

IISER Pune Celebrates Second Foundation Day

On 30th March 2012, IISER Pune celebrated its second Foundation Day. Morning classes were off. The hostel-guest house-lecture hall complex was sparkling. Flowerpots that had appeared out of nowhere on the first floor corridor were now jostling for space. The spirit of celebration, however, was present only in trace amounts in the air, at least in the early morning hours (read, up to 11 am for most of IISER). Despite the meagre turn-out of invitees, the festivities went on, dictated by the schedule. This red-letter day, the institute got quite a few gifts, including a green carpet at the entrance. However, a more significant gift was the h Block—the new experimental Physics laboratory block, neighbour of Mendeleev Block.

The h Block was inaugurated by Padma Shri Prof. T V Ramakrishnan, Chairman of the Board of Governors of IISER Pune. The new block will house research facilities for experimental Physics in fields like Quantum Optics, Atomic Physics, Scanning Tunnelling Microscopy, Tera-Hertz Spectroscopy, etc. Though not as illustratively and wittily named as its neighbour, in terms of structure and majesty, it is at par with it. It is more colourful, actually.

Coming back to Foundation Day events, the next in line was the lecture by chief guest Padma Bhushan Prof. R A Mashelkar. Prof. Mashelkar has been the Chairman of Board of Governors of IISER Kolkata and Mohali, Fellow of Royal Society, London, winner of the Shanti Swarup Bhatnagar prize, the Padma Shri and the Padma Bhushan, and has served as a member of the Scientific Advisory Council to the Prime Minister among his other accomplishments.

His talk was titled 'Doing and leading science in India - Reflections from



a Personal Journey'. Students flocked from their beds, faculty from their labs and administration staff from their offices to listen to him. The lecture hall was packed, with people having to stand at the back of the hall. The talk was a description of the changing face of science narrated through Prof. Mashelkar's life experiences. He talked about influential schoolteachers, the importance of patenting and various incidents and decisions of his scientific career. He commented on how difficult it had been to avail the benefits of sophisticated technology and ease of access now as opposed to then, and how despite this, aspirations have considerably lowered with the passage of time. An occasional joke here and there, a touching anecdote thrown in somewhere, all made sure he had the attention of a major portion of the audience at all times. He also casually addressed the dignitaries in the front row as old friends, which endeared him even more to the audience. The talk received a standing ovation.

Following the talk, the IISER Appreciation Award distribution cer-

emony took place. The awards are the institute's way of showing its appreciation to people who, with their non-trivial contributions, keep IISER functioning smoothly. Amongst these unsung heroes were Santosh Nevse, Manoj Chaudhari, Ganesh Pingalkar, Snehal Gaikwad, Prabhas Patankar, Anil Jadhav and Vitthal Shejwal of the administration for their behind-the-scenes, yet remarkable, contributions. Also awarded was the IT Committee chaired by Dr. M S Santhanam. It comprised Dr. Ayan Mahalanobis, Dr. Farhat Habib, Dr. Arun Venkatnathan, Dr. Sudarshan Ananth, Dr. Nagaraj Balasubramanian and Dr. Arnab Mukherjee. Awards were also given to Shree Kshetrapaleshwar Tourist, Sneh Services and Great Wall Corporate Services Pvt. Ltd. for their indispensable role in IISER operations with services like transportation, housekeeping and security.

After everyone was duly acknowledged, the 6th issue of the annual college magazine, Kalpa, was officially released. Before the release, the air had been abuzz with rumours of

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Academic Buzz

1. Summer School Programme - 2012,
Institute for Plasma Research,
Gandhinagar

Duration: 28th May-6th July

Link: <http://goo.gl/6pt7l>

Deadline: 20th April

2. 7th National Conference on
Nonlinear Systems and Dynamics,
IISER Pune

Duration: 12th-15th July

Link: <http://goo.gl/C1lyH>

Deadline: 30th April

(Registration and abstract submission)

3. Student Conference on Conserva-
tion Science (SCCS) – IISc Bangalore

Duration: 2nd-4th August

Link: <http://goo.gl/quS8t>

Deadline: 30th April

(Abstract submission)

4. Technology Transfer Course,
Khorana Program, University of
Wisconsin

Duration: Two weeks (Summer2012)

Link: <http://goo.gl/pJDrM>

Deadline: 30th April

5. Twenty-First International Sympo-
sium on Processing and Fabrication of
Advanced Materials, IIT Guwahati

Duration: 10th-13th December

Link: <http://goo.gl/ppr6E>

Deadline: 1st June

6. International Conference on
Advances in Plant Sciences,
Chiang Mai, Thailand

Duration: 14th-18th November

Link: <http://goo.gl/rIHrP>

Deadline: 30th June

(Abstract submission)

7. 8th International Conference on
Information Systems Security,
IIT Guwahati

Duration: 15th-19th December

Link: <http://goo.gl/IpPI3>

Deadline: 13th July

(Paper submission)



Dr. Jayakannan at Mendeleev Block

Another member of the Faculty has done us proud and added a feather to IISER's cap. This time around it's the National Award for Technology Innovation bagged by Dr. M Jayakannan. This award, by the Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers, Govt. of India, recognizes meritorious innovations in the field of Petrochemicals and Plastics Processing Industry with a citation and cash prize of one lakh rupees. Dr. Jayakannan will be felicitated for his work in Polymer Science and Technology on 26th April in a function at New Delhi. The Sentience team caught up with this down-to-earth, ever-smiling and passionate Chemistry whiz.

When asked about ongoing research in Polymer Sciences, he strongly expressed his view that the field is second only to iron and steel in terms of abundance and potential for innovation at the global level for various products ranging from electronic goods to nanoparticle scaffolds. At IISER, a programme initiated two years ago aims to synthesize polymers for drug therapy of cancerous cells. One of the challenging areas his research focuses on is the synthesis of biodegradable polymers and the economic viability of such processes.

