

this issue

Ex'Pen'sive

3

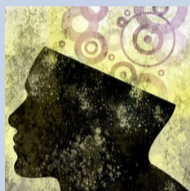


Vision And Robotics

3

Our So Called "Memories"

3

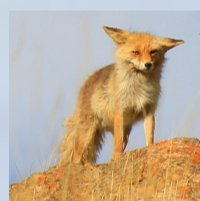
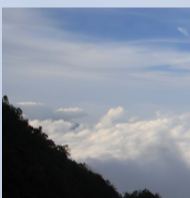


Shorr In HR4

4

Of Mud, Mist And Mountains

5

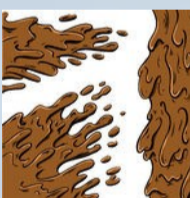


In Search Of The Hero Of The Snow

5

Slippery Road To Progress

6



featured

2 Academic Buzz

4 Off The Rack

5 Jungle Diaries

6 Foodie Corner

On The Rise...

As IISER Pune completes five years, it has expanded multi-fold, in terms of number of people, facilities, and research. The construction activity in the campus has picked up enormously. The construction of almost every building in the campus has begun and is progressing at a very good pace. By next year, the students will be housed in the new 9-floor student hostel and all lectures will see attendance in the lecture hall complex. Along with these, the Director's bungalow, the faculty housing, the laboratory block and the Physics block are under construction. Hopefully, with this pace of construction we'll soon have a

few more structures added to our campus.

The chemistry students have even more reasons to celebrate as the entire chemistry department has now shifted to the magnificent Mendeleev Block. All the advanced chemistry courses and labs are also conducted in the new facility.

Our own HR-4 has seen a few alterations too. The first floor Multi-Purpose Hall has been air-conditioned, sound-proofed and attached with an uber cool sound system. The second floor hall has been con-



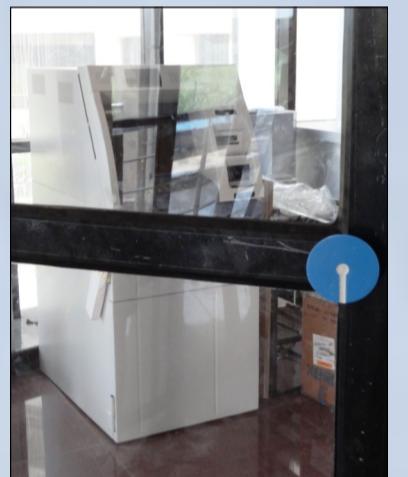
The 9-storey Student hostel, to be completed by 2012



Free weights section of the gymnasium

verted into a computer room and a state-of-the-art e-classroom, which will be a hub for international collaborations, considerably widening the academic horizons of the students. To add to these welcome changes, the gymnasium on the fourth floor was inaugurated by Mr. Nandu Natekar, an eminent badminton personality, on 7th August. It boasts of top-of-the-line fitness equipment and has seen an overwhelming response from students. Along with the gym, a branch of the IISER library has now opened up on the first floor. Last, but certainly not the least, a State Bank of India

ATM has been installed in the central wing. HR-4 has certainly become a much more comfortable place to live in!



The SBI ATM

It's Raining Accolades!



Dr. Ramana Athreya receiving the 2011 Whitley Award

Sometime before the monsoons started, it was raining accolades at IISER Pune. Quite a few people were honoured with awards and fellowships.

In May 2011, Dr. Ramana Athreya, Associate Professor in Physics and Biology at IISER Pune, became one of the seven international winners of this year's prestigious Whitley Awards for his work on Biodiversity Conservation and involvement of local communities into it at Eaglenest Wildlife Sanctuary, Arunachal Pradesh. These awards are offered by The Whitley Fund for Nature (WFN),

a UK registered charity which locates and recognises some of the world's most dynamic conservation leaders and supports projects founded on good science, community involvement, and pragmatism with Whitley awards of up to £30,000. The other six winners this year

were from Croatia, Uzbekistan, Belize, Borneo, Russia, and Argentina.



Dr. Sudarshan Ananth, Assistant Professor in Physics, won the Young Scientist Platinum Jubilee Award in Physical Sciences by the National Academy of Sciences, India (NASI) in July 2011 and the Young Scientist Medal by the Indian National Science Academy (INSA) in May 2011. What makes it even more special is that earlier, he had bagged the Young Associate

Continued on page 2

NIT Amendment Act Passed

Those who were worried that they would walk out of IISER without a degree, can now relax as the National Institutes of Technology (NIT) (Amendment) Act, which includes five IISERs in its ambit, was finally passed by the Lok Sabha on Friday, 19th August 2011, after being introduced in April 2010.

