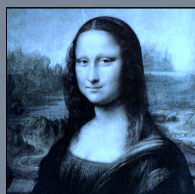


## this issue

The Vortex  
We Live In  
**5**



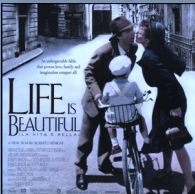
Beauty And  
Brains  
**5**

GenetiX  
**5**



Fossil  
Frauds  
**8**

Life Is  
Beautiful  
**9**



PhD  
Comics  
**10**

Rumours  
**10**



## featured

**4** Academic Buzz

**6** From The Editors

**8** Off The Rack

**10** Foodie Corner

## KARAVAN '11

The morning of 22<sup>nd</sup> October '11 dawned bright and sunny. And that wasn't just me being clichéd; it really was a bright and sunny morning. A good sign, seeing as it was D-Day. Karavaan '11. After around a month of intense preparation, involving sitting in the reading room 'discussing' various aspects of the events till late in the night, begging the warden to extend the girls' curfew, and generally having a great time organizing various aspects of the fest, the day was finally upon us. Besides the general harried look of most of the organizers, the most visible change was in the field-like area in front of the main building. What had earlier been a snake-ridden area harbouring exotic plant life and waist-high grasses, had magically been mowed down into a somewhat more manageable tangle, which was actually traversable by not just those who were brave at heart. What was more, there was an open-air stage that had quickly been erected along with its own sound and lighting system.

At 5 o' clock, the hundreds of seats in front of the stage quickly began to fill up. It was time for the opening ceremony to begin. Karavaan '11 was kicked off with Prof. K. N. Ganesh's speech, followed by a medley of performances put up by the students of IISER Pune themselves. The performances were extremely entertaining to watch, none more so than the dances. Whether the per-



**Apophenia opening Band Wars**

formers shook a leg to Bollywood hits or performed classical-dance-form-fusions, the audience had an amazing time. They cheered, hooted and applauded at just the right places, and the general feeling of merriment increased exponentially. Moreover, these dances were interspersed with musical numbers performed impeccably, much to the delight of all those present. Right after this, was the much-awaited Band Wars, where bands from different places came round for a jamming session on the stage in order to wow the judges, as well as the audience. And wow us they did. The energy running through the crowd was unimaginable! People were screaming their lungs out and head banging right next to the stage, as band after band came up and performed. However no band received as much enthusiasm as Point Blanc did. The lead singer judged the mood of the crowd exactly right, and had the audience right in his grasp - screaming and swaying to

his music. Undoubtedly, they were the winners of the Band Wars, and had the honour of opening for BLAKC the next night. This very eventful and music-filled day was then rounded off with DJ night, where all the students had an opportunity to let loose and dance the night away. Or so they thought. Owing to Pune's odd restraint of not having loud music played in public after 10 PM, the DJ night got cut short cruelly and Day 1 of Karavaan '11 was brought to an unceremonious halt.

Event-wise though, Day 2 of the fest was more significant. Overnight, the halls of IISER Pune had been transformed into a more colourful place, with easy-to-read signs all over, indicating where classrooms or events were to be held. The registration desk was always in a mad rush as participants tried their best to register before their event began, and some cases, even after.

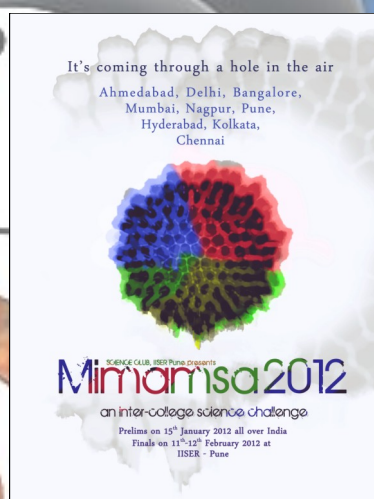
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## MIMAMSA Goes Pan India

It's coming through a hole in the air! MIMAMSA is all set to go big this time with the addition of Ahmedabad, Bangalore, Chennai, Delhi and Kolkata to the existing prelim centres at Pune, Mumbai, Nagpur and Hyderabad.

As scheduled earlier, the meeting took place on 15<sup>th</sup> October and it was decided that the event should be held at a grand scale this time, by going Pan-India.

The meeting lasted for more than 2 hours. the entire event was planned and the 'SENA' - volunteers for the different works were chosen. MIMAMSA website has also been launched with the do-



main name <http://www.mimamsa-iiserpune.org/>

Most of the pre-prelim work has been completed. Posters

have been posted to a whopping 666 colleges across the country. The publicity work has been started through personal contacts, social networking sites. A facebook page has been created for this purpose. Emails have been sent to contacts in quizzing circles in various cities so as to popularize the event. The question making teams have also increased their activity and more and more questions (and answers!) are coming up on the MIMAMSA Google group.

MIMAMSA 2012 is all set to be the biggest national science quiz.

## IPL Is Back

IISER Premier League is back with a bang! An event spread across 3 months, with 227 players participating and 45 matches to be contested, it is set to be the most popular event in the campus. 15 teams, including 7 of undergraduates, 5 of PhDs, 1 each of Admin, Faculty and Transporters will be pitted against each other in a fight for the IPL crown, which will begin on 7<sup>th</sup> January.

The decision to contest a whopping 45 matches was taken by the organizers on demand by the teams and in favour of public opinion.

The teams have been grouped into 3 pools of 5 teams each. Top two teams of each pool qualify for the super-six stage after a round-robin. During the super-six stage, a team plays against all other teams except the one from their league stage pool. The top four teams in the super-six will proceed to the semi-finals and the top 2 will fight it out in the grand finale. The league matches will have 12 overs per side, 15 overs per side during the super-six stage and semi-finals, and 20 overs per side for the finals.

Detailed rules will soon be mailed to everyone and they will be largely similar to that of last year's IPL. With ICC making a few amendments to the laws and IPL following their rules pretty closely, one can expect a few changes. Anyone interested in joining as umpires/support staff to help in organising the matches are welcome to do so. IPL is keen on fresh recruits keeping in mind this gigantic task spread over three months.

With things getting bigger and better, organizers have added a nominal registration fee (Rs. 40 per player), to give away a few prizes. This time, it is mandatory for each team to have its own T-shirt. The equipment and first aid will be funded by the institute.

A new blog, for IPL, ([www.iplinfo.blogspot.com](http://www.iplinfo.blogspot.com)) is up, along the lines of 'cricinfo'. It shall cover all the matches live with text commentary, interviews of players, post match ceremony, stats, etc. There would also be a discussion on the blog, where one can suggest innovations into IPL. There is a proposal to launch a short radio network so that students at HR4 can listen to the commentary.



## Clash Of The Rock Titans

For the first time in history, IISER grounds were filled with real men! Looking at the scene, nerds were reminded of Asterix the Gaul, in which the spiked brew of magic potion caused a riotous growth of hair and beards at the camp of Aquarium(?). The night was a treat even for hardcore rockers with epic performances by five bands from here, there, everywhere!

This much-awaited, much-hyped and loudly-heralded event was hosted by Alisha and Sourav whose voices strained hoarse to be heard over the uproar of the exceedingly enthusiastic crowd. Dressed for the occasion, the two hosts blended in with the performers on stage. First up was a band who liked to call themselves Apophenia. Their music was as bizarre and experimental as their name suggests and their first song 'Left Right Left' brought bittersweet memories of march-pasts from school. Weird as scientists are, they welcomed these experiments in music with open minds!

Next up, all bridled up for barbaric war, was Dionysian. Greek Metal Gods. The crowd, awaiting a pumped up rock concert was taken aback to know that it was also going to be a lesson in head-banging (methodology; results and consequences to follow the next morning). Their titanic act left the crowd fazed with girls swearing their love to the vocalist with long straggly hair and an aristocratic nose. We were almost sure who



Winners of Band Wars - Point Blanc performing in Karavaan '11

would steal the title when... we were shot Point Blanc! Right in the head! This funk rock band with an eclectic set of talented musicians rocked their way into fans' hearts. The powerful guitar, nimble-fingered synth and striking vocals entranced the fickle folk and turned them in their favour. The charming vocalist would have made a talented stuntsman with his flips and jumps which he confidently flaunted even on the rickety stage.

Then from amidst the fog, smoke and the smelly stuff emerged more greatness in the form of the only Hindi band to perform for the night, Qafiya. The music was...to put it lightly, unheard of (not to mention not wanting to be heard again). But the vocals were soulful and melodious contrasting their metallic attire.

