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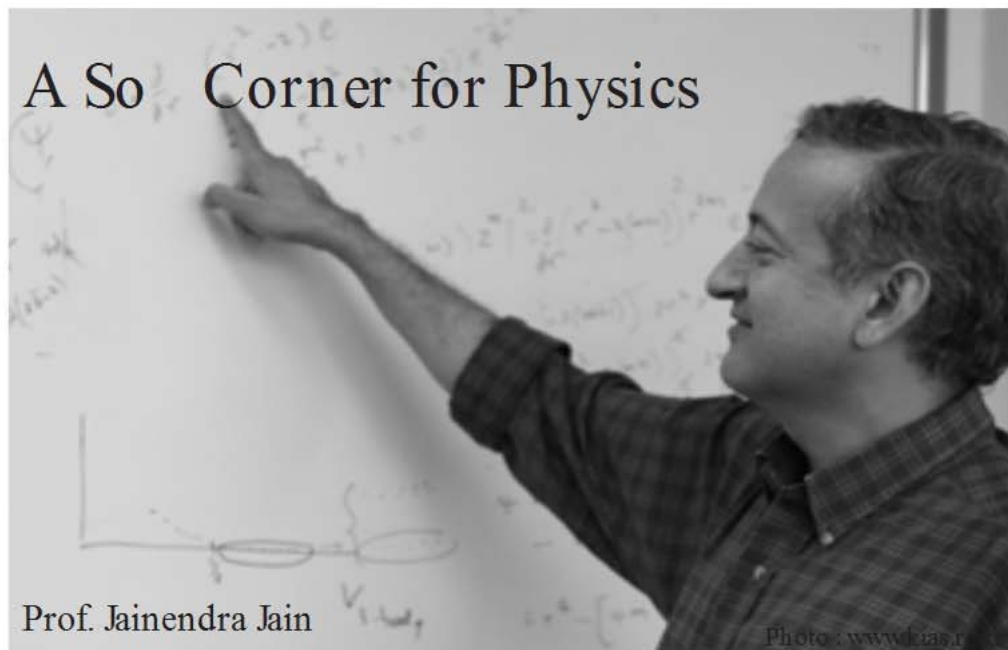


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A So Corner for Physics



Prof. Jainendra Jain

Photo: www.iiser.org

Dr. Arijit Bhattacharyay and Dr. Apratim Chatterji

Researchers in the Mumbai-Pune geographic region met on 17th August, 2013 at IISER Pune for the tenth Mumbai-Pune So Matter Meet to exchange recent ideas and results, thereby enabling people working on related problems to come together and help each other with complementary skill sets. Other participating institutes were TIFR Mumbai, TIFR Hyderabad, IITB, ICT, BARC and NCL. The four thirty-minute talks and six fifteen-minute talks focussed on topics ranging from the physics of mixing of two fluids in turbulent flow to, most interestingly, the report of an intriguing new gel which returns to its original shape after being compressed to 15% of its original volume. The physical principles underlying this extraordinary response of matter with "memory" are unclear and open to investigation. Other topics included the formation of liquid jets by instabilities at the surface of a spinning fluid, a new model of self-assembly to understand in-house experimental observations in S. Dutta's lab at IISER Pune, and stabilities of local regions of A and B secondary structures of DNA.

On another note, Prof. Jainendra Jain, a renowned physicist from Penn State University recently delivered a colloquium at IISER Pune. Here is what Dr. Arijit Bhattacharyay

had to say about the same. It was a great pleasure to listen to Prof. Jainendra Jain who visited us on 28th August 2013. We had an opportunity to get to know about composite fermions from the originator of this brilliant idea. This has made tackling the problem of interacting electrons with infinitely strong coupling possible, and solved the problem of Fractional Quantum Hall Effect in an elegant and experimentally verifiable way. Naturally, the stress was on the fact that composite fermions are real, observable excitations and have actually been observed in experiments. A problem has to be solved based on observable degrees of freedom - no hiding is allowed. Prof. Jain also emphasised the Emergent Properties as one of the fundamental ingredients of understanding natural phenomena. In the evening, Prof. Jain presented a more technical talk on the adiabatic correspondence between the topologically non-trivial bands of the Chern Insulator and Landau-bands of the Hofstadter lattice. It is a correspondence between two systems exhibiting Hall effect (integral as well as fractional) where the latter involves a magnetic field and the former does not. The talk was an exposition of an effort of unification which is essential for Physics, although, more is different.

Bajatey Raho

Lokahith Agastya

It was with a mixture of skepticism, fear and excitement that we first years walked to the freshers' party - *Bajatey Raho*. Would it be a farce, meaningless and crude? Would we be humiliated by sadistic seniors? Or would it be an event of unmitigated joy with the seniors cheering us on? These were the questions on our minds. Our seniors, the generous organisers, would probably have asserted that the success or failure of the event would depend on how the freshers performed.