The amendment was required as IISER Pune and IISER Kolkata were started in 2006 and are still running as societies. The amendment will bring the five IISERs under the NIT Act and declare them to be institutions of national importance, thereby strengthening the networking of NITs and IISERs, Minister of State for HRD, D. Purandeswari said. The Board of Governors of the IISERs will be reconstituted and will comprise a chairperson, secretary of higher education, Government of India, director of the institute, Directors of IISc, Bangalore, one of the IITs among others. The amendment also aims at insertion of a section

in the Act to establish a common council for the all the IISERs. Union HRD Minister will be the ex-officio chairman of the council as in the case of IIT council.

The IISERs have the mandate to offer under-graduate and post-graduate programmes and are supposed to forge alliance with universities and institutions. For these purposes, it was necessary to bring the five IISERs under the NIT Act, Purandeswari said. It is proposed to strengthen the networking of NITs and IISERs by giving representation to the IITs in their Board of Governors. The government has earmarked an outlay of ₹2,000 crore for the IISERs during the 11th Plan.

The bill will now go to the Rajya Sabha and then to the President for their approval. Once this is done, IISERs can officially award their own degrees. In due course, IISERs will aim for an independent act similar to that of the IITs.

Academic Buzz

1. Frontiers of Cosmology and Gravitation, Goa, December.

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

2. IndIGO : The IndIGO consortium is organising a mock gravitational-wave (GW) data challenge for students.

Deadline: 15th September.

Link: <http://www.gw-indigo.org/mdc2011>

3. International Workshop on Dark Energy, 21st -23rd December, Centre for Theoretical Physics, Jamia Millia Islamia, New Delhi.

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

4. DST - SERC school on Nonlinear Dynamics, IISER Pune, 4th - 24th December.

Link: www.iiserpune.ac.in/~sercnd

5. Student Conference on Conservation Sciences, Indian Institute of Science, Bangalore, 14th -16th September.

Deadline for applications : 31st August.

Link : <http://www.sccs-bng.org/>

6. EMBO - EMBL Cancer Genomics Symposium.

Registration Deadline: 4th September.

Link : <http://www.embo-embl-symposia.org/>

SPIC MACAY Sufi Music Concert at IISER Pune

The SPIC MACAY IISER-NCL Chapter is organising a Sufi Music Concert by Bhutte Khan Manganiyar and his group from Rajasthan. They will be presenting the Langa and Manganiyar traditional style of Sufi Music. The concert is to be held at 6 PM on Sunday, 28th August, in the Multi-Purpose Hall (C301) in HR4. Entry is free. Everyone is invited.

Editorial

A few bold and a few scared at a whole new home with five hundred new faces. Far away from the ever-strict school rules, enjoying every bit of the given freedom and joining every possible club and enthusiastically participating in the fests, getting to know each other and learning the ways of different professors and at the same time silently listening to the lectures jotting down everything that could possibly come for exams- this aptly describes the new addition to the IISER Pune family. Welcome to IISER Pune, Batch 2011!

Sentience is IISER Pune's monthly newsletter, started last semester by a bunch of like-minded students who hope to simultaneously update people about various things happening in the world of science, in the world of IISER, share their experiences and to provide a medium for

IISERites to express themselves.

There is no hard and fast rule as to what comes here. It has news related to IISER Pune which includes various issues regarding the campus, new things coming up, programmes held and also the achievements of its members. Then there are science related articles, general articles and book reviews. As you might have already noticed, in this issue there is a page exclusively for experiences from various places where IISERites had been to for their summer projects. There is also a page that is to be filled only with creativity - we call it the 'Gene Expression'. It generally has short and crisp articles or stories and also Foodie corner which advises you on where to go and where not to go!

Sentience needs a great deal of participation from your side to build on its foun-

ation in the institute. You could contribute by writing science related articles, literary articles, book reviews, movie reviews, news, anything that comes to your mind, giving us valuable suggestions or even by joining the editorial team and helping us in organising and selecting articles for the print.

For those wondering what "Sentience" means and how it is pronounced (most people don't know it yet!), it goes as-

sen·tience. noun

\sen(t)-sh(ē)-ən(t)s, 'sen-tē-ən(t)s\ the ability to feel, perceive or be conscious, to have subjective experiences.

Looking forward for a great response from your side. Hope to see many of your names in the next issue of Sentience.

5 IISER Pune Students Represent India At The Asian Science Camp

The Asian Science Camp is an eagerly awaited annual conglomeration of the best academic and scientific minds across international lines. The 5th Asian Science Camp 2011 was held in Daejaon, South Korea. 29 students from all over India were selected to represent the country. Five students of IISER Pune, namely Abhishek Mishra, Anurag Agrawal, Rohit Chikkaraddy, Sriram K., and Upendra Singh, were part of the Indian delegation.

The week long camp took place at Korea Advanced Institute of Science and Technology (KAIST), South Korea's premier science institute, from 7th to 13th August 2011.

The main aim of the camp was to enlighten talented youth through discussion and dialogues with top scholars in the world, and to promote international friendship and cooperation among the brightest young students of the next generation in Asia.

The camp opened with a resplendent ceremony that showcased Asian culture through stellar performances by the participating nations.