If you are a fan of weird names and love guessing the stories behind them, this is a jackpot! Hold your breath, because the last band to perform was This Side Up. It was a disappointment to all kinds of people. Neither did they attempt to clear our suspicions about their name nor did they manage to strike a chord with the audience.

In my opinion, the latter would have been far easier to achieve following the former since inquisitive scientific minds wouldn't have been preoccupied with that question.

At the end of the day, judgment hour was unnecessary because Point Blanc was unanimously chosen the Titans of Rock'11.

## PENne, PAPERika And drINKs

The literary chapter of Karavaan was, according to the same event organizers, the coolest and most successful of all. Pre-Karavaan, many a sleepless night was spent on unlimited banter, some useful discussion and near-zero question making for four major events, BLAB, Potpourri, Devil's Advocate and a set of innovative quizzes.

For the benefit of those meek, docile and sparsely-worded ones, BLAB is a classic literary event in which you have to keep talking grammatically and logically correct sentences without a pause. Barring the quizzes, BLAB was previously the only successfully running literary event but all hope seemed lost as it failed miserably at the registration. It turned out that more people were interested in watching the public humiliation of contending blabbers than arm (or tongue, perhaps?) themselves and confront their worst fears.

The organizers of Potpourri and Devil's Advocate worked sleepless nights in the reading room producing an enormous number of questions in the form of graphical questions, image links, anagrams and crosswords for Potpourri and surreal topics to debate on for Devil's Advocate. They also collaborated for deciding the characters for the round of

Shipwreck which was to be the second round of Potpourri. There was a huge turnout for Potpourri and the IISER Pune team consisting of Yagyik and Abhilesh grabbed the first place though Sarthak and Guhan were close competition. Though the event ran smoothly, there was an undercurrent of tension as no car arrangements had been made for the judge, Mrs. Monika Sikka to return. Thankfully, Dr. V. G. Anand saved the day!

The Devil's Advocate looked cursed. The organizers were in a tough spot with last minute backouts and nil turnouts. Then, egged on either by frantic phone calls and a good amount of persuasion or by some form of satanic fortune (they plead the 5<sup>th</sup> on this), eight teams lined up for the final run. The topics were unconventional and yet relevant. The Chair saw a lot of interesting takes and varying angles on these topics and rebutted strongly. After the extended court sessions, the jury decided to cast their vote in favour of IISER Thiruvananthapuram.

The Quizzes, though technically not in the Literary category, IISER being inherently radical (the reason may also have been the sheer lack of manpower) decided to canopy them under the Literary title. There were three quizzes scheduled - Hindukush - the India Quiz, How I

Watched My T.V - the Entertainment Quiz and the Business and Tech Quiz for the money-minded.

Hindukush saw an impressive turnout for the prelims, and the competition was cut-throat. The finals were quite entertaining too, with quite an interesting set of questions. The entertainment quiz was full of life with the audience giving away most of the answers to the participants and getting on Rachana's nerves. The rounds of this quiz were appealing to all but maybe they haven't watched their T.V. well after all. Both the quizzes were won by the team from the Armed Forces Medical College.

What a sight it was to watch young scientists whose practical experience with Bulls and Bears is only during field Ecology, fight their way up stock market scales.

Okay, no more false tales. The outcome of the Business and Tech Quiz was motivating for scientists to continue in their careers and not sow wild oats. However, a team of shrewd minds (who are also proud Sentience team members) from IISER Pune, by brain or bribe, grabbed their slot above the rest, a fat cheque and the immediate demand for treats. We refuse to say more, since their reputation precedes them.

## KARAVAN '11

Continued from Page 1

As the day progressed, so did the events, and eventually, winners emerged. There were numerous literary, drama, art and quiz events, to name a few. Besides this, there were many fun activities outside, like paint ball, shooting, car racing and card-games.

Once again, the evening approached, and once again, performances were shifted



Strategic Planning for Paintball

to the outdoor stage. Amalgam - the group dance competition saw groups from different places fight it out for the coveted prize. After all the competitions had finally come to an end, it was followed by IISER students showcasing their singing, dancing and instrumental skills, in what turned out to be a musical extravaganza. The audience, in appreciation of their friends' skills



A fusion of Kathak and Bharatanatyam during the IISER Showcase

and efforts, cheered wildly for all performances.

Finally, it was time for the much anticipated ProNite to begin. Point Blanc returned once again, in all their glory, and performed, if it were possible, even better than they had done the previous night, possibly due to the now wildly enthusiastic and adoring crowd, and more importantly, no pressure of winning. After an encore or two, it was finally time for them to leave the stage and BLAKC to take their place. The already pumped up crowd, was definitely in the mood for more rock music, as BLAKC took the crowd through their songs. The crowds went wild, and resumed their head banging and synchronized hopping from the previous night. Sadly, their performance too did come to an end, but not before they earned a bunch of die-hard fans among the crowd. Right after this, DJ night resumed owing to the previous night's popularity of the event. Nerds and partiers alike let their hair down, and danced till they could dance no more.

Karavaan '11 then signed off with Dr. V. G. Anand, the man behind the entire fest, being ushered on stage. The entire crowd cheered and clapped for him, even made him sing (*Hum tum ek kamre me band ho..!!*) while he modestly tried to divert attention away from him onto the other key-members who made Karavaan possible. The fest was dedicated to the 5<sup>th</sup> years who would be passing out this year. After all this, Karavaan '11 finally ended with the best announcement possible: classes were suspended the next day!!!



## Antakshari

PRANAV KUMAR

The most anticipated event of Karavaan 2011 started out on the morning of the 2<sup>nd</sup> day, Sunday 23<sup>rd</sup> October. Somewhat surprisingly, there were a large number of participants, their excitement coming to a peak as the competition drew nearer. Even the egoistical me started feeling that getting two people to partner with was actually a good idea. All in all there were ten teams, mine included. But surprisingly, there was only one team from outside IISER, from IISER Bhopal.

The *antakshari* started off in a grand style with all of us being served *paans*. We were seated in the mess atrium, the large space between the lifts and the mess, with no escape from shoes and tomatoes if one deserved them. There were spectators on all the floors to see us (making me even more nervous). Things took off after a couple of technical hiccups and the rounds of singing



One of the *antakshari* teams in action

songs started. These rounds tested our knowledge of songs and it was here that my lyrical know-how was applied. At the end of two rounds, five teams were eliminated - but we survived! We walked on razor's edge after that, but always fell on the safe side. Incredibly, we came close to downfall when one of my team mates hadn't heard the foot tapping "*volume kam kar*". We had two chances, of which one we missed and the other we scored in. Though we thought we were pretty safe, with a score on the higher side, out of nowhere the Bhopal team nipped in front of us and lost us our prize with two correct songs, before any of us could even figure out what had happened.

Though we came in third, we still expected some chocolates as a reward for our earnest efforts. Alas, we were disappointed in that regard as well. No matter, the musical fun made the journey worth it.



Purplefusion performs an original on Day 2 of Karavaan



The Greek Gods of Metal descend upon Band Wars

## Living The Nite...

BLAKCENED



BLAKC entralls the crowd during ProNite

It was not a particularly large crowd, but from my room I could have NEVER guessed that. SO much energy. Gearing myself for the cold, I pick my sweatshirt and make my entry near the stage right before the winners of Band Wars, Point Blanc, open for the stars of the pro-black-night, err, pro-BLAKC-night.

The crowd is maddening, the music is bewildering, the performers are exciting and, the stage is still standing. Point Blanc - after much persuasion and a thrilling AC/DC number "Back in Black" (a coincidence?), made way for BLAKC.

Before the music kicked in, the vocalist had a hard time vocalising his fear for the grasshopper on his mic, a creature that was no less than obstinate to leave the spotlight. The guitars were tuned, amps were tested, hair was let down - AND there was noise! (Noise = music here, mind you)

Now that I look back to their sequence of songs, I realise how well it related to the turn of events in Karavaan.

"Dream caster"- It was sure a dream of not some but many to experience the thrill called Karavaan! This thrill which was taken into stride of few. The few who

turned out to be the dream casters.

"Field of thoughts"- This dream which we spoke of was initially a field of thoughts, an arena for ideas- where few collided and few remained. This gave the outline to this festival.

"Carpenters" - They built on those ideas to create a structure.

"Sold" - A structure which was well sold!

Philosophy aside, were we sold by their performance? Oh you bet. We were sold by their smiles, their whacky voodoo dolls hanging on the guitars, their simplicity and

their grounded attitude (I remember them saying that we are just normal simple people off stage).

The performance closed with them dedicating (on our request of course) this Karavaan to the passing out batch of 2007, with some never ending number of photo-auto-graphs, free hugs and great love (no sarcasm here).