The National Award for Technology Innovation is giving away its prizes for the second time and it is a notable achievement that IISER Pune has been credited with one. Dr. Jayakannan has bagged quite a few awards in the past, the most notable ones includ-

An Idea Can Change Your Life

ing the CSIR Young Scientist Award and TWAS Young Affiliates (2010-2014), which is awarded to only one person in the country across all disciplines.

He has been associated with IISER Pune since 2007, and has seen it grow in leaps and bounds in every way possible. The inter-disciplinary system at IISER has influenced research in fields such as Polymer Sciences that are at the interface of Physics, Biology and Chemistry.

Dr. Jayakannan's take on brain-drain is that there is no necessity for one to go abroad as India has almost the same facilities as anywhere in the world now, and much more important for research is that you have an idea. To quote him, "For Indian scientists to think we do not need facilities, what we need is an 'idea'. If you have a good 'idea' you can crack a problem, there is nothing like it. If you have 'ideas', you can always create facilities."

The Avvaiyar quote "*Katrathu Ki Mann Alavu*" meaning "What you have learnt is a mere handful" hangs by his office doors. His touching story of growing up with hardships and yet making it so far is reflected in his down-to-earth and humble nature. A cricket fanatic and a keen reader, he always puts his family first - whether it's answering a phone call from his wife or proudly displaying a family portrait drawn by his daughter!

Here is wishing him a big good luck for all his future endeavors!

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Kalpa's makeover. And hence it was with bated breaths that people were waiting. The crowd had to wait while longer though, as Alisha Pathak, a third year undergraduate student and the Iron Lady behind Kalpa, shared her Kalpa-experience with them. Finally the much-awaited spectacle emerged from within shiny red wrapping paper and was quickly given away to various members of the board and the chief guests, leaving craned necks asking for more viewing time. The Kalpa team that had meticulously and painstakingly put together every page was called up on the stage and given International Year of Chemistry (2011) mugs in recognition of their hard work.

Also released were DVDs of an

educational documentary produced by IISER Pune titled 'Chandra: In Quest of Perspectives'. The film on S. Chandrasekhar was a part of centenary celebrations of his contributions to Astrophysics, Physics and Maths. The film had been directed by award-winning filmmaker Nandan Kudhyadi, who was also present at the Foundation Day celebrations. It has been narrated by our very own Dr. Sudarshan Ananth and has interviews with eminent scientists like Roger Penrose, Kip Thorne, Jayant Narlikar and the like.

The vote of thanks by the Registrar, Dr. V S Rao brought an end to the event. People moved on to have lunch in the award-winning mess and the day soon morphed into your regular IISER day.



Prof. Mashelkar delivering his talk on "Doing and leading science in India - Reflections from a Personal Journey"

Bose-Einstein Condensation Achieved At IISER Pune



Dr. Umakant Rapol with his research group

Dr. Umakant Rapol has added to the pile of IISER laurels the successful synthesis of the Bose-Einstein Condensate for only the second time in India on 28th March 2012. India saw the first synthesis of this extremely difficult-to-produce fifth state of matter in 2007, when scientists at the Tata Institute of Fundamental Research created it. Despite its existence being predicted for the first time in 1925 by Satyendranath Bose and Albert Einstein, the first actual synthesis was only after 70 years, in the Joint

Institute for Laboratory Astrophysics, USA by Eric Allin Cornell and Carl E. Wieman, for which they shared a Nobel Prize along with Wolfgang Ketterle in 2001.

Dr. Rapol and his Atomic Physics and Quantum Optics Lab members, Sunil Kumar, Md. Noaman, Sumit Sarkar, Sindhu Jammi and Prashant, used Rubidium vapours to create this state of matter wherein all particles exist in the lowest accessible quantum state. Dr. Rapol's lab has been working in this direction for a very long

time - nearly two years.

The synthesis involves slowing down atoms to low speeds by cooling them to extremely low temperatures at microkelvin scales, using techniques like laser cooling and polarisation gradient cooling, and then trapping them using magnetic and optical traps. The final step is evaporative cooling to quantum degeneracy, which leads to the attainment of the Bose-Einstein Condensate. Each step of the synthesis demands utmost precision, rigour and care.

The group's immediate plans are to study different properties of the condensate and to try and trap single atoms. In the far future, this might be used to conduct research in the field of Quantum Information Processing. The synthesis of the condensate is an achievement on an enormous scale and definitely has far-reaching consequences for the future of Science in India and at IISER. The Sentience team extends hearty congratulations to Dr. Rapol and his lab members, and wishes them success in all their future plans and research.

Vastrasamman - A Thread of Hope

NEHA BORA



“Oh! I can’t wear this! The sleeves are a bit too long”, “I want another t-shirt, now the next deeper shade of blue”. Common exclamations erupting from hostel rooms on any given day. Consequently, wardrobes and messy beds are piled with clothes that we wouldn’t ever use again. Then surfaces the ubiquitous issue of space! Where do I move these outdated clothes?

Vastrasamman is an initiative of an NGO called Goonj. Literally translated from Sanskrit into ‘respect through giving of clothes’, it is an initiative that began at IIT Kharagpur. The aim is direct and simple and the plan of action is straightforward. Vastrasamman collects old and rejected clothes from various places, sorts it and donates it to those in need. The wonderful thing is that no piece of cloth is discarded. Even a small napkin or a hanky goes on to make a baby’s diaper or a homemade sanitary napkin. It is a sincere effort by students to help the poorest of the poor by providing them one of their basic necessities for survival.