KAIST was abuzz with amazing lectures and seminars by some of the greatest

scientists from all over the world. Seven Nobel laureates led the panel discussion and enthused the students about science.

The camp was not only about science. It was a perfect avenue for interaction with other cultures. It provided an amazing glimpse of Korean culture with a seven course meal banquet, performances by local artists, and a Korean magic show.



Fun at the Asian Science Camp

Field trips to Posco, NFRI, and Namwon folk village added to the fun.

The last day of the camp included a scientific poster preparation and presentation. Anurag Agrawal and Rohit Chikkaraddy bagged medals for best poster. The camp concluded with a grand farewell party, the highlight of which was a Korean street dance.

It's Raining Accolades!

Continued from page 1

Recognition from the Indian Academy of Sciences (IAS), completing a hat-trick of sorts.



Dr. G. V. Pavan Kumar, IISER Fellow in Physics and Chemistry and Dr. Thomas Pucadyil, Assistant



Professor in Biology, were selected Young Associates by the IAS in 2011.

Dr. Nagaraj Balasubramanian, Assistant



Professor in Biology, is now a senior fellow of the Wellcome Trust - DBT India Alliance which is an initiative intended to encourage and support biomedical scientists in India. It funds research ranging across the full spectrum of biomedical science, from basic biology to clinical and public research.

Voicing Our Opinions And Getting Them Heard

SIDDHARTH IYENGAR

In all our time in IISER Pune, there have been many problems we have faced, some due to the very nature of our institute (under construction), and some internal matters of students. With our growing numbers, such issues are also growing, and we need to be able to deal with them in an organised manner.

Whenever a contentious decision is made, there is a hail of mail that lands on the Director, Registrar and faculty. This usually makes them less likely to listen to us and does not convey our points adequately either. It isn't very often that faculty have the time to represent the causes of the students to the administration, and so we need to do it ourselves. The attitude of most people is to curse the college authorities for the problems and do nothing to even think of a solution, let alone solving it.



Thus, we have thought that we must form a student council to better represent the 500+ students of IISER Pune, and form a direct communication link between the students and the administration. This council will be founded upon a charter, a document made in collaboration with the faculty that spells out the structure, pow-

ers, and responsibilities of such a group. Work on this will be carried out by a core team of students and faculty, and should begin in the next few weeks. The entire process will be transparent and open to suggestions and criticism at all levels.

Meanwhile, it has been suggested that we also set up an interim council which will work on voicing the immediate concerns of the students. With the support of everyone in IISER Pune, we are looking forward to empower the students to constructively and efficiently get involved in the decision making in IISER Pune.

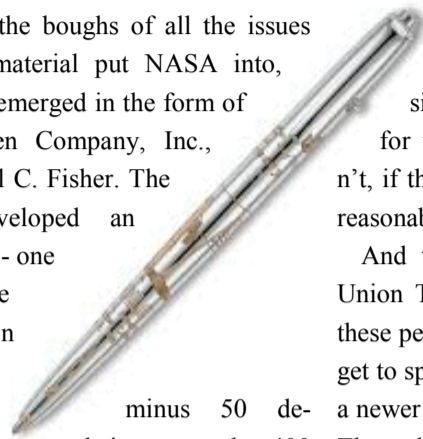
If you have any suggestions, please send them in to the editors of Sentience. Sentience will be an effective medium for the empowerment of the student council and you can voice your opinions through it.

Ex'Pen'sive

As NASA wrapped up with its space shuttle fleet (tragic news to a space-shuttle-maniac like me), I had this near-obsessive compulsion to write something in honour of these amazing flying machines. However, I hardly came close to writing anything I thought they deserved. But habitual random surfing led me to an article which has no relevance to the fleet at all but may lead to partial redemption of NASA in the eyes of some. So, this clichéd joke has been hanging around for a very long time- the one about how NASA scientists cracked their brains and piggy banks (the large scale ones) to develop a pen that worked just fine in space while their smarter Soviet counterparts used a pencil. But if NASA historians are to be believed, this is just a myth. NASA scientists supposedly used pencils originally. Mechanical pencils, that too, manufactured by Houston's Tycam Engineering Manufacturing, Inc. But here's the catch- not only were the pencils a threat on-board (amusing as it may sound, pencil tips flaked and broke off and kept floating, posing danger to astronauts and instru-

ments). Also, pencils are flammable - a property that NASA would definitely not want on board. NASA got into a rather costly deal as each mechanical pencil cost \$128.89.

Tangled in the boughs of all the issues that writing material put NASA into, their Messiah emerged in the form of the Fisher Pen Company, Inc., owned by Paul C. Fisher. The company developed an incredible pen - one that could write upside-down, in temperatures ranging from minus 50 degrees Fahrenheit to nearly 400 degrees Fahrenheit, and even in liquids! A teeny, irrelevant, even fascinating drawback was that at really hot temperatures, the ink turned green instead of its normal blue. That very year (1965), it offered its AG-7 space pen to NASA. This was a pen of its kind that didn't rely on gravity but rather on the 35 pound-per-square-inch pressure provided by the pressurized nitro-



gen to the cartridge. Also, the ink used was different - it stays like a gel-like solid till the movement of the pen turns it into a fluid. And the nitrogen also prevents air from mixing with the ink, preventing evaporation and oxidation. After testing the pens intensively, NASA decided to use them for their space missions. Who wouldn't, if they got such awesome pens at such reasonable (for NASA at least) rates?