Like BLAKC puts it, this was not just another performance - but a party for them.

Psst: They were pleasantly surprised by the female response here, especially to the guy in the pic below!



Aneesh Menon of BLAKC on the rhythm guitar



## Academic Buzz

1. Summer Research Fellowship Programme

2012, Indian Academy of Sciences

**Link:** <http://web-japps.ias.ac.in:8080/fellowship2012/>

**Deadline:** 31<sup>st</sup> December

2. Summer Research Fellowship Programme 2012, JNCASR

**Link:** <http://www.jncasr.ac.in/fe/SRFP.htm>

**Deadline:** 2<sup>nd</sup> December

3. SURGE 2012, IIT Kanpur

**Link:** <http://www.iitk.ac.in/surge/>

**Deadline:** The details of the programme will be announced on 15<sup>th</sup> December

4. MITACS Globalink, for research in Canadian universities.

**Link:** <http://www.mitacs.ca/globalink>

**Deadline:** 27<sup>th</sup> November

5. Summer Undergraduate Research Fellowships (SURF), Caltech.

**Link:** <http://www.surf.caltech.edu/>

**Deadline:** The details of the programme will be announced in December.

6. Nonlinear Functional Analysis Conference, Institute of Mathematical Sciences, Chennai.

**Date:** 18<sup>th</sup>- 20<sup>th</sup> January

**Link:** <http://www.imsc.res.in/nfa/>

7. 2<sup>nd</sup> International Conference on Perspective of Cell Signalling and Molecular Medicine, Bose Institute, Kolkata.

**Date:** 8<sup>th</sup>- 11<sup>th</sup> January

**Link:** [http://www.boseinst.ernet.in/mol\\_med/seminar](http://www.boseinst.ernet.in/mol_med/seminar)

**Deadline:** 15<sup>th</sup> November

8. National Symposium on Mathematical Methods and Applications (NSMMA-2011), IIT Madras.

**Date:** 22<sup>nd</sup> December

**Link:** <http://mat.iitm.ac.in/nsmma/>

9. International Simulation Conference of India (ISCI) 2012, IIT Bombay

**Date:** 2<sup>nd</sup> - 4<sup>th</sup> February

**Link:** <http://www.indiasim.org/>

**Deadline:** 15<sup>th</sup> January

10. A Workshop on Gravitational Wave Astronomy, IUCAA, Pune

**Date:** 20<sup>th</sup> - 23<sup>rd</sup> December

**Link:** <http://www.icts.res.in/program/details/211/>

11. 39<sup>th</sup> COSPAR Scientific Assembly, Mysore

**Date:** 14<sup>th</sup>-22<sup>nd</sup> July 2012

**Link:** <http://www.cospar-assembly.org/>

**Deadline:** Will be updated in summer 2011.

12. International Workshop on Dark Energy, Centre for theoretical Physics, Jamia Millia Islamia, New Delhi

**Date:** 21<sup>st</sup> - 23<sup>rd</sup> December

**Link:** <http://www.ctp-jamia.res.in/iwde/>

## Professor Mike Blackburn Visits IISER Pune

Professor Mike Blackburn, distinguished chemical biologist at University of Sheffield, is visiting IISER Pune from 3<sup>rd</sup> - 16<sup>th</sup> November.

As part of his visit here, he gave a series of four special lectures on the "Mechanisms of Enzyme Catalysis". He will also participate in Mini Symposium on Chemical Biology to be held at IISER Pune on 14<sup>th</sup> November.

His series of lectures covered the basic aspects of enzyme mechanisms and took up some of their advanced examples. The lectures were held at the Multi-Purpose Hall on the first floor of HR4 from 5.30 PM to 6.30 PM on 8<sup>th</sup> - 11<sup>th</sup> November. On 16<sup>th</sup> November, he will take part in an interactive session from 5.30 PM to 6.30 PM.



**Professor Blackburn receiving the Arbuzov prize**

Prof. Blackburn is an outstanding teacher and Prof. K. N. Ganesh has recommended all students, particularly from Biology and Chemistry to attend his lectures. Hand outs of his lectures are available on the Intranet.

His interaction with faculty and students will be a valuable learning experience for the IISER fraternity, especially for those working in the fields of Chemistry and Biology.

## ATM Finally Opened

No more will you have the excuse of being broke whenever your friends ask for a party. No longer is there a need to go all the way to NCL or Sai Trinity to fill your wallets as the much-awaited SBI ATM in HR4 is finally functional.

The ATM was ready two months back, but was plagued by a lot of technical problems because of which withdrawal was not possible. Finally, after a lot of hiccups, the



**Professor K. N. Ganesh inaugurating the SBI ATM**

ATM was finally inaugurated by our respected Director, Prof. K. N. Ganesh on the auspicious occasion of *Dhan Teras*.

## Chandrasekhar Documented!



**Subrahmanyan Chandrasekhar**

IISER Pune has produced a documentary named "Chandra: In Quest of Perspectives" on the life and work of Subrahmanyan Chandrasekhar, a notable astrophysicist and a Nobel prize winner in Physics in 1983, for his studies on the physical processes important to the structure and evolution of stars. The

aim of the documentary is to highlight Chandrasekhar's work and popularize it among youth. The documentary was aired on Doordarshan at 9:30 AM on 19<sup>th</sup> October with a repeat telecast on the same day at 9:30 PM on Lok Sabha TV - making it IISER Pune's first documentary to air on national television.

Subrahmanyan Chandrasekhar was a creative, prolific genius whose ability to combine mathematical precision with physical insight changed humanity's view of stellar physics. His most notable work was the astrophysical Chandrasekhar limit. The limit describes the maximum mass of a white dwarf star, ~1.44 solar masses, or equivalently, the minimum mass above which a star will ultimately collapse into a neutron star or black hole (following a supernova). The limit was first calculated by Chandrasekhar in

## Professor Galande Elected Fellow Of INSA

Professor Sanjeev Galande, who heads the DBT Centre of Excellence (CoE) in Epigenetics at IISER Pune, has been elected Fellow of



**Prof. Sanjeev Galande**

the Indian National Science Academy (INSA), New Delhi in recognition of his original research in the area of Epigenetics. The INSA is the apex body of Indian scientists, representing all branches of science & technology.

He joins the elite list of five other IISER Pune faculty who have been elected as INSA Fellows. He is also the recipient of the prestigious Shanti Swaroop Bhatnagar award in Biology.

## IISER Pune Awarded B-School Award



IISER Pune has been chosen for "Dewang Mehta Business School Award" in recognition of leadership, development, innovation and industry interface. Though this award is from a Business School, it is heartening to know that they recognise "Leadership in Science" and in this respect IISER Pune has been noticed already for its contributions to the field.

It is indeed a unique honour for IISER Pune as the institute has always been a proponent of "Leadership in Science" through its policies and programmes and has always encouraged students to take various initiatives.

1930 during his maiden voyage from India to Cambridge, England for his graduate studies. In honour of his work, NASA, in 1999, named the third of its four "Great Observatories" - the Chandra X-Ray observatory.

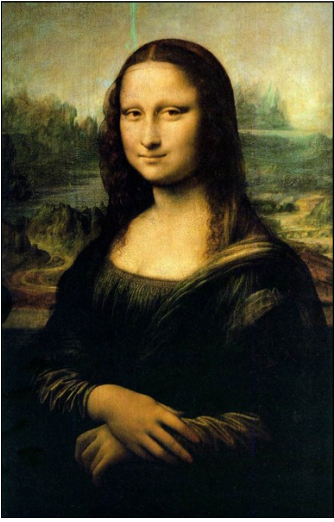
The film has been made by award-winning documentary filmmaker Nandan Kudhyadi, an FTII graduate with more than 65 documentaries to his credit, with scientist Jayant Narlikar as the main consultant. The documentary was shot at various locations around the world and involves many famous scientists like Roger Penrose and Jayant Narlikar among others. Dr. Sudarshan Ananth, Assistant Professor, IISER Pune has narrated the documentary. The documentary is a part of the centenary celebrations highlighting Chandrasekhar's contribution to physics and mathematics in general and astrophysics in particular.



## Beauty And Brains

Art, language, and the concept of beauty all happened not just by blind selection but by very intrinsic planning by nature. Evidence increasingly suggests that human brain is hard-wired for aesthetics. The relation between mind and brain has been a puzzle for philosophers for centuries, and for psychologists for decades. Now, biologists have taken up the issue and they say that there are evidences of biological mechanisms in the brain that interpret art. The patients, with partial brain damage, help them to study the functional details of brain.