Second year students at IISER Pune have taken up this initiative and brought a branch of this project, right here to our hostels. Cardboard boxes have been installed at noticeable locations in every hostel where hostelites can dump their old clothes. The volunteers then go through the dif-

ferent piles, sort them, package them and send them off with the collection team of this venture. This goes on to clothe the needy in different parts of the country. The ideators of Vastrasamman believe that by clothing the unclad, the venture would provide dignity to every individual.

With another batch leaving IISER hostels and the hostelites getting shifted to new blocks, the much-detested days of spring cleaning are quickly dawning upon us. This time you clean your wardrobe, give that shirtless child with a toothless smile you just met at the traffic signal a brief thought. Maybe that shirt lying at the back of your wardrobe with a button to mend (which you will never actually get around to) can help him shiver a little less at night. Maybe that bed-sheet with a little hole at the corner can keep a whole family happy. The next time you buy a new garment, give away an old one and take part in the initiative by telling your friends to do the same. Let your respect for another human being override your feelings of selfishness.

The last date for donating your clothes in the collection boxes is 20th April. For volunteering or any other details, you can contact the author at nehab@students.iiserpune.ac.in

Who Dug The Pitch Out?

After witnessing battles, gore and legendary performances by IISER boys and men in the recently concluded IISER Premier League, the cricket pitch is going through bad hair days as heaps of soil have been extracted from it, leaving it a wretched looking pit. And why have they defaced this already sorry settlement? Speculation was that the mess is going to pave the way to, well, the mess. The plan shows a multi-storeyed dining block on the very same spot. But reliable sources say that the heaps of mud hauled out are just to level the ground. The dining block is likely to be ready only by December. Let’s hope everyone survives the apocalyptic ordeal so that we can all dine in the new mess. But wait, do we really want to?

And talking about the structure closest to the once-pitch, the new hostel building looks very inviting with its fresh, multi-layered multi-coloured coats of paint. It is reported to be ready for occupation as the next semester starts. But the question in everyone’s heads is: who will be the un/fortunate students to move there? One school of thought is that the boys in both wings will be shifted while the girls get complete occupancy of the hostel-guest house-lecture hall complex and both the gardens. The truth of the matter: nothing has been decided officially. So seniors gearing up to bully their way up to the top floors (probably the only ones that will receive light) and juniors starting to accept settling for just the additional storage space, give your plans a rest while everyone waits for an official declaration.

Speaking of change, even the longest surviving and strongest bonded group at IISER, the Sentience Team, is rafting through rough rapids this month. We mourn the transient resignation of our Lord and Padre, the Supreme Editor. Under new (mis)management, Sentience had a tough time holding up against the ebbs of time.

On a late Thursday afternoon, after a very tiring day, Dr. Nagaraj Balasubramanian asked us first years to watch a short documentary on Kony 2012. Blissfully ignorant and mostly whiny as we were, about having to sit past 5:30 pm, little did we know that the following 25 minutes would change our perspective about everything.

Human goodness is dying. And it's because of a man in Uganda called Joseph Kony. Let's rewind a little.

This is the story of a man who wanted to do something and of how he went about doing it. When Jason Russell first visited Uganda, like any other social activist, his aim was the upliftment of its people. Little did he know how critical the situation was!

On one of his night tours, he stumbled upon a bunch of children sleeping out in the open, all alone. He soon learnt the reason why. They were scared. Scared of being abducted from their homes at night. Scared that a gun would be forced into their hands and scared that they would be forced to fight to increase the power of one man, Joseph Kony.

He befriended one of the children - Jacob. And one thing that Jacob said stuck in Jason's head - "It is better when they kill us. If possible, you can kill us, you kill us. For us, we don't want now to stay".

It was then that Jason decided to take the matter into his hands and fight for these 'invisible children'. "A child does not choose where or when he is born. But because he is here, he matters. "I do not want my son to grow up in a world which houses a man like Kony."

Hence began his long-drawn (and on-going) battle against Joseph Kony.

Who is Joseph Kony? Ranking

No. 1 on the International Criminal Court's most wanted criminal list, Kony has a huge number of heinous crimes against his name. This includes (most seriously) abducting children from their homes, building a large child army, prostitution of underage girls, etc. To top it all off, the only reason he's put so many children's lives in misery was to keep and extend his hold on Uganda. His primary aim was to instill fear and "respect" for him in the hearts of all the people of Uganda and eventually in the hearts of all the people in the world. Hello again Hitler!

When he returned to the US, Jason began an extensive movement. "The Invisible Children" began with a small bunch of people spreading the word around about the situation in Uganda. Gradually... very gradually... over a period of ten years... the movement grew to significant size and mostly involved American youth.

With this new-found backing, Jason went to Washington D.C. with a proposition for the US Government to send the American troops to rid Uganda of Kony. Realizing the magnitude of the movement, Barack Obama himself petitioned the dispatch of troops to Uganda. With the funds of his supporters, Jason also funneled money into the building of schools and hospitals in Uganda.

In 2007, Kony's troops moved out of Uganda, into the neighboring countries of Sudan, Congo and Central African Republic. One man had single-handedly brought peace to the children of Uganda. Finally, the children of Uganda had the opportunity to sleep peacefully and dream fearlessly.

But the war, Jason reminds us, is not over. Kony is still out there. And everyday, he is abducting, recruiting, and

growing stronger. The US government has decided to withdraw its troops unless enough people support this movement. So our job is to make Kony famous. Make his name so popular and his crimes so well-known that 'Kony' becomes synonymous with 'evil'. Because once every household knows the depth of his crimes and cries out to the government for help, the government will help. The US Government has promised to send special troops to Africa to hunt Kony down until they kill him, as long as the movement has enough support.