And those of you cheering the Soviet Union Team, even they ordered a 100 of these pens a year later. Now whenever they get to space, astronauts and cosmonauts use a newer version of the pen- the Shuttle pen. They also get discounts on it apparently. And therefore, at the end of the day what mattered was not NASA's absence of creative thinking or the Soviets' street-smartness but rather the ingenuity of Paul C. Fisher and his company. Guess none of them was an 'Idiot' after all.

Reference: Scientific American, December 2006, Ciara Curtin, "Fact or Fiction".

KSHITI MISHRA

Our So Called "Memories"

ANONYMOUS



"Did I ever tell you about the time when...", "Once what happened is...", "Let me tell you how I fell for her..." the temptation to vent our feelings by narrating these stories constantly lurks in our minds, regardless of the listeners' opinions of the same. There are different types of memories, apart from the good, the bad and the unspeakable.

Regardless, the ones about our own experiences are by far the most fascinating ones (at least for ourselves !!). These autobiographical memories form a memory system consisting of episodes recollected from a person's life. We modify them, perturb their backdrops (maybe with our prejudices, whims or conveniences) just to create a haze of our own experiences, for others; and at times even for our own eyes. It is very much like looking over the traces of time and lacing the narration with hues of imagination. Self Obsessed, anyone?

The Infancy Blankout: An intriguing aspect of our memories is that as adults, we cannot remember being fed by our parents in infancy, treading our first steps, or uttering our first broken sentences. This is known as "childhood amnesia" Many a times, some people feel so disconcerted about this fact, that they try to cook up a "remembered" experience, which might not have actually occurred.

Studies in cognitive sciences & neurophysiology have tried to grasp the "encoding" and "retrieval" processes of our episodic memories. According to them, only after the emergence of the concept of "self", can the autobiographical memories begin to encode, which does not happen before the age of 2. Limited vocabulary and poor language skills hinder children from encoding early experiences. Later, after their linguistic abilities mature, they fail to recall earlier preverbal memories.

In some sense, we should come to terms with the limited veracity of our vulnerable childhood memories. We would not be completely incorrect in saying that only after we acquire language and appropriate training, we learn to think - the way we think.

Vision And Robotics

Humans have made a great leap in the field of robotics and Artificial Intelligence (AI). In the beginning, we humans started observing some simple and intelligent animals around us and taking inspiration from them. We started building newer computer algorithms. It got a greater boost through the discoveries in the field of neuroscience which solved many complex problems in this field. But still we don't have robots in each and every field. It seems somewhat contradictory that we don't have robots that can serve as chefs when we have those who can outperform humans in chess, supposed to be one of the most 'intelligent' games. Actually, a computer (a powerful enough one) can outline all possible roads to its victory at each move while playing chess, far outstripping humans, but lacks the instinct & intuition that are the hallmarks of a good chef.

Another important problem is the one of vision. According to Tokyo Kanade, Director of the Robotics Institute, Carnegie Mellon University, "Vision is an intelligent process to reach a description of the scene. Human vision is mainly based on past knowledge and context. Even though developing a sense of vision in robots had been the earliest attempt in Artificial Intelligence, we have not reached our goals. One of the main reasons of it is the 2D - 3D degeneracy. As image is only a 2D picture of the 3D space and so it is mathematically impossible to reproduce it. The other reason is context." Suppose a car is lying on a road and we look at the road from a certain height right on top of the car (from where it looks nothing more than a rectangular box). We humans can easily guess that it is car (even when it does not look like one) simply because it is lying on the



road. But this kind of understanding regarding the context is hard to achieve in robots.

As per Thomas Albright of Stalk University, vision is an 'ill posed' problem. Meaning, the retinal image of the scene in the eye does not have unique solution and theoretically there could be many possible images for it. This gives rise to many retinal images. Even then, we humans don't find it confusing to understand the outer world due to our ability of perception. But it is not the case for robots; for them it is difficult to figure out the correct image.

The complete architecture of our brain is fundamentally different from that of a computer. So, for doing the same task, a different set of commands or programs are followed. So we insert lots of data for a robot to recognise objects or learn a language. And in case of humans, we can learn a language with less data input. Analogously, the way the Google search works is totally different from the search method of our brain.