The popular perception about creative thinkers and artists is that they often also have mental disorders - the lives of people like Vincent van Gogh or Sylvia Plath seems to suggest that creativity and madness go hand in hand. Highly creative people and people with schizophrenia have certain brain chemistry features in common. Vilayanur Ramachandran asserts that synesthesia (Synesthesia is a neurological condition in which two or more bodily senses are merged so that the detection of each is mis-



matched) is related to creativity. This striking similarity demonstrates a "crucial" link between creativity and psychopathology. The psychologists' ideas and hypotheses will be proved right by the biologists' new approach, which is more objective.

The brain is an exceedingly complex machine that harbours about 100 trillion neural connections. So, it comes as no surprise that neuroscientists make great efforts to reduce or represent that complexity in their research with innovative imaging techniques. We all know that our brain is divided into two hemispheres - left and right. The brain stores and analyzes the visual objects by judging and interpreting them. Also, there are some innate abilities in every species which need not be taught. So, the brain is not a passive onlooker for mental activities, but an active dictator. Nerve cells receive, conduct and transmit signals by action potential.

When a poet says "Beauty lies in the eyes of the beholder", he means that the beauty is subjective and in-

nate. We name the process as human perception. Perception involves active interpretation by the brain. There are centres in the brain which deal with colour, shape, distance, rhythm, symmetry, emotion, empathy and so on. So, the brain finds it easy to digest when anything is artistically told in a symbolic and logical way.

Cave art, the first art form started in 35,000 BC. This age overlaps with the period man started thinking. Paleolithic paintings, mainly of animals, show depth of thought and are executed in vivid colours and that in turn enabled art. Conversely, it could be that this art reveals for us the appearance of conscious minds in the Stone Age.

Realistic picture or photography is not as attractive as the symbolic painting. Impressionist paintings of all civilizations were regarded as the best form of art. The prominent feature of the subject is highlighted in art. This is why when an artist draws a female picture, he eliminates any hint of masculinity from that lady. The eyes, body shape and posture is so adjusted, at the expense of looking somewhat unrealistic, to show the female character with all its elegance and pride.

So, beauty lies in the brain of the beholder!

## The Vortex We Live In



The Gravity Probe B

In 1963, NASA started a project to verify Einstein's General Theory of Relativity by measuring the bending of space-time around earth. To that end, the Gravity Probe B was launched by NASA in 2004 .

If Earth were stationary, all we would expect would be a 3-D deformation in 4-D space-time, like a marble on a trampoline. But the Earth is not stationary. Our planet spins, and the spin should twist the dimple, slightly, pulling it around into a 4-dimensional swirl. This is what GP-B went to space to check.

The theory behind the experiment is simple. Put a spinning gyroscope into orbit around the Earth, with the spin axis pointed toward some distant star as a fixed reference point. Free from external forces, the gyroscope's axis should continue pointing at the star--forever. But if space is twisted, the direction of the gyroscope's axis should drift over time. By noting this change in direction relative to the star, the twists of space-time could be measured.

However, the theory is a far cry from its practical realization. The challenges that the team overcame in this project are mind-boggling and took up nearly 4 decades. For starters, the four gyroscopes in GP-B are the most perfect spheres ever made by humans. These ping pong-sized balls of fused quartz and silicon are 1.5 inches across and never vary from a perfect sphere by more than 40 atomic layers. If the gyroscopes weren't so spherical, their spin axes would wobble even without the effects of relativity.

Also, since the balls will be in vacuum, but the satellite will experience aerodynamic drag, the balls will drift and bump against the walls of the container. To fix this, sensitive detectors measure the distance of the gyroscope to the walls with precision of < 1 nm. The spacecraft's thrusters respond to any changes in that separation. So, effectively, the spacecraft chases the gyroscope.

It's also necessary to measure the gyroscopes' spin without nudging the gyroscopes in the slightest.

A superconducting sphere produces a weak magnetic field precisely aligned with the axis of rotation. The gyroscopes are therefore coated with a metallic layer of niobium, which becomes superconducting at the cryogenic temperature and produces a magnetic field when the spheres are spun. By monitoring the magnetic field, engineers can monitor the spin of the gyroscopes--no touching required. But for this to work, the spheres must also be protected from Earth's magnetic field. For that, again superconductivity came to the rescue. The gyroscope assembly is placed inside lead bags, which in turn are placed inside a large cryogenic container holding 400 gallons of liquid helium. The helium cools the lead bags to 1.7 K, the temperature at which lead becomes a superconductor, thus blocking out Earth's magnetic field.

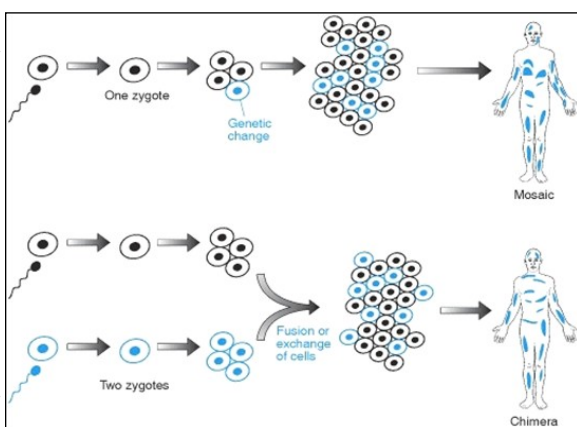
Pulling off the experiment was an exceptional challenge. But after a year of data-taking and nearly five years of analysis, the GP-B scientists appear to have done it. Finally, in 2011, more than 47 years after the birth of the concept, they measured the wobble and found it to be in remarkable agreement with Einstein's predictions. This epic experiment, spanning nearly half-a-century is one of the most classical experiments of all time.

## GenetiX

We have a varied population of cells in our body. Groups of cells are specialised in performing certain functions and accordingly vary in structure and composition. But one thing that all cells from all systems of our body have in common is an identical genome. Just as there are exceptions to every rule, this one too has its set of deviations.

The 16<sup>th</sup> May 2002 issue of The New England Journal of Medicine documented a very peculiar case which came to the doctors' attention during the course of tissue typing. Tissue typing, which is done with blood cells, showed the subject to have inherited the "1" HLA region of chromosome 6 from her father (who was 1,2) and the "3" region from her mother (who was 3,4).

She had two brothers, who were (1,3) and (2,3) respectively. Her husband was type (5,6). Of her three sons, one was (1,6) which was to be expected, but the other two were (2,5). The doctors were taken aback because the '5', they could have inherited from their father, but the source for '2' was indeed puzzling. As they



Depiction of Chimerism in humans

decided to probe further, a decision was taken to type tissues from other organs of her body. DNA analysis revealed not only the presence of (1,3) type cells, but also (2,4) in several tissues.

The researchers concluded that the most probable explanation for this was that her mother had simultaneously ovulated two eggs, one containing a (3) and the other with (4). Her father would have produced equal numbers of 1-containing and 2-containing sperm. During syngamy, a 1-sperm fertilized the 3-egg while a 2-sperm fertilized the 4-egg. Soon thereafter the resulting early embryos fused into a single embryo. As this embryo developed into a foetus, both

types of cells participated in constructing her various organs including her oogonia (but not, peculiarly, the blood stem cells in her bone marrow). Such an organism that is composed of two or more different populations of genetically distinct cells that originated from different zygotes involved in sexual reproduction is termed as a 'Chimera'. While human chimeras are found to be relatively rare, it has been discovered that it is more frequently observed in other animals such as the marmosets.

A similar phenomenon, Mosaicism, denotes the presence of two populations of cells with different genotypes in one individual who has developed from a single zygote. The causative factor for mosaicism could be the occurrence of mutations during early development or mitotic errors during cleavage. The amount of tissue which is mosaic depends on where, in the tree of cell division, the anomaly occurs.

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RADHIKA R.

## The Good

Joining the ranks of much criticised topics like wars, the Government, (other) religions and fee hikes these days is IISER Pune. Everyone in and out of IISER-P (referred to as IISER in all later instances in the article) has read the Join IISER Pune blog by now, tough as it is to miss out (being one of the first few results of a Google search on IISER). Even as it is in full keeping with the freedom of expression, I find it slightly weird that a lot of us find pride in airing our dirty linen in public rather than making an effort to wash it. And really, is it even as dirty as the blog and the complaints of a lot of people project?

It is easy to fish out a lot of defects in the system, infrastructure, teaching and a lot of other negative aspects about IISER and it is totally justified. But is anyone else of the opinion that we are going a bit too far here and overlooking every possible virtue of the institute?

Slightly bogged by all the pessimism around me, I decided to take up the challenge of listing down all that is good about IISER and came up with this article whose length is comparable to another one on this page expressing views completely opposite to mine. (If you're going to complain about all the extra junk in here, let me assure you, the other one contains equal amounts of it as well.)