To make a long story short, it was a roaring success for most of the people involved. Despite the poorly rehearsed dancing by some clueless first-years (that included strange props like buckets and brooms) and performances that threatened to redefine boredom, it had its bright spots; innovative improvisations on stage, a couple of allegedly-intentional comical dances and a few impressive show-off skills made it tolerable for the cynical and enjoyable for the open-minded.



Photo : Adithya Rajagopalan

Many of us were unable to accomplish the task assigned to us on the placards that were pinned to our backs, that formed the side-plot of the party, besides the stage performances we were assigned.

The clincher though, was the climax; a string of loud songs with beats that induced tapping feet and infected everyone with the dancing virus. Eventually,

to put it colloquially, nearly everyone except the ill or the injured, went bonkers, dancing with no apparent rhythm or synchronization but with real zeal.

Not only did it help us see the lighter side of our seniors which endeared them to us, it also lent us a platform to get to know our batchmates better.

What a beginning to life at IISER!

Re-freshmens

Sandeep Varkey



Photo : Mukul Rawat

After being plunged through a farewell, towelled out of college and branded as a graduate, the reactions to the suggestion of a freshers' party were varied. While some grabbed onto the idea almost immediately, others were absolutely abbergasted at be-

ing termed a fresher once again. After much consultation and discussion, everybody did make it to the party, some out of an eagerness to meet the two senior batches, and others relishing the idea of being young once more. The party was held at Farm Ville.

A large gathering often risks people tending to form little groups among themselves with the people they are already familiar with. To prevent this, there were a series of activities organised to break the ice and make people feel at home. From replying to questions as strange as what vegetable one would like to be, to repeating dialogues from cult Hindi movies, the session ensured that at the end of half an hour, everybody knew each other as well as they needed to (or perhaps more). After laughing at each other's terrible acting and singing skills for an hour, we grooved to the music late into the night. And when the rhythm was exhausted, there was food. Travelling back to the institute, everyone returned with different feelings, different thoughts and a fresh perspective on the long journey of which we would soon be partaking of. Some of us felt more tired, some of us felt younger, some of us felt more energised. But all of us were most definitely happier.

h kr eeda j ung f

he Kreed Jung season is back! Here are a few sporty insights.

Table tennis - The Super 8

Sujay B
Siddhartha Sohoni
Gaurav Bhole
Mahesh Chand
Bala Gopal
Keishnapal K
Shivik Garg
Suvidyakumar Homkar

Football

Gonners FC vs. Multiple
Scrogasms (9 - 0)

A Few Lost Fishermen vs.
Kickass (2 - 1)

Epsilon Kickers vs. Machs
(0 - 1)

Volleyball

Super Six

2nd year Team
3rd year Team
5th year Team
Survivors
Ball Busters
Faltu

Cyber games

NFS Semifinals

State and warrant -
Abhilash S vs. Abhijith
Clubhouse and lennox -
Aniruddhan vs. Aishwary S
Hwy 2001 -
Varun S vs. Brijesh M

Kabadi, Kabadi, Kabadi...



Photo : Saurabh Talele

Academic Buzz

Sourav Sarkar

1. Lectures on Probability and Stochastic Processes (LPS) VIII

Dates: 6th - 10th December, 2013

Venue: Indian Statistical Institute, Bangalore

Application deadline: 15th September, 2013

URL: <http://www.isibang.ac.in/~athreya/LPS13/>

2. SN Bose Scholars Program for research projects (Engineering sciences, Mathematical and Computational Sciences, Physical Sciences) in USA.

Dates: May-July (10 weeks)

Application deadline: 15th November 2013.

URL: <http://www.indoustrf.org/bose/indianstudents.htm>

3. Khorana Program for Scholars for research projects (Biotechnology including agricultural, health and biomedical sciences) in USA.

Dates: May-July (10 weeks)

Application deadline : 30th November, 2013

URL: http://www.indoustrf.org/Khorana/khorana_program.html

4. Research Internships in Science and Engineering in Basic Sciences, Engineering and Technology, and Medical Sciences in USA

Duration : 3-6 months

Application deadline: To be announced soon.

URL: www.indoustrf.org/indoustrf-research/ind_stud.html

5. ELBE Postdoc Program at International Max Planck Research School for Cell, Developmental and Systems Biology, Dresden

Deadline: 22nd September, 2013

URL: <http://www.mpg-sysbio.de/jobs.html>

6. Postdoctoral research position in theoretical Cold Atom Physics at Aarhus University, Denmark

Deadline: 1st November, 2013

URL: <http://users-phys.au.dk/bruningmb/Site/Postdoc%20job.html>

Time to go Clubbing!