The Goal: 2012 is the year Joseph Kony will reach the pinnacle of his popularity. 2012 is the year Kony will pay. The Plan Of Action: Jason plans to use celebrities to spread the word and pressurize the government. His documentary on Kony has to reach the public and should be played and replayed. On April 20th, all towns and cities will be painted red, plastered with posters celebrating Kony.

One of the most jarring scenes in the documentary is when Jacob talks about the murder of his brother.

"We worry. The rebels when they arrest us again. Then they will kill us. My brother tried to escape. Then they kill him using a panga. They cut his neck."

"Did you see it?"

"I saw."

Can you let this go on any longer? Give way to the human screaming inside you and support Kony 2012. What can you do to support the movement? Just by reading this, you have made Kony a little more famous. Spread the word around, share and watch the video at <http://goo.gl/dcgDC>, contribute funds on <http://www.kony2012.com> or simply show your support by participating this April 20th.

"They were scared. Scared of being abducted from their homes at night. Scared that a gun would be forced into their hands..."



Media at IISER Pune



Photo by Ravindra

Think of the word scientist and a picture of a man (very chauvinistically) with grey, eccentric hair, thick glasses and a dirty lab coat comes to mind. It is a wonder that even after being at IISER for this long, the picture of a Professor Utonium is the one that your brain flashes at the mention of the 's'-word. However, a new emerging field is set to break these disturbing stereotypes for good!

The Media Center at IISER Pune is set to revolutionize the scientific job scene by bringing in a unique field of pursuit - Scientific Media. This Center has already begun its venture to take over the universe through good scientific media by organising a film-making workshop, producing a movie titled 'Chandra: In Quest of Perspectives' and planning media courses. The Sentience Team caught up with K P Madhu, who will be handling this department and Nandan Kudhyadi who directed the film, 'Chandra'.

Here are excerpts from the interview with K P Madhu:

ST: What courses are you planning to offer through the Media Center at IISER? What do you envision it to be like?

KPM: The practical part of the course focuses on the skills required to com-

municate science through mass media – print, radio, television and the Internet. Starting off with blogs (450 words) the course moves on to the discipline of writing a webpage (1500 words) and tweeting (140 characters). We then explore the skills needed to organize and lay out what has been written, to create a newspaper, magazine or a newsletter. Writing for radio, recording and editing audio will be the next skill targeted. The next exercise will be video production. The essential skills needed for these exercises will be generated through week-end workshops. 90% of the marks will be for the practical work.

The course is open for 4th and 5th year students only. 1st, 2nd and 3rd years will be allowed to join the week-end workshops and the winter/summer vacation workshops. These workshops will focus on exposing students to various media related equipment, software and processes.

ST: What would you expect of the students who join these courses? What kind of student involvement do you expect?

KPM: The course might challenge the comfort levels of those who are used to "cramming content" or rote learning. The idea is to foster creativ-

ity. Some interest or natural talent in music, literature, photography, painting, dance etc. is an asset but not a necessary pre-requisite. I expect students who join the course to have lots of fun.

ST: How would such a Department benefit IISER? What is the necessity of it?

KPM: Most IISER students may take up research or teaching later. But there might be a few who might consider a career in media. One of the mandates of the Media Centre would be to provide the required exposure for such a move. The other mandate is to create teaching-learning materials. A third is to contribute to mainstream media and to IISER outreach programmes. A fourth would be to provide workshops on media for scientists as well as workshops on science for media people.

Thus the objective is not merely to benefit IISER Pune alone, but also to contribute at a national level to science communication.

ST: What according to you is the importance of good media in science?

KPM: Media helps to take science to the people and creates an environment for rational decision making, based on evidence rather than on emotions.

Indian investment in research is expected to increase in the coming years. However, we notice a fall in the enrollment in science streams of colleges in the country. So there is a need to attract bright minds to scientific research. Better coverage of science in media will attract students to scientific research.

ST: What prompted you to take up this rare career?

KPM: My entry into the field was due to a series of accidents. I was interested in science and used to read journals. A person who noticed me doing this asked me to write an article on the topic that I was interested in. I wrote a piece on irreversible thermodynamics and its applications to understand biological and social phenomena. It got published in a popular science magazine. And suddenly a career option opened up. So I kept writing and publishing articles on science in magazines and newspapers. I was slowly getting accepted as a freelance journalist when a TV producer asked me to write a script. This led to my meeting other producers, more scripts and a chance to direct one of the scripts. And so on.

ST: Have you ever been involved in any sort of controversial movies and legal ruff raff? Would you tell us about it?

KPM: I may have unconventional perspectives, but I steer clear of controversies. I am a shy person and fear the limelight that controversies bring.

ST: What would be your favourite movie to watch and why?

KPM: I like to watch what I call fatah-hua movies: third-rate movies junked by critics. I do this primarily for educational purposes. I learn what not to do. In science, we understand what is false very easily, and the route to truth is asymptotic. Similarly, in media we can very easily learn what not to do and usually have no clear clue as to what should be done.

Here are excerpts from our interview with Nandan Kudhyadi, director of the documentary 'Chandra':

ST: You are associating with IISER

Pune to make scientific movies for awareness. How did this collaboration begin?

NK: Well, it's not a formalised thing. But last year I made this film on Chandrashekhar for the centenary celebrations and I had approached a number of people for its funding, but nothing really worked. Then, when I approached Ganesh, he was really supportive and very enthusiastic. He took interest and he made me tell him what I want and within weeks I could go and attend the Chicago symposium. That was where I met all the top guys who were also associated with Chandra. It was important for me to go and shoot this seminar which was really the opening of the centenary celebrations. That's how it all started...

ST: What role can IISER students play in such a media production that IISER is having now?