So, first things first. The biggest difference of IISER from other Institutes, which fetches it a lot of points, is the near-absolute freedom that you get. Be it working in any lab at any time, choosing any course of your interest, hanging around at Sai Trinity till two in the night, there is minimal amount of restriction in most things you do. The in-time for hostel here is 11 PM as compared to 7-9 PM in a lot of colleges. Also we have got 3+1 months worth of vacations for doing 'worthwhile' projects, which is more than most other colleges in India. We have the liberty and support of the college to participate in fests of other colleges unlike some of our sister institutes. Anyone looking for people with common interests and promote them can go out and start a club without any kind of hindrance. All of this should have assuaged

90% of all grievances. Does it not? Okay, let's talk about one of my favourite things about IISER - the people here. IISER is not just about young and smart professors and super-intelligent people who are waist-deep in waters we've just been staring at all this time. It is about nice people as well. And nice doesn't include just the profs (who are as nice as nice can get with all the help, guidance and personal interest in students who approach them) but also the bus drivers, most of whom stop at any point on the road for your average helpless, stranded IISER student. And the mess people who, despite the bobbing above average culinary results, are really sweet to people desperately waiting for *rotis*, both in and out of the mess queue. Accepted - we don't have the kind of facilities that people would expect out of an institute of this stature, but we have people who do care about making them accessible to us, even though at a slightly slow pace. The Wi-Fi, the air-conditioned classrooms, the washing machines, and the ATM all bear testimony to this fact.

The above text and views do NOT imply that I think that all is absolutely perfect the way it is right now. All I wish to say is that it is unfair to bring up criticism after criticism, without paying the slightest regard to what is happening on the 'good' front. And it is even more unfair to exploit your freedom of expression and criticize IISER while conveniently forgetting your duty of trying to set things right by action rather than just talking. Complain. And then do something about it. IISER Pune can be a hundred-fold better than what it is now. But that is only when people, after writing or talking about change, make an effort to see that change is achieved.

To conclude my sermon (I believe it's my first), on a lighter but much more awe-inspiring note - the undisputed winner among all the good things IISER has ever had and that unquestionable overshadower of all of the institute's lesser evils - is undoubtedly the set of the magnificent, visually stimulating and osmoregulatorily soothing new washrooms near the faculty lounge. Complain or don't complain, up to you. But do make it a point to visit them.

## The Bad

I feel incapable and under-qualified to criticize the running of IISER looking at the statuses and qualifications of my esteemed seniors who have taken up this task in the past. Thinking about it again, criticism doesn't really demand superiority of the critique (no offence to the complaining souls out there)!

As one walks into the now main building, the all-in-one complex of IISER, the first thing that catches the eye is the muted flat-screen TV displaying repetitive scenes from everyday news. Looking beyond this, we find a framed image (clicked by a time machine perhaps?) that promises a greener future and beside it, a doll-house version of the proposed utopia complete with tiny yellow IISER buses, a little watch-tower and toothpick trees. This putative land far beyond in time (or maybe not) is not for us to behold, not even partially. When is the swimming pool getting made? When are we getting those tennis courts? The amphitheatre? The multi-cuisine mess? Forget all of it. It's atrocious that a student (like many of his friends in the hostel) who stays up late into the night working or doing what not, has no way of getting a shot of caffeine! Anywhere! This and various other incidents over the past two years have shaken my belief that caffeine is the staple drug of academic indulgence!

The woes of the IISER-folk have been added to by the unprecedented hike in student fees (which caused quite the uproar) and in study hours (which has been endured with meek, silent suffering). If the lectures are boring and intellectually uninspiring (barring a few exceptions), the labs, in short, spell pain! Sure, the sleek equipment will leave you starry-eyed for a month or two when you first get here, but then they lose charm and turn mundane. The ill-informed TAs in the lab don't particularly lighten up your day either. There has been significant improvement in the quality of lectures these days now that the lecture hall is air-conditioned, mostly in terms of the quality of sleep the seats provide. The knowledge I have gained at IISER is predominantly in the form of life lessons and adult humour which is no more than what any second-grade engineering or

medical college can provide! It's shocking and unacceptable that it is perfectly possible to get across the first two years with no appreciable increase in your knowledge pool (except maybe in the case of Biology).

Yes, I know IISER is a growing institute, a mere toddler in terms of its age and experience in the national institute scenario, but I don't understand why things can't be done completely by students without faculty support as is the case in most other national colleges. It might not be a fair complaint after all considering the fact that there aren't enough motivated students willing to come forward and devote their time for these activities. The rest of the population is either buried in books and lab coats or whiling away their time playing AOE, FIFA or indulging in more addictive habits. The ones who are in fact actively involved are very confused and are juggling these clubs and losing balance.

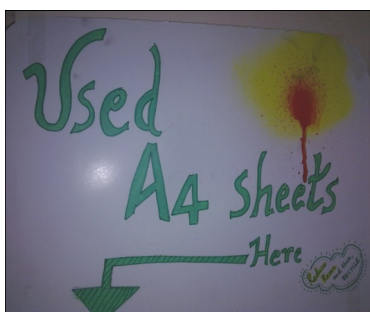
At first sight, the hostel rules look pretty decent until the not-so-nasty-during-the-day 'lady in khaki' blows the shrill curfew into your eardrum at 11 in the night and locks all the female scientists under her wing (no pun intended). The gentlemen are free to roam about in the whole campus at any eerie hour and have the pleasures of both the gardens! Bigotry is an outright crime!

IISER seems to forget its responsibility that it has to harbour physically fit individuals, preparing them in case of a serendipitous discovery in a bathtub demanding a marathon to the king! The sports facilities are so pathetic that most of us wish they had the standards of our school grounds at least. Yes indeed, cricket is played best in footpaths and the soul of football is most alive when you play in the muck and you fight more violently for the ball when basketball is played on a half court and the best place to swim for IISERites is...nowhere else but in their dreams! It has come to a state that the only skilful competition that hostelites regularly engage in is the fight for more download on the Wi-Fi!

When will hollow excuses cease to be made?

## And The Ugly

Take one look around and what do you see? Garbage and that too everywhere - on the streets, in the campus and, hopefully not (a weak hope though), in your rooms too! Garbage brings a picture of a stinky pile of soiled colourful plastic. Before you start feeling happy that your room does not have garbage, think about it - at the end of the semester most of the plastic and papers would go directly into the dustbin without a second thought as to what would happen to



all the paper which had the frantic scribbling from the pre-exam days, tiny caricatures in times of boredom and what not. The notes, food stuff and most of the other things lying in the dustbin were all treasured just a few days back but now they are all garbage!

All of us here have been through enough number of geography classes where the teacher tried her best to be boring but determined enough to get across the fact that resources need to be conserved. The same

old mantra - Reduce, Reuse and Recycle was repeated to us a million times but each time stored in our short term memory (thanks to our Hippocampus which decided we had other important things to remember in life!). However, a few souls whose hippocampus did not have enough choice and decided to put it into long term memory, were hit by an idea of implementing this rule. A few mails were sent out in search of other such souls and at once a small group was formed which is going to collect papers, reuse and finally recycle them. Come next year, there would be a lot of bins placed in many places both at the HR's and

at Sai building, all bearing a symbol which stands for RRR. Everyone will be hit by a wave of awareness which will hopefully get people to see the reality. It is expected that people will generously contribute to this cause by discarding all their used A4 papers in these bins rather than the dustbins. As would always be stressed on, reduction in waste generation is the most important target, followed by reusing, and last but not the least - recycling.

As and when a lot of used A4 papers get accumulated on your tables just discard them in the cardboard boxes by making a short trip to the reading room.



## Our Really Smart Filter

It was the day, the dreaded day that every student has nightmares about - the day of results! SAM - the harbinger of parents' ire - opens itself this day to bring alive the worst nightmare of every IISERite (except possibly the bespectacled oily nerds). I typed [www.iiserpune.in](http://www.iiserpune.in) in the URL bar, a fleeting second of hesitation - Enter.

The dog barked.

What? Huh! The same questions now popping up in your head popped up in mine. Confused and looking for answers, I spotted the reason for the dog - pornography. Pornography? Did my horny mind lead to yet another Freudian slip? F5 and now it said Humor/Comics - what could possibly be wrong? I proceeded to open other pages, even searching for "sex" on Google, but they were all open to my eyes. What could possibly be wrong?

I concluded that the Smart filter is not so smart. Well then I did the obvious - sent a print screen to all my friends, much to their amusement. But then I began to think seri-



### SAM Site blocked by Smart Filter

ously about it. I wondered, why block anything at all? What's the point? Why put a censor to the amazing array of information the internet has to offer us.