Sohan Sarangi

With the arrival of a new semester, a new bunch of freshmen clubs have come to life with rejuvenating enthusiasm. Unlike the previous years, this year the clubs are bubbling with enthusiasm and running smoothly. With Karavaan around the corner, regular meetings and activities have shown a steep rise. The flash mob, the most popular event of the Dance club, has around 70 participants and practice takes place four times a week. In the music arena, a classical *baithak* was recently organised and regular practice by the western musicians all set to rock the stage, is taking place. The Quiz club has taken a re-birth and is growing at a brisk pace. It has conducted two quizzes on themes like advertisement and logos. The Photography club is going for regular field trips

on weekends either to capture nature's beauty or to grab the best clicks of the Pune city. Meanwhile, the Science club is conducting a hands-on workshop for students where a mentor from Pune University is guiding them. They are making working demonstrations of magnetic levitation, CRT etc. Apart from this, the Astronomy and Astrophysics club is organising a structured talk-series guiding the astro-enthusiast along their path to acquire systematic knowledge. The Drama club is organising a drama for Hindi divas and is practicing for mad ads, the street play and their mime act.

As the clubs are all coming to life, there is a severe shortage of rooms in the institute. With multiple club activities at the same time, there are issues about rooms which need to be resolved.



Photo: Vishnu K N



Of Vocal Chords and Musical Strings

Sharvaree Vadgama



Photo : Sharvaree V

This semester's first concert was by Shri. Purbayan Chatterjee, a renowned sitar player, who was accompanied by Pt. Ramdas Parsule on the *tabla*.

The concert began with a beautiful *bhajan*, followed by a long piece in *raaga Marwa*. This was followed by a *jugalbandhi* on the *tabla* and sitar. After receiving several requests of many different *raagas*, he decided to play a piece that

had it all. Handmade gifts made by the volunteers were given to the artists and the musical evening had come to an end.

IISER's very first opera concert was organised on the 6th of September. A group from Norway with Rita Heigre as soprano, Anna Einarsson as mezzo-soprano, Nils Harold Sodal as tenor and Matheas on the keyboard were the artists for the night.

Rita started the concert with the very famous 'I could've danced all night' from *My Fair Lady*. The various pieces that followed were in the German, Italian, Russian and French languages.

A beautiful duet was put up by Rita and Nils which included a short waltz.

They ended the concert with a farewell song in which they mentioned that people in India say *Phir milenge* rather than goodbye. This was followed by a small round of questions and it was time for the opera crew to leave.

The concert was followed by a short orientation session conducted by Dr. Kiran Seth, who founded the SPIC MACAY movement in 1977. He took the example of Indian classical music and the tradition of teaching classical music in schools. Dr. Seth raised an important question that provoked us into thinking how we lost such a system. I also had an enlightening conversation with Alkatakai, a senior volunteer.

Perhaps we should take some inspiration from Norwegians and establish a new way of teaching the younger generation about various kinds of Indian classical art forms.

All Strings Attached

The Sentience team (which seems to have a fetish for string theorists) recently caught up with Dr. Arjun Bagchi, a young, vibrant addition to the Physics faculty, for a brief chat. Here are a few excerpts from the interview

ST How did you get into this field of research?

AB In my schooldays, I liked to go out and look up at the sky. So initially I wanted to do Astrophysics. When I was in around class 8, I decided not to go into the engineering or medical fields. I decided to do Physics. It so happened that my father used to leave popular books on science around and I used to pick them up. He had a nice way of doing things without actually pushing me in a direction, he left small hints around the corner about interesting things I could do with in my life.

I got to my B.Sc, where I started looking into GR (General Theory of Relativity) - I liked it very much! Then I asked, 'What can I do with GR?' I found out that the main thing that one does these days with GR is to try and quantise it. I found the most promising aspect of this (to be) string theory. That's how I got to be into it - maybe life would've been easier if I had not!

ST What courses do you want to teach at IISER?

AB I want to learn through teaching, so I would prefer the masters' courses, over general first or second year courses. Among the existing courses, I would like to take the GR course. In addition, I am just about to write up a proposal for a course. I feel that the graduate course here lacks a QFT (Quantum Field Theory) course though there are many students who are looking to learn it. I think this is something that we have to and I want to change. Hopefully, this will come through next semester.

ST You've been in the most top-notch institutes in the world. How did you end up here and what did you expect from IISER?

AB I liked the look of this place a lot. There is a certain scope of actually doing something and building a group here.

There are enthusiastic people around, so I won't get stuck with people who have very firm beliefs in place about the way things should be done. For example, lots of people have had nice things to say regarding the QFT course that I am thinking of, lots of people have said nice things about it. That's probably the main reason I chose to be here. You guys [students] seem to be really enthusiastic too - that's another thing I like a lot.