Early robotics generally had bio-inspired architecture. Taking inspiration from neuroscience, we observed the simplest animals around us. For example, a jelly fish called *Aurellia* has two different neural networks, that means two different types of

neurons. This brought a new idea about using different paths for transfer of information. Similarly, another source of inspiration was the working of the brain. An interesting experiment was conducted in this regard by Matthew Wilson, Department of Brain and Cognitive Science, MIT where he placed some electrodes in the brain of a rat and allowed it to move in a maze. An arrangement was made that the path of the rat could be detected from the ongoing neural activity of its brain. A beautiful fact came into picture about the property of the brain- that it easily switches from the online and offline mode. When in online mode, it actually perceives and responds to the environment in which it is present but when it stops (even momentarily) or sleeps, it switches itself from the evaluation of the external world to some kind of internal evaluation which has the memory and the understanding of the past experience. Later on we got some successes in AI through innovations in mechanical engineering. For example, we bettered the computer algorithms and stuff like laser range finder, alignment and face detection methods which makes the computer recognise faces with a marvelous rate of 97%, that means it outperformed humans in most complex vision problems.

The neuroscientists and engineers have come to a final conclusion that there is an intrinsic connection between the two fields: Neuroscience and Engineering. We can always look out for new method that nature treats as commonplace, but which can still revolutionize AI. In this manner the fields of Robotics and AI goes on evolving.

Reference: Discussion session on "Vision and Action" at MIT Symposium.

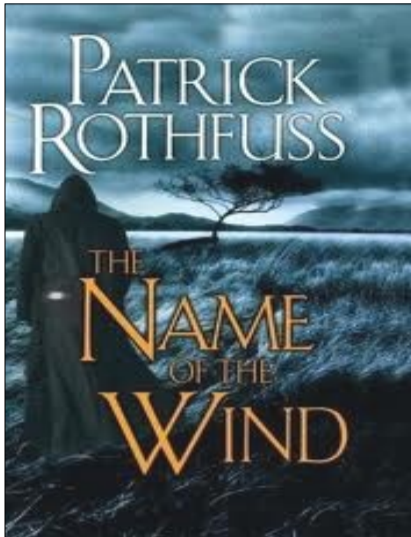
SHARVAREE VADGAMA

Off The Rack...

The Name Of The Wind

SIDDHARTH IYENGAR AND SACHIT

The Name of the Wind is the story of Kvothe – kingkiller incognito, anti-Casanova, master musician, and most importantly, a growing boy trying to find his place in the world. Now in hiding, Kvothe narrates the true (?) story of his life. Read how he scorched his teacher's leg to qualify for a course, burned down half a town to save it from a dragon and called on the wind to wreak vengeance on his foes. His story is quite different from that of the stereotypical fantasy hero, as Kvothe takes far-from-ideal origins and works hard to weave legends about himself.



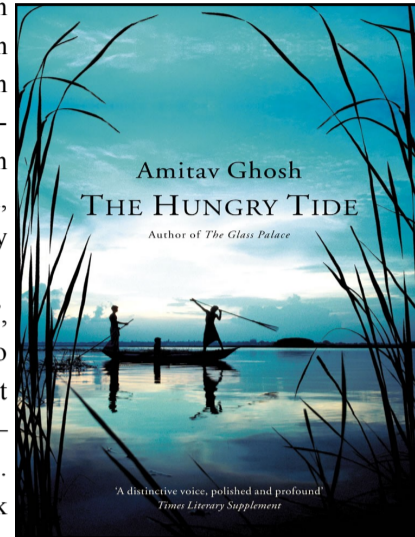
Patrick Rothfuss has imbued his world with well constructed magic, some that can be dissected and understood quite scientifically (like sympathy and artifice) and others that are mysterious, powerful and beyond comprehension (the art of Naming). The lyrical language of this book flows like no other I've read; its such a page turner that even hours before an exam, you'll be thinking "Just one more chapter...". For those who enjoy fantasy, or a well told story, this is a must read. This book is the first of a trilogy; its sequel - "The Wise Man's Fear" released in March 2011, and the third book is eagerly awaited.

The Hungry Tide

SHRUTI PARANJAPE

Love well and truly has no boundaries. And nothing brings that to life better than this gripping novel - "The Hungry Tide". Ever wonder how an Indian-born American Cetologist can fall in love with a married fisherman who can't even speak English? Well, this is your one way ticket to finding out!

In "The Hungry Tide", Amitav Ghosh brings to life one of the most beautiful parts of India – The Sundarbans. Amongst these thick mangroves, Ghosh finds a plethora of history and mythology. And constantly draws upon it as he spins a wonderful tale about a girl called Piya, a man called Kanai and a fisherman called Fakir.



Piya, a marine biologist studying Orcaella (type of dolphin) visits India, knowing that the Sundarbans would be the best place to be able to spot them. Fokir, a fisherman with an unnaturally vast knowledge of the area, becomes the best possible guide. Kanai, a translator from Delhi, helps her in overcoming the language barrier. Besides Piya's journey, the book goes into detail about the life of Kanai's uncle, who had just recently passed away.

The book brings to light this area of India and is sure to make you feel differently about these majestic forests. It ends on a dramatic note and is definitely worth a read, if not two!