Smart filter has been troubling almost all IISER students - not just by blocking our favourite "hangouts" like facebook and Youtube, but many other sites which are of academic importance. As you might have experienced, this sometimes leads to ridicu-

lous results like the one experienced recently - Wikipedia being blocked - on the name of 'personal pages'!

So, why filter? The most obvious reason is to save precious bandwidth, which is most likely to be exploited by the students. Another reason could be that "distractions" are filtered so that students can focus only on research and not on any other kind of "search". Forget that. The system itself is

not foolproof and there are umpteen ways to circumvent the filter (which obviously would not get mention here!)

So, what's the solution? Although I don't have any technical know-how and in no way do I want to undermine the authority of the concerned people, I feel some things can be thought of. One possible solution is to remove the filter completely and instead have a cap on downloads per user, like in some of the IITs. There can also be a provision for extra downloads, by charging for every extra MB of data downloaded. So, the students will be more careful and there won't be any unnecessary burden on the server.

I know this is not as simple as it sounds, and is easier said than done, but still steps should be taken to avoid 'mishaps' such as the blocking of SAM or Wikipedia. It is restricted to relatively minor issues now, but this gaping hole in the IISER infrastructure needs to be dealt with as soon as possible.

## At A Loss Of Words



The last native speaker of the language Kasabe, Bogon, found only in the Mambila region of Nigeria-Cameroon borderland died on 5<sup>th</sup> November 1995, taking Kasabe with him. He is survived by none who know the language. The West Caucasian language Ubu died at daybreak, October 8<sup>th</sup> 1992, when the Last Speaker, Tefik Esenç, passed away. We could repeat the same tale a thousand times, with the names and places substituted.

A public that is usually concerned and vociferous about ecology and conservation is still unaware that the world is facing a linguistic crisis of unprecedented scale. Even as environmentalists and concerned citizens howl for the preservation of nature, call out against the loss of biodiversity, wail for the loss of a rare animal species, a more insidious but no less terrible pandemic is taking place on the cultural plane.

How many of us are aware that, of the 6000 odd languages that are currently spoken in the world, more than 90% will be extinct within decades? That more than 96% of the world's population speaks less than 4% of its languages? That the world loses an entire human language every two weeks? The world at large remains blissfully unaware of it.

A language is more than a tool, a means of communication. It is the unobtrusive historian, the foundation on which any culture is built, the primary element that gives an identity to a community or an individual, the "chronicler of the pedigree of a nation". You are probably wondering, if a few remote languages like Eyak or Ubykh are lost, what's the big deal? Their existence had no relevance for us whatsoever. But in a few decades, it may be dialects of Marathi or Telugu that are in a similar posi-

tion. It is not the speaking population that determines the fate of the language, it is the fraction of the younger generation that does. And sadly, that is decreasing every year for nearly all indigenous languages. It is not because they are incompatible with the modern world. It is not because the community doesn't care for them. Despite the fact that they have been proved to be greatly superior as a means for primary education, English is given a higher stance in the modern society. It is because globalization has come too fast to give them time to catch up, to integrate in the national cultural scene. Natural extinction is a part of social evolution, but this isn't extinction. Its a massacre.

Darwinian philosophy doesn't apply here ("if a language can't survive, the world doesn't need it.") because each language is a result of generations of human thoughts, ideas and creativity. We didn't need Rabin-dranath Tagore either, yet think how much richer the world was with him in it. Each language has its Shakespeare, with a wealth of expression that we can never hope to recreate. It would be amazing if we could even appreciate a fraction of it.

Since the recognition of this impending disaster in the 1990's, astonishingly little effort has been put into it. Most of them are fragmented, poorly funded, ill-organized efforts by linguists who appreciate the magnitude of the problem. The efforts being made for their preservation are no more than a drop in the bucket. It is only recently that certain large scale efforts have been introduced. The Rosetta Project, which started about two years ago, ambitiously plans to craft a modern Rosetta stone that will preserve more than 1,400 of the world's 7,000 languages on a 3 inch nickel disk. Its purpose is to document, not preserve, by creating a digital library of all

the native languages in the world. Laudable as the aim is, as mere dry sterile etchings on a 3 inch chip, any language is effectively reduced to the same level as that of

**"Obviously we must do some serious rethinking of our priorities, lest linguistics go down in history as the only science that presided obviously over the disappearance of 90 percent of the very field to which it is dedicated."**

**- Michael Krauss, "The World's Languages in Crisis" (Language, 1992)**

Tolkien's Elvish or Klingon. The rich heritage that comes with the common usage, the idiomatic intonations and inflections, are interred along with the last of the speakers.

Recording is not the answer. Revival is. The first step in saving dying languages is to persuade the world's majorities to allow the minorities among them to speak with their own voices. Documenting and recording languages is the last resort, for those communities where revival is no longer an option and the last of the native speakers are passing away. It doesn't mean renouncing languages like English or Spanish. The answer lies in multilingualism. Human minds are custom-made for learning more than a single language. Thankfully, this is quite common in India, where kids are taught at least two or more languages since birth.

Douglas Adams accurately sums it up in the Hitchhikers Guide to the Galaxy "The poor Babel fish, by effectively removing all barriers to communication between different races and cultures, has caused more and bloodier wars than anything else in the history of creation."



Off The Rack...

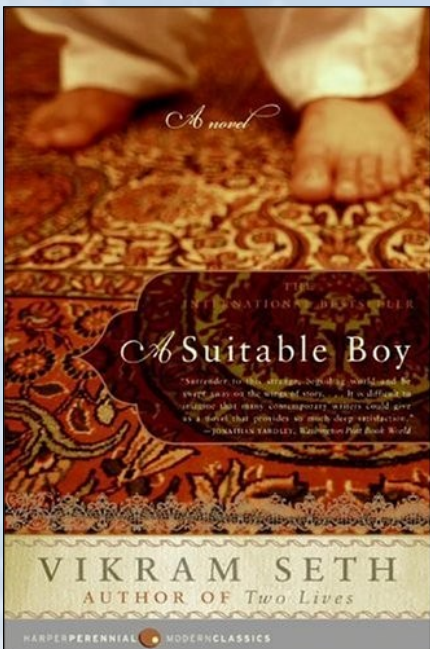
A Suitable Boy

ABHISHEK SHUKLA

If you are tired of the sci-fi, horror and thriller genres that seem to bombard you from shelves at the bookstore, here is a work of literature that will rejoice you to the core.

In 'A Suitable Boy', Vikram Seth undertakes a journey of finding a suitable boy for Malati. Set in the post-independence era, this story reflects the changing mentalities of people over time and how, despite that, some people still cling on to their old beliefs.

The protagonist of the novel is Malati, a girl torn between two ages. The story sees her fall in love with Kabir, a cricketer. The plot takes you on a journey from Banaras to Calcutta to Delhi,



and eventually Malati's fate is decided back in Banaras, in an ending that is very different from conventional love stories.

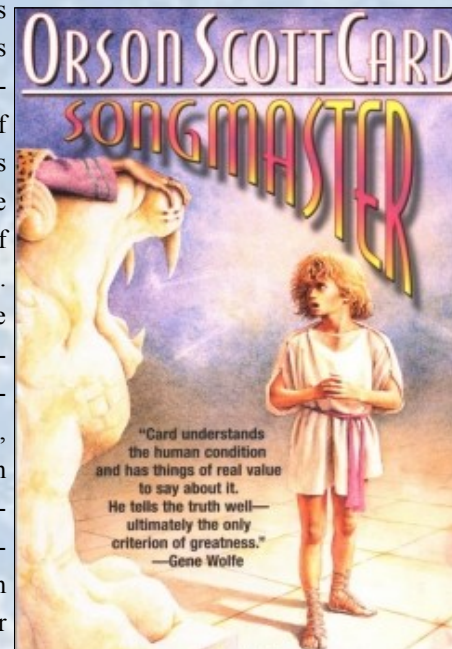
Malati is not the only character extensively focused on. Also in the limelight are characters like her friend who is studying medicine, and an up and coming English graduate with a degree in leather technology, a friend's paedophile father, a typical Bengali modernistic wife, and a gold medalist father. The book is an intriguing read, and is really well-written. When I had last checked it out at CROSSWORD, it cost ₹799. I would recommend this book to anyone who has a good time with books.

Songmaster

SAUDAMINI V.