Photo: www.maths.ed.ac.uk/

ST Have you had the chance to talk to students?

AB I like talking to students a lot and I was a student not-so-far back. My research mainly gets done by talking to people. Even someone who has just joined the field might have an idea. I guess research should be done this way.

ST What do you look for in a student who wants to work with you?

AB I am looking for enthusiasm. One person might take a little more time than another, but nothing is very hard or very difficult if you are hell-bent on doing it. That's what happened with me. I really wanted to do this, so I ended up here.

A background of GR and QFT would be nice too, but since QFT is not really taught here I can't say I require it. I think a general notion and an awareness of the

field is good. There's also an aptitude for research which is something that you can't measure - it's not about coming first in exams.

ST Can you tell us about your interest in photography?

AB I am interested in photography. I bought a DSLR a few days back. But as it happens, the moment you buy something big, you don't use it as much. I'll soon settle down and start shooting a little bit.

ST Do you think we should have a student council?

AB In my undergraduate days, I actually stood for a student election because someone said 'Will you do this for us?'. I didn't even know which party I stood for.

I am not for student politics. Things tend to get blotched up as a result. Here things are nice and on an informal basis, you can just knock on a door and drop in. If you go through a council, they might have their own agenda. The less structure, the better. As far as you can keep that up, do, but ultimately I think a council is inevitable.

ST Is this your first time in Pune? Do you like it?

AB Yes, it is. I like Pune a lot and that was another reason for coming. It's nice that there are hills around. Edinburgh had two hills inside the city. So whenever I go to a new city these days, I look for hills. Another thing I want to do is to find time to trek!

ST - How has it been settling in?

AB - We moved into our flat recently. Things are moving, though not as fast as I was hoping. I have to settle down a bit more because I have not got any work done over the last month and that's making me a little cranky!

ST Do you have a message for the students of IISER?

AB I don't like preaching but let me quote Steve Jobs - Stay hungry, stay foolish.

ST Anything else you'd like to add?

AB I play cricket and football. Unfortunately, IPL is just once a year and I want to play regularly. So let's start playing some games and sports!

Elementary, Dear Mendeleev

Siddhartha Sohoni

If you happen to enter Mendeleev block, you will notice a large photo of 118 members of a grand family, to the left of the entrance. Some of them are closely related to each other while others are only distant cousins. However, each of them is rightfully there and has his own story to tell. I plan to tell you the story of some of them, rather briefly, for I am sure their entire story cannot be told.

The biggest misconception about the chemical elements, amongst chemists and ordinary men alike, is that they are just chemical entities with no private lives of their own. This is however is grossly wrong. Most elements today have a detailed story behind them which is something that we tend to ignore.

For example, we all know that tantalum is tantalum but do we ever stop to wonder how this element with 73 protons and 73 electrons ever got this weird name?

Elements have derived their names from a variety of sources. Some have rather powerfully been named after the Sun and the planets (helium, uranium and so on), while others have been rather tamely named after colours (indium and rubidium). All of us know that Einstein, Curie, Mendeleev and the likes were honoured with elements that were named after them. But one man was lucky enough to get his entire office address permanently etched on the periodic table:

Glenn Seaborg
Lawrence Berkeley Laboratory
California
USA

The corresponding elements to the above mentioned address are seaborgium (106), lawrencium (103), berkelium (97), californium (98) and americium (95). In the 1940s, Seaborg headed a massive project on nuclear energy. Here, he discovered a process to manufacture new super-heavy elements. In a matter of a few years, Seaborg was able to synthesise all the elements from atomic number 93 to 103, except mendeleevium.

Other elements were rather romantically named after emerging countries, their names corresponding to the freedom movements of these nations. Scandium and thulium are the romantic representations of the independent land of Scandinavia. Lecoq, the discoverer of gallium tried to do the same. He envisaged the new nation of Gaul. However, when it was found that Lecoq, when translated to Greek, sounded something like Gall, the poor discoverer came under the pump for allegedly naming the new element after himself. After this, people played it rather safe. They named the elements after their ores or the place of their origin. Hence, magnesium was named after magnesia, and lithium after the earth. However, this resulted in as many as four elements, yttrium, ytterbium, erbium and terbium, being named after the same place, Ytterby. This is also the case with strontium which was coincidentally discovered in a small village in Scotland, Strontia and is in no way related to the chemistry of strontium.

Another interesting and well-known member of this family occupies the 17th position in the periodic table. Discovered by the modern chemist of that era, Carl Scheele, chlorine permanently changed history. Scheele discovered chlorine through a basic technique that is used even today. He passed hydrochloric acid over manganese dioxide crystals, which oxidized the hydrochloric acid to chlorine. He observed a dense green-yellow haze in the test tube.