Shorr in HR-4

Top Down

RACHANA BHAVE

And so they say this is just the beginning... "Aage aage dekho hota hai kya". After a 3-month long pause to our life at IISER we were all eager for some action. Anticipating the late night conversations, the endless talking, mindless laughing and the geniality of familiar faces, we were all trying to fill the gaping void that a long vacation had left us with. But there was something different now. Something strange in the air. Stifling or refreshing, it was hard to say, but the constant chatter, the unwanted stares and invasion of private space was getting on our nerves. It wasn't hard to guess though, that there was a new addition to the madness at IISER – the 2011 batch of students. They had made their presence felt, and how! The corridors, the canteen, the library, the buses, the elevators, the incredibly long queues in the mess, they seemed to be all over the place. Our seniors smirked at our exasperated expressions and mused, 'déjà vu!'. Strange faces in a tide of familiar ones, we didn't know anything about them. And the only way we could think of knowing them was to get together and break the ice by having some fun on a lazy weekend. So, in *filmi ishyle*, these bunch of newcomers were asked to put up a movie spoof. Nevertheless, this "getting together" wasn't nearly as easy as it sounded. Some of us did elaborately plan for the day only to know that there was disagreement on almost everything. And so began rows of discussions, arguments over little details and a difference of opinions. After hours of brain storming, somebody mentioned "Shorr in the city" and there we found our event type. But the buck didn't stop there. The rule was that they couldn't wear anything that matched. And so there were boys

Bottom Up

NIVEDITA RANGARAJAN



draped in *dupattas*, *Anarkali* in pyjamas, Rajnikanth as Jack in Titanic, "Gabbari Singh", or a Jack Sparrow speaking in an idiosyncratic accent, you name it and we saw it. Outrageous colour combinations, mismatched socks and even weirder combinations of actors ruled the stage. There was definitely Shorr in HR-4, as we laughed hard at some and harder at the rest. A brief introduction session (shorter than we would have wanted it to be) followed, after which the juniors were treated to the local flavour – *Vada Pav*. Well, round table discussions continued all evening, replaying everything that happened throughout the day and like always we ended up talking endlessly. A fitting end to the day I must say! But is this the end or just another beginning? The stage is set and hopefully the initial apprehension gone. I hope that the late night talks and laughter in the corridors continue for the years to come. Rest assured, the strange faces are not strange anymore.

"Did you see the notice board?!" yelled a frantic friend. "What notice board?! Something special?" replied a now rather anxious crowd. Indeed it was something special. A colourful notice had been put up, inviting all the students of the 2011 batch to "Shorr in HR-4" to be held the next day at 2:30 PM. The batch had been divided into 10 groups and each group was required to put up a Hollywood/Bollywood spoof. The one catch being that we had to turn up in mismatched clothes!

Quite naturally, anxiety started gripping over everyone as to what actually was going to happen. But what a day it turned out to be! Discussions ensued in every room as to what exactly constituted as 'mismatched'. As the day progressed, people acquainted themselves with the other members of their group and finally decided on their outfits, trying to make them as 'mismatched' as possible. The next day, saw all the groups in a mad rush to come

up with the best spoofs possible. The hours went by pretty quickly with quick storyline being created and witty dialogues and decidedly odd roles being scripted. All of a sudden it was 2:30 PM – time for the show to begin. People walked in awkwardly wearing their mismatched outfits, praying they didn't look worse than the others. After a short introduction, the spoof began. Many *Anarkalis*, *Gabbar Singhs*, *Romeos* and *icebergs* were introduced amongst laughs, table banging, cheers, and whistles. Later, the spoofs came to an end followed by a huge round of applause. Sure we made fools of ourselves, but atleast it was fun. And we hadn't laughed at ourselves that much in a long while. Our spoofs were followed by a few very nice performances by our seniors – the *FRIENDS* theme song and a solo guitar-cum-song performance. There was fun, frolic and indeed a lot of "Shorr" in HR-4!

At this point, we thought we were done for the day, but that was not to be. Somehow, we ended up giving entertaining impromptu minute-long introductions. This was quite fun too, and helped us find out quite a bit about our own classmates, and their different skills. The introduction, however, took a little while, and sadly, we all couldn't finish on time. It was alright though, because it was real fun while it lasted. The entire day was then rounded off with the seniors providing us all with (multiple) rounds of snacks and drinks. In fact, we were asked not to leave till all the food was eaten up. So, the last part of the day consisted of all of us sitting around, relishing *Vada Pavs*, quenching our thirst with cool drinks and reliving the day through fits of laughter. What a wonderful end to a wonderful day!

In Search of The Hunting Hero of The Snow

DINCY MARIYAM

This summer was the most exciting holidays of my life. I went to Spiti Valley in Himachal Pradesh for a project on the Snow Leopard, the hero of the snow. This was the first time I was travelling all the way to the north to visit the Himalayas. We got into this project through Dr. Ramana Athreya and Dr. Charudutt Mishra of Nature Conservation Foundation, a non-governmental organization that works on conservation in various places across the country. After a long and tiring journey, we reached our base camp village called Kibber, at an altitude of 4200 m.