NK: We didn't really involve students for the Chandra film because I didn't know many people at IISER then. Also, whenever I broached it, most of the students were busy. But now that we have a science communication lab and students can credit it from next year, it's more formalised. What I am suggesting is that this summer vacation we should get students to help us - with the research, for example. To celebrate 100 years of Indian Science Congress Association, I am planning to do a film in which we look at aspects of Indian science and technology and engineering and what we have achieved in the last hundred years. That's a colossal bit of history. I want students to be a part of it and go on this journey of looking at the history of science in India.

ST: Scientists have this view that science that is portrayed in documentaries is diluted. How would you optimize between showing them real science and making everybody understand?

NK: Cinema can only be a catalyst. I don't think we can really usurp the role of a teacher. Making somebody understand science is different from doing films for the general public.

What one could do is get the students excited and curious about science, so that they go back to search on their own. For example, 'A Beautiful Mind' is about the life of a Mathematician, Nash, but when you look closely, you will find that there isn't much of mathematics there. It talks more about Nash's life, his schizophrenia, his phobias, and to the extent that the chronology of his life has been tweaked too. For a feature film, once you start structuring your narrative, it starts demanding certain things. So you have to work towards your narrative and not worry too much about it being honest. So you take creative license with your material. I really worry about these things. I wouldn't like to take these creative licenses. For example, I'm reading about David Freeman, who is doing a feature film on Ramanujan, and in order to- let's say give an edge to the relationship between Hardy and Ramanujan, he's bringing in a female interest which is completely imagination. He does that to bring out that Hardy has certain... preferences. And to show that Ramanujan was normal he wants to bring in this woman and show a certain attraction. This is ridiculous. And it is not true. You do not realise the sensibilities of Indian mathematicians at that particular time. It was a great risk and a great thing for Ramanujan to cross the seven seas, so to say, and to lose his religion in a sense. This is something unacceptable to me. And I really hope that he will show some respect and not go overboard.

I hope that there will be more and more students from IISER who will take up science communication. It is important, given the fact that there is so little that is talked about or written about in the media. Much more can be done to popularise science. You guys are blessed to have a science background, being taught by a great number of scientists. You need to take up the challenge and get involved in popularising science, there is a great demand for it, there is a great need for it.

Useful Science

SHARVAREE VADGAMA

A boy of twelve writes $2H_2 + O_2 \rightarrow 2H_2O$ in his notebook. His father, a poor farmer in a small village, looks at his book and tells him not to go to school from the next day. He asks him to join him in the field, where he does farming in a traditional way.



Photo by Lakshmi N

Pabal Geodesic Dome

Learning what fish lives in which part of world or that the main component of cell wall of fungi is chitin or Kepler's laws of planetary motion, is of no use to a village student.

Scientist-turned-educationalist Dr. S S Kalbag had started Vigyan Ashram in 1983 to find out solutions to the problems in education. Vigyan Ashram is a center of Indian Institute of Education (IIE) located in the small village of Pabal, about 70 kms from Pune. It believes in the philosophy of 'learning while doing', the same way we learn to speak our mother tongue.

Vigyan Ashram stands on top of a hill at the outskirts of the village. Most of the infrastructure of the school is built by the children of the school, as part of their learning. More recent structures are geodesic domes, which do not require bricks during construction and do not require a foundation, and are still strong enough to withstand earthquakes. These are a low cost solution to the RCC counterpart, and yet as strong.

The objective of the school is to teach children, mainly from the nearby rural areas, skills which have direct relevance to the family occupation -

primarily agriculture and related vocations. The children develop entrepreneurship skills right from school as it is mandatory for them to earn Rs. 1000 per month.

Currently there are two main educational programs at Vigyan Ashram - DBRT (Diploma in Basic Rural Technology) and IBT (Introduction to Basic Technology). Students come to Pabal for this six months long training camp, where students are taught almost everything from farming to basic entrepreneurship skills.

Food processing is also taught to the children. They learn the whole process of making a product from raw materials. Children make tomato sauce, jam, jellies, tamarind candies, amla candies and a few other things. Labelling, packaging and sales are in the hands of the students, who sell the finished products to visitors at the school and also cater to orders placed from the village.

The school is rightly called an Ashram as the teachers and the students stay in the same campus and the learning is mostly skill-based. Children wake up early in the morning, do some physical exercises and jogging, clean

the school campus, have breakfast and then have a one hour theory class in which the day's work is discussed. From 10.30 in the morning up to the evening, the practical learning takes place. Also, a small meditation session is conducted during the break for food. All this was explained to us by Mrs. Kalbag, fondly called Amma, when we went to her room during our campus tour. Life at school is very natural, far away from the pollution and the commotion of the city!

In 2002, the school developed MechBull - a low horsepower tractor affordable for small farmers. This 10hp diesel driven model was later adopted by a few companies, modified in design and is now commercially sold.

Some other important projects at Vigyan Ashram include - LED lighting solutions for rural areas, Fab Lab, Aquaponics, Biogas based electricity generation. Vigyan Ashram is one such model which can easily be replicated in any Indian village with the support of a bunch of enthusiasts and creative people. We wish to see more schools of such kind in India.

Much Ado About Mousing

TOM AND JERRY

This is an article by a couple of fifth-years at the eve of their graduation, with their reflections on life at IISER so far, and hopes for its betterment.

What is this article about? It is not a rebellion, not a complaint, not a solution to our problems. It is just a birds' eye view of the world surrounding it (The birds being us - students, and the world - IISER Pune!).

So, what exactly made us pen down this article, apart from the consistent bugging by the Sentience editors? Nothing but the thoughts that occur to us when we look at the 'student life' inside this 'Campus'. Does 'student life' mean anything to you?

A dictionary defines a student as any person who studies, investigates, or examines thoughtfully.