Thus, he named the gas chlorine, after chloros, which means yellow in Greek. Scheele's counterpart was the dynamic chemist and poet, Sir Humphrey Davy. He was working on bases and molten alkalis around the time electricity was discovered. Davy somehow got this wacky idea into his head of passing some electricity through his alkali salt melts. And lo and behold, he was able to separate six elements, one after the other, over a period of four years. Thus came to the world, sodium after soda ash, potassium after pot ash, barium after its ore baryte and calcium after its ore, calcite.

Davy's record of discovering the most number of elements (six) went unbeaten for almost a century. Only William Ramsay came close with five discoveries (helium, neon, argon, krypton and xenon). It was only in the 1940s that our man, Seaborg finally beat the record.

Seaborg added a new dimension to the periodic table, the seventh period and the complete actinide series. Today, the realm of discovering new elements lies with GSI, Darmstadt, which has a few elements to its credit. This includes the rather controversially named darmstadtium.

Nobody knows how many elements there are and how many there can be, but as newer ones are being discovered, we can only say that science is expanding.

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1. www.wikipedia.org
2. www.nndc.bnl.gov

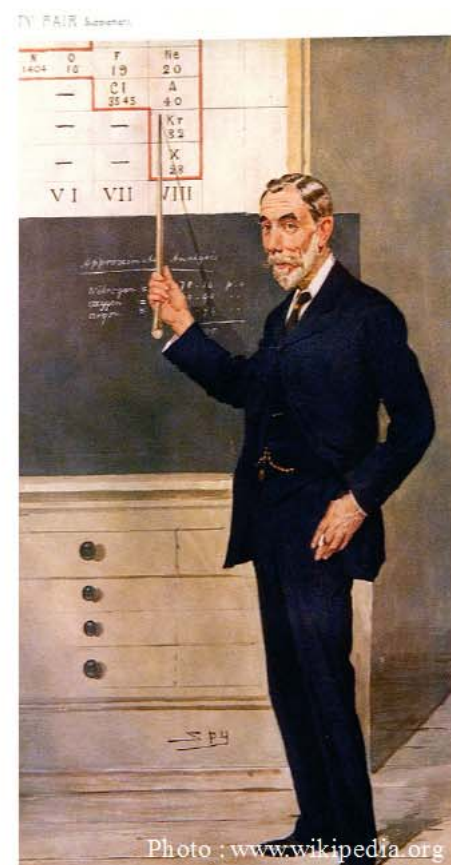


Photo : www.wikipedia.org

Ramsay's new elements were considered to be so fashionable that he was invited to the Vanity Fair

Third Time Unlucky

Khilav Majmudar

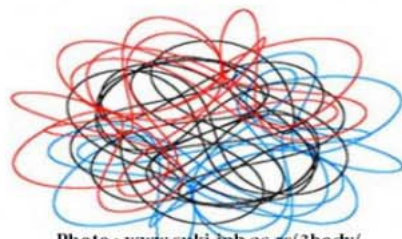
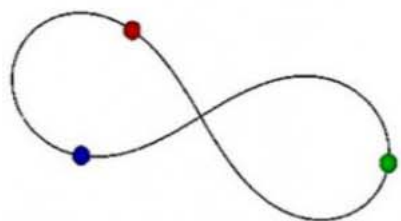
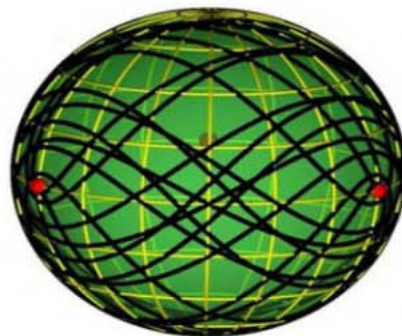


Photo: www.suki.ipb.ac.rs/3body/

The three-body problem is one that has been a subject of serious thought for physicists for more than 300 years. The problem itself seems innocuous enough. Given the initial positions and velocities of three point-like particles, find their trajectories under mutual interactions, using Newton's laws. This was proposed by Newton in his *Principia*, being the most logical step after solving the two-body problem, wherein the trajectory is known to be an ellipse.

Integrals of motion are functions of co-ordinates in a phase space, which is one that consists of all possible values of position and momentum. The standard mechanical quantities like energy and angular momentum are conserved in a three-body system and it was thought that the integrals of motion might also be conserved. In 1887, however, Heinrich Bruns showed that there could be no quantities that could be expressible as algebraic functions of the positions and velocities of the bodies. That is, no general solution to the problem could ever be found. Poincaré improved on this by including mass ratios.