Love- that's the first thing that strikes me when I think of this book. Love, and the ease with which Anset is able to love. Indeed, love, relationships and music is the central theme of this book. Card, in his novel *Songmaster* explores the power of music and emotions through Anset, the prodigal Songbird of Mikal, the Emperor. Set in a futuristic time when the whole Galaxy is under the Imperial rule of the Earth, the book begins with the three year old Anset joining the Songhouse, and moves on to describe the tender bond first between him and Esste, his songmaster and then Mikal, the ruling Emperor of the Galaxy.

Faced with growing unrests and revolts against the Imperial rule, Mikal waits for his Songbird for decades, till he is presented with Anset, the young boy whose songs have the power to show the audience all their fears, hopes, ambitions and aspirations, in short, their true self. Armed with his songs Anset can heal - or destroy. Read this book to meet remarkable characters, to know how the people you meet can shape your lives, how love can manifest in a hundred ways, how our perception of personalities almost never do them any justice and most importantly, how songs, can move the coldest of the hearts.



Fossil Frauds

NIHAL S. RAO

Fossil frauds enthuse and fascinate many creationists and anti-evolutionary biologists who are wholly dissatisfied with the Darwinian view of life - evolution by natural selection. Fossils in their very essence create a sense of awe and interest among owners and museum curators. They often generate lots of interest in palaeontology circles and finally end up being published in famous science journals. Fossils sell like hot cakes and the media plays an important role in publicizing them. Fossil discoveries revolutionize our views about evolution - examples include the discovery of the Archaeopteryx and the woolly mammoth. But sometimes, to prove their theories, scientists are in search of common ancestors and hence, missing links are fraudulently created. Sometimes, this is done to garner cheap publicity.

This fact of fossil frauds for publicity or for market promotion by some antique collectors is very well criticized in the SIMPSONS episode "Lisa the Sceptic" where the archaeologists of Springfield find an angel fossil and start worshipping it blindly. All except Lisa accept the authenticity of the fossil. In the end of the episode, it is revealed that it was indeed a fraud and a strategy used by a local shopping mall to promote their sales.

This article touches, of the many frauds, those that really shook up the world of biology forever. This article highlights three such frauds - the common human ancestor frauds, the Archaeoraptor - a close cousin of the archaeopteryx (the link between theropods and birds), and one of the revolutionary dogmas of biology - Haeckel's idea of 'ontogeny recapitulates phylogeny'.



The Common Human Ancestral Fossil Frauds

1. The fossil of the Piltdown man was found in a gravel pit in Sussex, England in 1912. This fossil was considered as the second most important fossil after the Neanderthal man proving the evolution of man from the homo genus - until it was found to be a complete forgery 41 years later. The skull was found to be of modern age. The fragments had been chemically stained to give the appearance of age, and the teeth had been filed using a filer. A lot of work had gone into making this fraud. What a waste of time and artistry!

2. A single tooth of the Nebraska man was discovered in Nebraska in 1922 and this drew a lot of theories from prominent biologists as an evolutionary link between man and monkey, until another identical tooth was found in the jawbone of a wild pig. One theory was that the Nebraska man used dentures of the teeth of the wild pig.

3. The Orce man was found in the southern Spanish town of Orce in 1982, and hailed as the oldest fossilized human remains found in Europe. Scientists claimed the skull belonged to a 17 year old man who lived 900,000 to 1.6 million years ago. Some time later the officials admitted the skull fragment was not human but probably came from a 4 month old donkey. A lot of artists were employed to draw detailed drawings to make it look what he would have looked like.

The Archaeoraptor

The archaeoraptor is a closely related cousin of the archaeopteryx and is the generic name informally assigned to a fossil from China in an article published in *National Geographic* magazine. The magazine claimed that the fossil was a "better missing link than the archaeopteryx" between birds and terrestrial theropod dinosaurs. There were severe doubts about the fossil's authenticity and on scrutiny, it led to demon-

strate that the fossil was a complete fraud. The forgery was constructed from rearranged pieces of real fossils from different species. Zhou *et al.* found that the head and upper body actually belonged to a specimen of the primitive fossil bird *Yanornis*, the tail belongs to a small winged, *Micro-raptor*, and the legs and feet belong to an as yet unknown animal.

Haeckel's Faked Embryonic Drawings

One of the central ideas in evolutionary biology is Haeckel's famous claim - 'ontogeny recapitulates phylogeny' - which asserts that the human foetus goes through various stages of its evolutionary history as it develops. Ernst Haeckel proposed this theory in the late 1860's, while promoting Darwin's theory of evolution in Germany and many scholars saw it as an extension to the theory of natural selection. He made detailed drawings of the embryonic development of eight different embryos in three stages of development, to bolster his claim. His work was (and still is) hailed as a great development in the understanding of human evolution. But a few years later his drawings were shown to have been fabricated, and the data manufactured. He tried to ensure that he wouldn't get blamed for the fraud by blaming the artist for the discrepancies, without admitting that he was the artist.

In conclusion, evolution is like a very large puzzle with its pieces scattered far and wide by time and sometimes people try to fit in wrong pieces of the puzzle that often create doubts and raises questions about the very evidences of evolution - fossils.

Sources: wikipedia.org and nwcreationist.com



# gene EXPRESSION

the students' corner



## Life Is Beautiful

SHRUTI PARANJAPE

Life is a gift. Life is truly beautiful.

And the fact that you are reading this now means that you are a lucky person. It means you are luckier than many other humans on this planet.

Thousands of people have passed on their genes just to formulate the unique genetic composition that is yours.

You are special. But not everyone knows that. Doesn't that frustrate you? Don't you want to be recognised? Don't you want to excel?

Or do you just want to be like the 7 billion other *Homo sapiens* on this planet? Just another cog in the machine of human society?

Everyday, human beings die for something you take for granted.

You have eyes. Many people don't. You can see colours. You can read. You can wink. You are lucky.

You. You have access to one of the greatest products of the human mind - the computer. Many humans don't. You are lucky.

You. You have easy access to energy. Many humans don't. Electricity, LPG, petrol and batteries are things of common use for you. You are lucky.

So tell me, is that fair? Is it fair that by

pure chance a person born a second after me should die of hunger while I get scolded for not having finished my food at school?

Some would say - yes it's fair. Chance is fair.

Others say that a bad life is a product of the sins of your past life. Well, who decides? Who decides what's right and what's wrong? Because that changes just as everything does.

Places change. People change. Life changes. And sometimes it's hard to keep up. Sometimes you're moving so purposefully that you forget where you're going.

But let me ask you something... How many times have you avoided asking yourself why you ignore the girl tapping at the window asking for money?

She hasn't eaten she says. Your stomach is full.

Her mother will beat her she says. You never return your mother's calls.

She just doesn't want to go home empty handed she says. You just went on a shopping spree.

But no.

You will not give her money. Why not? She's not working. People must work for a living.

What do you do for a living? I sit on a chair all day and look at papers / do finances / make study plans. Do you think that that is more work than lifting bricks all day?

No? Then why are you paid so much more than that person over there lifting bricks?

Yes? So then you think that people who lift bricks should start looking at papers / doing finances / making study plans?

But how? They have no access to education.

Plus, who would lift the bricks then?

Are you not affected when you walk past a slum? When you look at the overflowing drains or the dilapidated building, don't you feel a lump in your throat? When a celebrity does charity work, why do they wear simple clothes? What are they trying to portray?

They have money. They usually dress up much more fancily. So why not while visiting the poor?

Are the poor not worthy of seeing them beautiful / handsome? Or is it that these people will feel jealous?

Or wait. Maybe they'll feel bad! Is that it? You think they'll feel bad that you have so much more than they do?

But you do. It's true. You know it's true. They know it's true. I know it's true. So who are we kidding? Who are we protecting from the truth?

I don't get it. Is it me? Is there a problem with me? Am I asking the wrong questions? Is that why I don't get answers?

I've always thought it was obvious that the whole system needs to be renovated.

"What's the system?" you ask me.

The system in our country, in most countries, if not all; the system of energy distribution and resource distribution and wealth distribution. The system of rights and who imposes them and how. The system of distinguishing right from wrong. The system of life and society.

It needs to be changed. And you need to do it.

We need to do it.

So please fill yourself with fire and fight for a cause you believe in because little drops of water make an ocean. Do something that'll make you remembered by. Do something that you think can change the world, for the better.

Because to progress, we need to change.

The entire human race needs you to be that change.

Don't let us down.



Our new home - The room in the new hostel

## Start Blogging!

IISER Pune currently has a very limited presence on the Blogosphere. Some time back, a few of us students started a blog on <http://iiserpune.wordpress.com>, which has been low on contributors for quite a while. With the huge amount of activity now happening in IISER, it would be great if some of that activity got reported and filtered down to the blog, so that we can tell the rest of the world what all happens here. Seeing how it is a



little difficult to regularly update student activities on our main website, we think the blog is a perfect way to do so. We should definitely have articles up on Karavaan, Disha, Sentience, Mimamsa, SPIC MACAY, Physics@IISER and many such other events happening in IISER.