I am sure this is not what we are. We are a part of a 'Research Institute'. We are 'researchers', not students. So ideally, we are not supposed to have a 'student life'. Maybe this is the reason why we still don't have a well-defined student community at IISER. Another reason which everyone was happy to state was the fact that there were not many students at IISER, which in a way was acceptable then, but not anymore. It's time people came up with more convincing reasons. One critical question to ask would be "Are these communities really necessary?" The question is a valid one and the answer would definitely be a yes. From the previous experiences of the mess committee, it can be inferred that the mere presence of a student body does have some effect on the way caterers and administration resolve issues. But sadly, the committee's influence on the proceedings seems to be waning away. The cause could be attributed to a decline in the concern and efforts put in by the members. We should also take into account the overall attitude of students and the IISER system in general.

Sports club is an example of what a bunch of earnest students can do if they come together to work as a sin-

gle entity. Genuine interest and motivation are the most important factors. People seem to have misunderstood the fundamental definition of a club. It's just a body which brings together students with common interests and hobbies and allows engaging themselves in their activities of interest. These are examples of activity-oriented clubs. The time has come to have an overall students' body for all the student-related activities at IISER. We also believe that each and every student will accept the fact that we need someone who can help us understand, and in a few cases "face", the complicated and ever-emanating new rules.

"...the secret lies in not listening to the (in) famous advice 'CGPA does not matter'."

This takes us to another interesting topic of discussion. A rumour (can be misread as news) doing the rounds is that had the IISER Act/Bill/whatsoever-it-is-called been drafted with even one-tenth the pace of new rules, the 2006 batch would have received their degrees instead of being forced to fend for themselves. Some of the students are at their wits' end, and are planning to demand a 'stipend till degree'. This seems to be a juicy deal.

The word 'passing-out' prompts us to discuss the events that are unfolding amongst the current batch of 5th years. And it is not just about grabbing decent jobs. If the question 'what next?' is put up to them, the most widespread answer seems to be 'God only knows', with an 'I don't know' from the atheists. And to hear this from people who are in the very position we will be occupying in

some time is alarming. We've all been pretty good students academically in our respective schools. Or else we wouldn't have made it to IISER in the first place. So what goes wrong in the years that fall between? The most likely answer is 'We don't know'. The people who have managed to brave it all and have bagged good PhD offers deserve a special mention indeed. When we spoke to one such student, we were told that the secret lies in not listening to the (in)famous advice 'CGPA does not matter'.

Speaking about PhDs, IISER 'encourages' students to engage in doctoral studies. By encourage, we hope they don't mean to close other gates and leave us with no other option but academia. The current curriculum seems to be doing a not-so-good job of motivating us to pursue a PhD. There might be other reasons for the lack of motivation, but an appropriate curriculum should have overcome those reasons. There have been discussions among students regarding four semesters of common courses. This leaves us with very little time to pursue subjects of our interest.

It is high time the institute stops seeing us students as potential researchers/scientists and sees us as merely kids who need to be motivated to take up science as career, which is primarily the reason for which IISER was established. This might automatically take care of the scientists inside us. We seriously hope that the institute is open to suggestions and criticism, and uses them for the betterment of students. The first step for improvement is to accept that there is a need for improvement. As they say, "The biggest room is the room for improvement." The students should also realize their responsibility of building the IISER community instead of blaming the institute.

Where Rainbows End

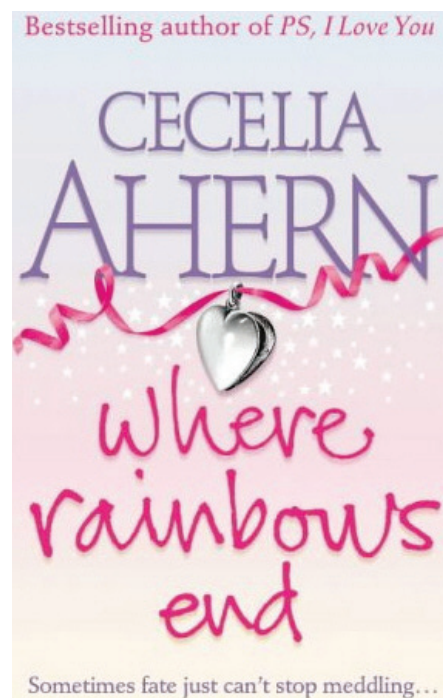
ASHWINI RAMESH

Where Rainbows End is a book by Cecelia Ahern. The writer of P. S. I Love You brings in new dimensions to the idea of falling in love and unwinds the storyline in an unconventional way. The story revolves around Rosie Dunn and Alex Stewart, childhood best friends who share anything and everything. It all began with the two of them passing chits in class, discussing the fripperies of playschool. This continues all throughout middle school and high school, with their antics and rebellious acts that naturally drive everyone else up the wall. But everything changes when Alex shifts to Boston and begins a new life. However Rosie and he continue to keep in touch through letters and mails, updating each other on every small detail of their lives. Through crushes and heartbreaks, failures and endeavors, through the blues and yellows of the rainbow colors they continue to pen down their feelings.

Life takes a drastic turn, when Alex bails out on taking Rosie to the prom, resulting in her getting