After resting for a day or two, we set out on our work and visited a village, Chicham which can be easily seen from Kibber, but is actually around 50 km by road due to a gorge separating the two. The best part of the visit was to cross the gorge in a 'Joola' or a cable car. We also had an opportunity to camp for 3 days in Pin valley where nature has painted scenery using her magical



A spectacular view of Dimor Tso lake

brush. We were lucky to be a part of a nature camp held at an open field in Chomaling (4400m), near Kibber. It aimed at getting the children of Spiti to admire their surroundings, learn more about the plant and animal life and above all care for them. It was a great learning experience for me because I started to look at nature with an appreciative eye and hence discovered the hidden joy of observing even the tiniest of the creations.

I was in awe of the flora which includes beautiful flowers like Arnebia and Paraaquilegia to thorny short bushes called

Caragana. I spotted wild animals like the Blue Sheep, Ibex, Red Fox, Woolly Hare and not to forget a pair of Tibetan wolves just after their feast. I also saw domestic animals like Yak, Zomo (cross between a cow and a yak). Spiti has magnificent bird life for a cold desert with huge birds like the Golden Eagles, Lammergeyers, Himalayan Griffons and the common Raven to small birds like Horned larks, Wagtails, Finches etc.

The people of Spiti are very kind and ever willing to help. Though they have

a native language, Spitian, most of them are comfortable with Hindi and quite a few can manage decent English. Their culture has had an obvious influence of the Tibetan culture. We got to witness one of the annual horse races where the horses were decorated with age-old cloth work

and the jockey was clad in the traditional gown. Most of their culinary delicacies are made of meat and include *momos*, *timos*, *tukpa*, *chirul* etc. Their way of life and festivals is mostly dependent on the seasons, the busiest months being May to mid-August.

Even though I wasn't lucky to see a snow leopard, I am glad to have spent some moments of my life in this lovely place. I got to meet various kinds of people - from field assistants, students to professors, each working in an exciting field of their own. I will never forget my Spitian Adventure!



A red Fox spotted in Kibber

Of Mud, Mist And Mountains

KRISHNA ANUJAN

We returned, with blood on our hands, marks on our limbs and stories playing on our tongues... This is no gory tale of war... it's a tale of discovery of joy and beauty beyond the scope of imagination!

Eaglenest Wildlife Sanctuary, Arunachal Pradesh, our home for about four weeks this summer, is literally Paradise on Earth for anyone who sets eyes upon it. By 'us' I mean, 13 students of IISER Pune, Dr. Ramana Athreya, his 10-year-old daughter Aarushi and a floating bunch of wildlife biologists and photographers. On our way, we looked around in rhino country, Kaziranga National Park, where rhinos graze like disinterested cattle. Life took a breathtaking twist in Lama Camp where we first camped in Eaglenest. The view from our tent doors at daybreak was one of distant snow-clad peaks with sunlight dripping on them like fresh honey! And that was just the opening line of what



A Rhino grazing in Kaziranga

this place had in store for us. Throughout the next two and a half weeks at Bompu camp, all of us plunged into different research projects on ecology. We had people working on all kinds of taxa, static and ecstatic. Dr. Ramana spent excruciating hours with us trying to help us refine our methods and getting things organised. Needless to say, we spent the rest of our extended waking hours lazing around at the campsite, indulging in cheap humour, much to the dismay of the people in the kitchen. The camp kitchen, which produced the bland 'daliya' as well as yummy momos and Maggi in unimaginable quantities, was, literally, manned by a remarkable set of

people who were also our field guides and drivers in rotation. All of them were ready to spill out stories, which were mostly hilarious accounts of elephant chases. The highlight of each day was the steaming cup of hot chocolate for anyone awake at night, and we made sure that we were. At the end of two weeks, most of us felt extremely fortunate despite hardly any baths and being pock-marked thanks to leeches, midges and other UFOs.

We were done with our field work pretty quickly, measuring transects, counting species, collecting specimens and photographing them back at the camp, some such as a giant green rat snake receiving too much of attention, and being dubbed the prop snake (courtesy: Facebook). Some of the collected specimens were brought back to the IISER Bio lab to be worked on during the semester. Finally, after an unprecedented amount of organising, cataloguing, procrastination and *gulab jamuns*, the specimens were shelved. The rest of the trip was spent climbing the highest peak in Eaglenest, Pirila and travelling to the Alpine regions

of Mandala and Sela. The trek to Pirila lasted a whole day and the journey was as rewarding as the lush meadows and wild strawberries at the peak. We travelled by road to Mandala and Sela, pausing for a few snow-fights on the way. Mandala was a scene right out of a Swiss movie. The lake at Sela with its dazzling birds, fluttering prayer flags in primary colors varying in amounts of fading, the rocky grey landscape speckled with the pink and green of dwarf rhododendron and the blue summer sky overhead painted a fairytale ending to the trip.