For the specific solution, we need the initial conditions, i.e. the masses, positions and velocities of all the bodies. Generally, the orbits are known to be non-repeating. Until now, only three families of repeating orbits have been found, these being the Lagrange-Euler family, the Broucke-Henon family, and

the figure-eight family. The figure-eight family is so called because it describes three objects chasing one another in a figure-eight shape. The Lagrange-Euler solutions are simpler, with the equally-spaced bodies going around in a circle. The Broucke-Henon solutions are the most complex: two objects dash back and forth on the inside, while the third object orbits around the outside.

The discovery of 13 new families, made by physicists Milovan Đurđević and Veljko Dmitrašinović at the Institute of Physics, Belgrade, brings the new total to 16. Their method was to start with an existing solution on a computer simulation and then tiddle with its initial conditions until a new orbit materialised.

Faced with so many new solutions, the Belgrade physicists invented a new classification system. They used an abstract space called a shape-sphere which describes the shape of the orbits in terms of the relative distances between the objects. Three spots around the sphere's equator mark where two of the particles would collide, and a line drawn over the ball, which must avoid those spots, maps how near the objects get to each other. The simplest solution on the shape-sphere is of the Lagrange-Euler family. It is just a single point, because it corresponds to all three objects maintaining the same distance apart by orbiting (in real space) in a circle.

However, others' solutions are much

more intricate. The researchers' new yarn solution looks like a ball of yarn on the shape-sphere, although its real space orbit looks even more complex rather like a huge mass of spaghetti.

Their next step will be to check for the stability of the orbits. They will see how the bodies behave if the orbit is perturbed a little. The stability of an orbit characterises whether nearby (i.e. perturbed) orbits will stay in the neighbourhood of that orbit or be repelled away from it. The stable solutions might even be observed.

This contribution is of immense importance for observational astronomy. All the solutions can be viewed online at suki.ipb.ac.rs/3body/.

A history of the three-body problem concerning Poincaré: Although the three-body problem finds its origin in Newton's *Principia*, the most interesting and important event in its history occurred in the final years of the 20th century. King Oscar had set up a competition on the occasion of his 60th birth-day. It was for the one who would find a solution to the n-body problem. In case the problem could not be solved, any contribution to classical mechanics would be considered prize-worthy. Henri Poincaré's essay was chosen for the prize, and was set to be printed in *Acta Mathematica*. Days before the king's birthday, and the award ceremony, he discovered a major flaw in his arguments. He hastily withdrew his paper to his great embarrassment and paid heavy costs for the printing. In this process, he had invented the chaos theory, which deals with chaos or disorder in physical systems.

References:

1. Stephen Wolfram, *A New Kind of Science* (Wolfram Media, 2002), page 972
2. Jon Cartwright, *Physicists Discover a Whopping 13 New Solutions to Three-Body Problem* (ScienceNow from AAAS)

Beta, tu Alpha nahi hai

Shruti Paranjape



Photo : www.bumpybrains.com

Part of me suspects
that I'm a loser, and the
other part of me thinks
I'm God Almighty. -
John Lennon

For centuries and centuries, the world has fought, civilisations have brawled, people have died, livelihoods have been ruined, and the world has progressed into our modern-day world of chaos and destruction, with no sign of peace. All of this essentially dwindles down to the repercussions of the male ego.

Before I continue my ramblings, please note that the word ego has not been used in a psychoanalytic sense. It has been used to indicate an inflated sense of self. If you have a problem, feel free to strike it out and replace it with a word that your thesaurus deems fit.

Back to the male ego. One doesn't have to wander so far as Kurukshetra or Waterloo to see male egos battle it out. In fact, quite often the male ego and its greedy desire for recognition are pretty much right under your nose.

Look around you. How often do you see the girls in a batch complaining that they weren't asked enough times for their opinion on a decision? How often do you find a girl threatening not to work unless she is given the head position? These are rarities at best.

Men, on the other hand, seem to make a habit of it.

This can be traced back to animal communities. In most communities of social animals, it has been noted that an alpha male always emerges. He is the male with the highest rank in the community. Everyone respects

and fears him. He gets preferential access to mates, food and any other resources that the community shares.

In short, he's given what he wants on a silver platter. Why? Because he's managed to convince the entire male community that he is stronger than them. If anyone disagrees, they engage the alpha in a fight. Loss might result in death while victory can mean convincing the community that there is a new alpha male in town.

What has this got to do with anything, you ask? Well, in human communities as well (like the one we have here in IISER), alpha males emerge. I think all our readers (gender aside) will agree that it is impossible to decide on one male candidate whom everyone will agree is the alpha. It is reasonable to hypothesise, though, that there is a subset (let's call it Subset alpha) of males who manage to get a high and equal number of votes.