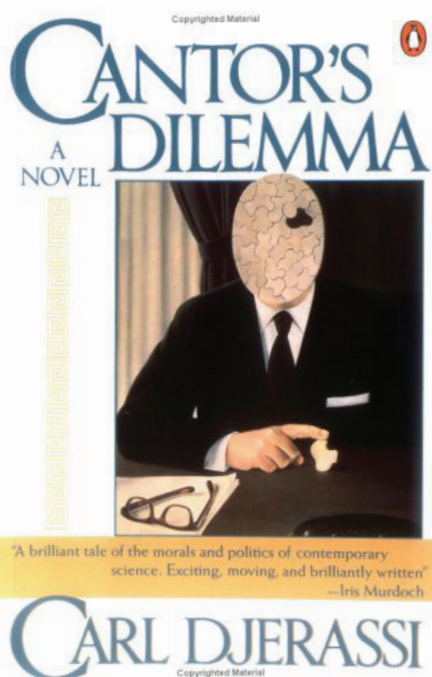
drunk and sleeping with another guy. The teenage pregnancy and a young daughter to take care of put a hold on her promising career. On the other coast, Alex decides to take the next step and marries his girlfriend. As if not to be left behind, Rosie ends up getting married too. However, they both leave each other's wedding with uneasy feelings, watching the other walk away with another person. They struggle to realize their feelings towards each other and are unable to comprehend how the innocence of comfort in just being with one another has turned into unfathomable deep-seated love. Cecelia has cleverly interwoven the hatred they feel towards the other's spouse and the churning jealousy coated with sweeter words in a denial of their true feelings towards each other. It's only when the dusk of their life approaches that they put aside their dilemmas, the constraints of a previous married life and embrace each other into their lives.

The beauty of the story is in the way Cecelia has spread the message



of love, through chits, mails, drafts and postcards. It makes us realize that love is something you grow up with and grow into. It makes us fall in love with the idea of being in love. It's a definite thumbs-up if you are looking for something fresh, or if you are a sucker for slow unusual romances!

RADHIKA R



The novel, a science fiction, explores the worlds of science and ethics. Set in the backdrop of a major scientific breakthrough and the race for the Nobel Prize, the plot revolves around Professor Isidore Cantor, a pioneer cancer researcher, and his most promising research fellow, Dr. Jeremiah Stafford.

The simple plot, extremely well-sketched characters, and the detailed storyline that blends them together with such ease make the story as realistic as any account of a real-life experience. With simple usage of language and an intelligible yet captivating style of writing, the author manages to give his readers a brief insight into multiple facets of the scientific community. From friendship to fierce competition, politics, ambition, ego and jealousy to trust and love, the book has it all.

The author's experience of many

Cantor's Dilemma

years and deep involvement in the scientific fraternity makes the portrayal of academic, emotional and social aspects of the life of a scientist and the intricacies of academic relationships vivid, accurate and realistic. The fact that the book was authored by an accomplished academician with vast experience adds authenticity to some of the aspects of the book such as credit for scientific discoveries, authorship issues for scientific papers, gender discrimination, doctoring of scientific data etc. Though the book maintains steady momentum throughout, the ending is somewhat sudden. Despite this, the book is a thoroughly enjoyable read. From a literary point of view, for a world-renowned chemist, Djarassi's authorship skills displayed in this first novel of his are indeed commendable.

Monday and Tuesday passed unnoticed. Angry with the world, The Wednesday dawned, resolving to be remembered. A veil of premonition hung all over IISER, leaving Perfectly Normal Beasts amongst us, restless and fidgety. The birds and puppies around the campus remained jittery all day and even the morning glories disguising the chicken wire around seemed to hold secrets. Oblivious to instincts, a terrestrial editor of Sentience, in the evening, decided to cook up some Maggi and while stirring, legend has it that she blew a fuse. Suddenly, IISER sunk into a temporary black-hole as the guards frantically ran about trying to set things right. Soon, HR-4 turned into a cheap imitation of a haunted house ride as people screamed and wailed and hooted away to glory. The day's story took a colossal twist when an arbitrary hot-headed young man decided that it would be cool to throw people's belongings onto the lawn below. The twist contorted further when, alarmingly, quite a few others thought so too and they set about swinging and strewing waste bins, buckets, garbage and anything they could set their eyes on. In retort, a disciplinary meeting was immediately held, complete with attendance. Justice, however, wasn't served and the commendable efforts were not applauded.

A young man of strapping nineteen with his blood boiling shouldn't be expected to stay put at an atrocity of the scale of a power blackout. Anyone who doesn't awaken for the good of the society and trickle into an overwhelming mob should be labelled a sissy. Thank heavens; the testosterone levels were high enough in the Beta wing that fateful day. Thinking about it, the garbage throwing 'fiasco' was probably the single most notable event at IISER since its inception, barring the yet-to-happen mega convocation of course. As a sensible citizen, the philanthropy and the far-sightedness of the proponents never cease to amaze me. The fact to keep in mind is that these aren't hooligans at all, but angels in disguise. We can conclude beyond reasonable doubt that these are true, yet discreet, environmentalists. They might scorn at

the mention of treehuggers but their sole act of manuring the garden with organic waste bares their true feelings on the issue. The fact that spring-cleaning happens in the timescale of decades in the B wing needs no mention. This event has left the housekeeping Gods smiling and satisfied as most rooms received a make-over and a few corners finally saw some daylight. The DisCo was also rejoicing because Christmas had actually come early, in March! They relived their college days with midnight tea and shouting in IISER hostel corridors. Interviews with anonymous inmates brought out latent feelings when they expressed relief from the summer heat when their fancy shorts with butterflies and flowers on them were pulled down by mysterious hands in the darkness. What a party indeed!

However, the mastermind of the plan was not some self-centred Kony. This simple plan was orchestrated as a service to the nation to bring glory of the ranks of the Quit India movement. Macho men, displaying their well-toned muscles and admonishing the administration for their lacklustre attitude towards sports facilities at IISER, were practising shot puts, slam dunks, javelin and discus throws using whatever they could find in their hands. It looks like they have decided to finally thwart India's obsession with cricket and give other sports the place they deserve. Great thinkers have always envisioned that true progress can occur only if the youth of a nation awakens to his rights and duties to the nation. This spark has glinted at IISER Pune when hot-blooded young males aggressively made full use of their Rights of Association, Expression, Right against Exploitation and Cultural and Educational Rights (anyone who doesn't acknowledge hippie as a culture is actually a hippie. Ha!). Social scientists have also argued that this might be indicative of a longing to return to familiar urban spaces, reminding most people of their homes and the characteristic stench of garbage collection vehicles. One can be most definite about the fact that the face of Modern Indian History was given a major nose job that eventful day; as has

the plastic industry and research in the field of Polymer Chemistry considering the number of plastic items sacrificed.

