there isn't any, but also because it causes a deep racking pain in the recesses of the heart when they do so. However, things are not that bad really. There are many organizations and clubs one could join. And once you get a car, well...