What do the rest do? Biologically, for every individual in an animal community, it is best to be the alpha male. They get to spread their genes around nicely. And so that's what everyone aspires to be.

But in this confused little community of ours, where no-one knows who the alpha male is, who they need to be better than or what they are being judged on. This results in a strange phenomenon, a repercussion of the sixth sense I guess, the thought that, I belong to Subset alpha. Belonging to Subset al-

pha essentially means this: I am better than a good part of the rest of the males here. It's when the dominoes begin to tumble until they all fall down and result in this inflated ego.

Due note has been taken of the fact that not every male falls into this category. Many a time, the exact same theory applies to subsets of females in the community as well. Not to mention female vanity, which is another problem, and story altogether.

All said and done, male ego is something that one has encountered (and will encounter) numerous times. And till now, I have found no pleasant solution to it but good ol' appeasement. So girls, light your incense sticks and get out your rosaries because you're going to be worshiping the testosterone-driven ego for centuries to come.

Doesn't it make you wish that Roald Dahl had written James and the Giant Ego instead? We would have come into the world with a full knowledge of politics and strategy instead of hopes and dreams of glow-in-the-dark worms and gummy peaches.

Disclaimer: Though I am a member of the Sentience editorial team, this article in no way represents the views of the editorial board. This is my personal opinion and I assure you that it has been hardened into a very strong (and, knowing me, probably a slightly biased) one over years and years of experience.

The fall semester began with people being excited to be back on campus with their friends, pleased about all the new structures that came up in their absence, and amped-up about their new courses. In the midst of all the happiness, though, students have noticed that a number of new rules have come up - many of these are cause for much annoyance and grumbling, and we've decided to use this as an excuse to get up onto our soapbox and talk about all the rules and quirks here at IISER that make little sense to us.

We begin with the library - that hallowed room at the Sai Trinity campus where most students say they get their work done. We've got quite a few qualms with the rules in effect there. To start with, books that we order at the start of a term arrive very late, often close to the middle of the semester, which is a waste. Moving on, students are not allowed to take their own books into the library, which is strange because a library is a place to read and work quietly, in addition to being a house of reference books. It shouldn't matter what one works with there as long as you stay silent. Even stranger, once you are issued a library book, you are promptly and unceremoniously thrown out, and not allowed to return if you have the issued book with you. Yet another bone one has to pick is with the timings of the library. Many dearly want it to be open all night, since studying in the hostel is fraught with distraction, and there is no other place conducive to studying on campus. The new I.D. rule is also contentious. Since we need to supply our fingerprints to take out a book, we figure that displaying our I.D. cards each time we want to enter the library is pointless. This regulation also means that new students without identification are denied access.

Another thing that stumps us is that people aren't allowed to doze off in the library. Doing so will have the guard thumping the table until you open your tired eyes and assure him that you won't drop off to sleep again. We agree that the library is not, strictly speaking, a place to curl up and hibernate, but anyone who works for long hours there deserves a few minutes' rest, and if they aren't bothering anyone, why wake them up?

One rule, about something a little less mundane than catnaps under a table, is the change in the book grant policy. It states that grant money that is not used during the year will not carry over to the next - in effect, if unused, it is lost. This seems unfair, especially because books are hardly ever bought in the first year, while books that are required or recommended in later semesters come at exorbitant prices. Since this money is allotted to books, we feel that it should not be subject to an expiration date, and that we should be permitted to let it accrue.

The area we'll pick on next is the hostel and common spaces - there are a number of bad practices in place there, too. For one, first-year boys are not allowed

an excuse to get up onto our soapbox and talk about all the rules and quirks here at IISER that make little sense to us.

into the new hostel at all, even if they have to do some work that cuts across batches there. We also feel that the rule that disallows relatives of students to visit hostel rooms, even if they make entries in the register with the security, is harsh. One new rule about the immersion rods that students use when there is no hot water available has caused all of them to be moved downstairs. Entries must be made in a logbook in order to use them, adding to the inconvenience.

Regarding the music room, we think it would be good if it was available to us in the afternoons, in case we have a free hour.

As classes are no longer being held in the multipurpose hall, we do not see why this is an issue. Now, about the common areas, we lament about the lack of them. IISER has wonderful hostel rooms, fantastic lecture halls and open spaces, but as yet, there is no common room available for both sexes.

There is no designated study area with

internet access on campus either, which would save students a lot of travel time.

Talk of the internet brings us to the unnecessary and ill-conceived rule imposed on the Wi-Fi that is switched off for BS-MS students post 1 AM. A petition has been drafted against it, detailing the reasons due to which students think it is unreasonable, so we will not discuss it further here. The mention of travel time also brings to mind the wish of several students for the back gate, opening onto Baner road, to be left open until 11 PM at least on Saturdays, instead of until eight o'clock like it is now.