The A wing deserves nothing short of a reprimand as they spent their time in the Dark Ages futilely recreating a mini-Bollywood with banshee singing and skipping around. Right next door, even simple-minded, introverted nerds were slowly uniting into a chillingly large mob for the greater good. So what if a little garbage was spilled? It all fits in the General Mishmash as quite essential, maybe as essential for the existence of the Universe as the Big Bang itself. Who can tell! The Butterfly Effect, most famous for creating phenomena of elephantine scale over the tiniest flap of a Lepidopteran wing (drama queen, I say!) has a peculiar way of going about with things. Sure enough, three weeks later, there happened to be an earthquake in Indonesia capable of initiating tremors and fears of tsunamis in every possible coastal city around. Though it is a quite obvious fact the ritual that took place was indeed solemn, the inspiration for this is still, for want of a better idiom, in the dark. The Wikipedia article on March 21st will now have this incident along with the likes of the Greek War of Independence, Martin Luther King Jr.'s Civil Rights March and the pagan new year. Given the right publicity, this might even skyrocket the popularity of the Earth Hour as even vandals and vagabonds can participate joyfully in activities during an hour of power shut down. This is altruism and innovation at its highest level, a pinnacle of the achievement of the human mind, all towards reducing the effects of global warming.

In view of all this, the editors of Sentience propose a monthly or at least a semesterly blackout for, if nothing else, comic relief.

The Queen's humble servant,
Sir Castic.

Notice: The woman of IISER has relinquished her post as she recently found someone worthy of her affections. The tilara has been floating about among other wannabe females and non-males but it hasn't quite found the right heir yet.

geneEXPRESSION



the students' corner

Friends Are Friends

AJAY KUMAR TIWARY

I was always good at making friends. Within the short duration of one semester we had formed a gang of five who had completely unique personalities. It was the day before Holi. My friends from Delhi had a function to attend at Mumbai University and were coming to Mumbai for two days. They called me to join them and now I was in a fix. I didn't want to miss my first Holi at the hostel, nor did I want to hurt my 'special' friend from Delhi. I had no idea what I was going to do. One of my close friends was leaving for his home in Mumbai as he did not want to celebrate with colour. After lunch, we decided to spread the Holi spirit anyway and poured water and colour over him before he left. I kept my mobile on the bed and left for the class.

My friend was supposed to leave for Mumbai after the Chem lecture. When he was leaving, I decided to go with him. We went to Parihar Chowk for a bus but since I have always hated buses, I changed my mind. When I was returning, I felt bad for letting my friends down. So I took an auto and reached Pune station, lucky to find the Pragati Express entering Platform No. 1. I boarded the train. I had told no one that I was going to Mumbai.

When I finally reached Mumbai, it felt so good to see my old buddies once again (offline). We had fun for almost three hours, but then I had to head back as I had not signed out in the register (I was not sure!) I was hoping to get a train that would get me to Pune by 11 pm. Fortunately, there

was one - the Dadar-Chennai Express. I was so happy at my good fortune, I never suspected it would be temporary. There was a bomb hoax and the train was put through inspection. I was now laughing at my luck. I had to face a bomb either in the train or back at the hostel. Thanks to the mobile revolution, now no one tries to remember even a single telephone number. And I was no exception. Thank God I remembered my father's number. I called him and told him that I was in Mumbai. Now at least my parents knew. Time passed and I watched the fourth round of inspection by the dog squad take place. Then finally, the train was ready for departure. I let out a sigh of relief, even though I knew I was not going to reach the hostel before 1 am. Back in Pune, my friends were searching for me, everywhere - at Sai, in the library and at the hostel.

It was by half past one that they decided to tell the guards that they had not seen me since evening (thanks for that.) Thanks to the great connectivity of Pashan from the station, I reached HR4 by 2 am. There the 'Kaka' (guard) was waiting for me. He asked me all sorts of questions. But this was not all. My friends were waiting for me, well-prepared. As soon as I reached the floor, they took me to their room where everyone had gathered and turn by turn they told me all they had done. And then it was time for the same old hostel ritual. I was angry that they were hitting me but still I liked it. This will be one of the moments that I will never forget... *LOVE YOU FRIENDS!*

Foodie Corner

AASHAY PATIL

If you are a sizzler lover, then 'The Place' is the place to be. 'The Place - Touché the Sizzler' is the oldest sizzler joint in Pune and arguably one of the best. Located just opposite SGS Mall, it has a cool and classy ambience. The sizzlers are exceptionally good - both in terms of quality and quantity. There's not a lot of variety for veggie lovers, but whatever they have to offer vegetarians is of really good quality. For non-vegetarians, The Place is heaven - with all kinds of meat sizzlers on offer. Chicken, Fish, Prawns, Beef and Pork - whatever you want is available. The service is quick too.

Apart from sizzlers, The Place also offers North Indian and Continental dishes, but it's best to stick to the sizzlers. As with all sizzler joints, this place is on the slightly expensive side. It is totally worth it though. So the next time you go to MG Road for shopping, hop into The Place for a sizzling delight!

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Menu <http://goo.gl/bE0OS>

THE SENTIENT
BEINGS

AASHAY PATIL | ARSHAD NAIR | ASHWINI RAMESH happy birthday!!!
AVANI GOWARDHAN | KSHITI MISHRA | KRISHNA ANUJAN intagalatic
NEHA M | RADHIKA R | SHARVAREE VADGAMA | SHRUTI PARANJAPE