As we sat crammed in the van back to Guwahati, we couldn't stop cribbing about returning to civilization! We made plans of



A lake near Sela pass

what we would do when we returned. And return, we will. As they say, 'you can take the boy out of Africa, but you can't take Africa out of the boy!' Maybe superficially sexist, racist and regionalist but universal in reality.



A view from Lama Camp

gene EXPRESSION



the students' corner

Natural Selection

RAVINDRA P N

$n_{C_s} = \frac{\text{natural}}{\text{selection}}$	<p>So Mr. Charley 'Daru'win, how do you account for the large biodiversity we see today?</p>
<p>It's all by virtue of natural selection!!!</p>	<p>Well, I call natural selection the presence of favorable variations and the rejection of injurious variations</p>
<p>Hmm... What kind of selection is this?</p>	<p>These variations accumulate and lead to the formation of new species!</p>
<p>Variations neither useful nor harmful are not selected by nature!!!</p> <p>Thank God!!! This variation is not useful for me.</p>	<p>Yo! That explains why my beak is different to that of the finches in the neighbouring islands.</p>
	<p>Mr. 'Daru'win, having long tails for peacocks decrease their chance of escape from predators, but they still have long tails.</p> <p>Why is this variation favoured though it is harmful?</p> <p>Acknowledgement: The Origin of Species by Charles Darwin</p>

Foodie Corner

AASHAY PATIL

If, on some Saturday, you have worked the whole day and are immensely hungry so that nothing short of a full course meal will do, catch a bus to Deccan and head towards **Shreyas**. At just 5 minutes walking distance from the Deccan bus stand, this vegetarian dining hall serves authentic Maharashtrian thali at just ₹150. The thali includes so many different items that you will get exhausted eating them all for sure! But most of the items are excellent in taste and of very good quality.

You get *chaat*, *pakodas*, salads, *puris*, *chapatis*, *bhakis*, *paranths*, a variety of vegetables, dal, different types of rice, and what not. On top of it, you can get supplementary sweets. Their signature sweet items like *Ukadiche modak* (during festivals), *aamras* i.e., mango pulp (only in summer) are a must try. Besides, you also get *puranpoli*, *basundi*, fruit salad and other traditional sweet items. The service is very good and the place has a homey ambience.

CONTACT

Address: 1242 B, Apte Road, Deccan Gymkhana, Pune 411 004.

Website: www.hotelshreyas.in

Telephone: 020 - 25532785, 25532023.

Slippery Road To Progress

COMMUTER

That progress and comfort don't come free is an understatement; but what a price to pay for the panoramic view of grey concrete against the setting sun outlining the IISERian horizon! All the marvelous progress and construction work has taken its toll on the road. Once regarded one of the best-paved roads, comparable in quality to the Pan-American highway, it had now been reduced to the standards of a murky quagmire.

What used to be a pleasure to amble along or zoom across is now a pitiful mass of treacherous mud, waiting to suck in unsuspecting articles of footwear. For those coming back after a summer in posh cities of Europe, this is indeed a waking-dream wish fulfillment.

The mud track currently masquerading as the main road of the campus is apparently a result of residues of the tires of the heavy vehicles that have been the predominant traffic for the summer months, while the construction work has been going on in full

swing. The effects of these efforts are, well, a 6-storey building. The not-so-pleasant side effects are a rude shock in the form of trousers being creatively dyed chocolate brown, countless broken slippers and, by far the worst, an enforced incarceration in the hostel, contingent on the erratic bus availability. For those bravehearts who dare to trudge on that terrorizing path (more so during a downpour), it is a long and demanding walk. With the first step, your feet gradually sink in into the thick, squelchy layer of mud that deceptively cakes the road. Your calf muscles get a warm up as you struggle to extract your feet AND foot wear from the reluctant-to-let-go sludge. As you somehow struggle through and reach the end, it is only to find spots of muck all over your pants and footwear enveloped with mire. At the end of thine arduous hike, thou shalt kneel before the glory of the Lord above and beg for deliverance! But providentially, the prospect of extra washing is not the only thing

that the wave of development has brought along with itself. Even as the road is being cleared and will hopefully soon be fit to be a fun place to walk/ride on again, we have gotten, or are on the verge of getting, facilities like the new library at the hostel the wi-fi and a brand new ATM. Along with an al-fresco dining place (ooh la la!), the beautiful and elusive faculty lounge, and a couple of washrooms with stunning interiors and delightful lighting, which promises a pleasant experience of even the mundane process of osmoregu-



The now relatively saaf road to HR-4

lation, on the ground floor we are truly endowed, indeed.

Robert Frost could make a difference by taking 'the road less travelled by'. But here in IISER the question is whether you take the road or the road takes you! So grab (or rather scoop) your last chance for leaving your mark in the quick sands of time... before they get sloshed away.

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

ARSHAD ARJUNAN NAIR

KRISHNA ANUJAN

NEHA M

THE EDITORS