If anyone would like to contribute for the blog, please contact Ravi ([r.shankar@iiserpune.ac.in](mailto:r.shankar@iiserpune.ac.in)) or Siddharth ([s.iyengar@iiserpune.ac.in](mailto:s.iyengar@iiserpune.ac.in))

## Tarka Sabha

SHARVAREE VADGAMA

*Tarka Sabha* (which was Discussion and Debating club until last week) is the result of some 1<sup>st</sup> year enthusiasts who decided that they should do something that marks their batch!

Hence, this club. Yes, some of you may think that we don't really need a club to discuss because we usually discuss anywhere - in the dining hall, while standing in the bus, near the fountain, in the corridor

and so on. But if we give a second thought to what we speak during our 'debate/discussion' we might get to know that sometimes we make no sense or we are just trying to prove our point right by using fancy language (this may not be the case every time but this does happen!)

Ooh... I totally forgot that I am writing the article about the club... So...

*Tarka Sastra* is a science of dialectics,

logic and reasoning, and art of debate that analyzes the nature and source of knowledge and its validity. Sounds bombastic...

But the simple point of starting this 'sabha' was to give some direction to the discussions we have, to learn the art of discussing, to learn the art of making some point in what we say!

The response till now has been good but I would like to see more people in the next

meeting (come on.. that's why I wrote this article and put in efforts to make it more interesting!). And more the number of people, more fruitful the discussion.

So, see you folks on Fridays, 6:30pm, C303 HR4.

Those who are interested to join the club and receive mails from the group may send their e-mail ids to [iamsharvaree@gmail.com](mailto:iamsharvaree@gmail.com).



# gene EXPRESSION

the students' corner



## This One Bares It All!

Rumour has it that a certain well-meaning (pun intended) gentleman offered his heart, life and much more to the aloof reigning woman of IISER, zwanzig (German class!) times, on his knees, in an autorickshaw, much to the entertainment of the bemused driver. The physical feasibility of this phenomenon has been verified and can be vouched for by the rest of the editors. There is also talk that a certain car parked near the curb each day is driven singularly for the purpose of conveying gullible young women to expensive chocolate shops. Statistics shows that IISER Pune produces more rumours per day than the number of times the mess or the Administration is cursed. It's a disgrace that this article took this long to materialize considering the amount of gossip and rumours that floats around in the HR4 and Sai corridors each day! However, pressing circumstances imposed by a rumour of IISER shutting down in six months demanded that this article be written for we do not know if we will be able to please our readers again, ever.

We know for fact that there have been fist-fights in lectures, students dating professors, rats in the mess 'samber', student couples caught kissing and under suspicious circumstances (to put it lightly), a guy blissfully entering the ladies' restroom in HR4, potted hallucinogenic plants in hostels and a crème-de-la-crème Physics faculty showing off an overly exuberant wallpaper. But these incidents have no place in this article, for it is meant solely for unverified facts.

Maybe all those late nights at the reading room ostensibly for the purpose of sentient discussions and content generation inspired passions other than literary ones. Or maybe we have it wrong. Maybe the Karavaan, Mimaamsa and Kalpa meetings are just pretext for lifting the curfew on the A-wing. Supporting the editorial against the curfew, the editors are more than willing to graciously demonstrate its futility. There have been rumours that the ladies present at these times have been in states of consciousness much

below the requirements to prevent advantage being taken. More on helpless females, there has been talk about a certain progressive (again, pun intended) third year fellow who had suddenly disappeared to his hometown to meet the perfect Indian bride in a traditional ceremony. He has refused to upload pictures of this event on facebook so that we can clear our doubts once and for all. The marriage season is in full throttle for those in the fertile springtime of youth as another eminent man claims to have eloped with his girlfriend and gotten married in a temple, filmy ishtyle, and not dared to venture homeward since. Love niches at IISER have shifted geographically from all the labs, tutorial rooms, darker corners of Sai, the path around the hostel to the most unlikely location – the soon-to-be-renamed Reading Room. Queerly, the schedule of occupancy seems to follow a hierarchical trend which suggests an exclusive detailed document charting allowances of time and nature of use.

Do not be fooled by the misconception that all IISER rumours are of the scandalous or romantic nature. HR4 might look like a modern residential complex and not of the kind preferred by evil spirits, vampires and other bloodthirsty lot. But looks like even they have changed their preferences! HR4, it appears, has joined the likes of Hogwarts, Notre Dame and Dracula's Castle in possessing our very own domesticated ghost. Fortunately, this one has no bloodthirsty tendencies (which are subject to change with our article) but whiles away unscientific hours playing eerie airline music on the stereotypical paranormal instrument in the music room, maybe reliving that fateful day when he supposedly met with an accident while steering his favourite plane. This wandering soul however has moved on in after-life due to space constraints and lesser opportunities. The music room still awaits its peculiar night-visitor who has sent telepathic word that he is alighting on our grounds sometime in the following week. All this talk undermines the sig-

nificance of the high-principled ghost in the campus, the True Spirit of IISER, an inconspicuous member of the row of streetlights from the gate to the main HR4 building. Legend has it that this True Spirit is the epitome of the values that are central to energy conservation. Powered by the need to reduce the use of non-renewable energy sources, it remains switched off until lonely souls pass by and then suddenly blinks on. This behaviour has dirtied its name and banished it to the lowly status of stalker and eve-teaser but the authors hope to clear the name of this poley Spirit.

And IISER rumours are sometimes pulled into warps of theoretical physics as well - a few months back the grapevine was abuzz with 'news', of a certain ex-student of IISER moving to University of Sussex to pursue advanced lines of studies which is not the physics component of it. A short while ago however reports have indicated that this extremely lucky student has been the first person to be teleported through a wormhole. He landed in a place no more exotic (to the isolated IISER Campus) than... Model College Pune!

We dedicate this article to all those benevolent souls who fed our creative urges and chocolaty cravings. Continuing on the proclamations, we also salute the kindred spirit, that masked hero, who authors the Faking News at IISER Pune, the newest buzz on facebook. Those strongly inclined to rumour-worship can heave a sigh of relief now, since the world is said to come to an end in 2012 and nonsensical writing would be buried and forgotten. The only tale that can boast to stand up to these heights is the one that says the eminent Dr. C. N. R. Rao was invited just to inaugurate the nearly equally locally eminent modern-day Parthenon that proudly flaunts itself on the ground floor of IISER near the Faculty Lounge; that spectacular structure that spouts out beauty and Pune District water - the new set of bathrooms. You haven't visited them yet??? GO FOR IT!

NOSEY PARKER

## Foodie Corner

AASHAY PATIL

I like experimenting. No, not with instruments, but with food. Visiting exotic restaurants and trying different cuisines is always on my agenda. So, whenever I get time, I venture out to explore culinary havens of the city. So this one time, en route to Koregaon Park, the attractive board of Soy caught my eye. And being a fan of Oriental Cuisine, I immediately stepped in.

In Soy, you will experience the essence of authentic Chinese and Japanese food. Exotic dishes, prepared by skilled chefs, offer a contented dining experience to those who are passionate about good food. The vibrant decor and courteous service will only add to the fine-dining experience! The best thing here is the sheer variety of dishes available. Although the cost is slightly on the higher side, the quality and quantity of food are awesome. That Soy has been chosen as the Best Chinese Restaurant by Times Food Awards bears testimony to this.

From a dizzying array of tasty dishes they have to offer, I would especially recommend the Thukpa soup and Malaysian flat noodles. For desserts, the elusive chocolate mousse is an absolute delight.

They also provide home delivery (within a radius of 8 km) that too at an attractive discount of 15%.

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### Interdisciplinary Madness!

I work in _____	but get paid by _____	My Advisor is in _____
(Lab)	(Program)	(Department)
...but my <i>real</i> Advisor is in _____	Officially, I'm part of _____	...even though my office is in _____
(another Department)	(Research Center)	(Basement of another building)
Most of my classes are on _____	yet technically, my degree is in _____	So basically, I belong _____
(Stuff I haven't seen since High School)	(Major other than my undergrad's)	(Nowhere)

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## YOUR ARTICLE COULD BE HERE

or maybe in a bigger and better spot?

To see your article in the next issue of Sentience, get in touch with the editors in person or submit your articles online at [sentience.iiserpune@gmail.com](mailto:sentience.iiserpune@gmail.com)

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NEHA M

THE EDITORS