We've ranted a lot, so to conclude in a happier manner, we'd like to say that we're very grateful for all the freedom that IISER gives us, and are very appreciative of certain rules already in place - the curfew, for example, is very reasonable, and we're given leeway in this respect if we have legitimate reasons for being late. We're also given free access to laboratories and campus facilities, and are allowed to move in and out of the premises without being unduly questioned.

The people in charge are very willing to listen to us, and take note of hindrances we face. They take corrective action in such cases, and quickly. Here's an example - last semester, the stairwell doors at the new hostel were all shut, even the ones that were designated fire escapes. People complained about the danger this presented if ever there was an emergency, and this time around, all the doors are open at all times. Another instance comes from the previous year, when the curfew for girls was two hours earlier than it is now, at 10 pm. When students told the wardens about how this interfered with the work they had for Karavaan, and their attendance at club meetings (we all know that IISER's clubs meeting are nocturnal affairs!), they sympathised and pushed the curfew to 11 PM. We're given all the facilities we need, and are even, on occasion, indulged by the administration.

By talking about all the rules we feel are needless, we hope to draw attention to them and encourage the people in charge to think about modifying them, to make everyone's days here even better.

Invol2ver

Darshini Ravishankar



Photo : www.undergroundsoundscape/

Invol2ver is a 2008 progressive house compilation that is a sequel to 2004's *Involver*, also by Sasha, whose real name is Alexander Coe. A continuous mix of songs by various other artists that Sasha likes, the album is around seventy minutes long, and sent chills up my spine and painted resplendent landscapes in my mind the very first time I heard it.

To me, while it remains firmly dance-oriented throughout, the album evokes many feelings and plays like a progression of moods- it starts off meditatively, with a remix of 'Intro', by Badger, and the sullen 'You Are the Worst Thing in the World', by Telefon Tel Aviv. This blends into a calm phase that includes the tracks 'Flesh' (Rone), 'Eclipse' (Sasha vs. Ray LaMontagne), and 'Lowlife' (Sasha vs. Adam Parker), followed by the pulsating 'Midnight', by Charlie May. 'Arcadia' (Apparat) and 'What You Might' (Home Video) come next, steeped in melancholia. 'Destroy

Everything You Touch' (Ladytron) is powerfully angry, and all this finally breaks down into the spaced-out wonder of 'Couleurs' (M83), and the honesty of 'The Eraser' (Tom Yorke). All the introspection of the preceding tracks ends with the contentedness of '3 Little Piggys' (Sasha), and the happy, rolling synths of 'Sometimes I Realise' (Engineers).

Among the things I love about this album is the way the music transits- I couldn't tell where one piece ended and the next began. The way the tracks change gently and the beats build up and fade make me want to tap my feet and relax, eyes closed, at the same time. I've listened to *Invol2ver* dozens of times- when I was happy, when I was depressed, when I needed to finish math homework, when I felt like dancing. The imagery of the album seems different to me each time, making it one of my favourites.

Surely You're Joking, Mr. Feynman

Lokahith Agastya

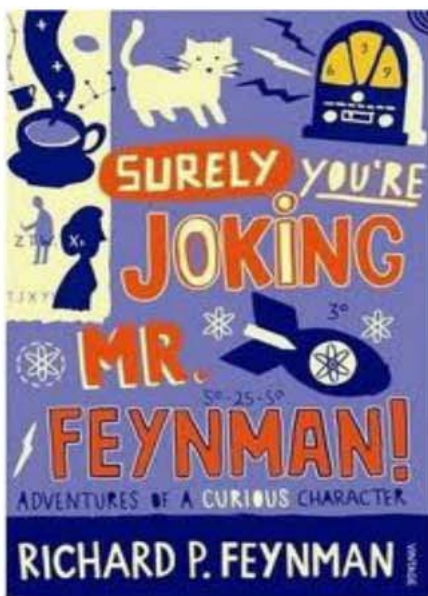


Photo : www.readthatalso/

Richard Philips Feynman, widely acclaimed as one of the greatest theoretical physicists, was the recipient of the Nobel Prize for Physics in 1965.

Surely You're Joking, Mr. Feynman offers a comical sneak peek into the life of Richard Feynman.

The book begins with a description of the young Richard Feynman, fresh into his teens and beginning to discover his interest in the field of science. It also includes his memorable experiences and encounters with his teachers at MIT who played a lasting role in shaping his career. His life at Princeton, where he attended graduate school, was littered with similar incidences. His joke-making was sometimes frowned upon at Princeton, it being an imitation of an English college, with the stiff upper-lip, but not once was his credibility ever tarnished.

In these years, the book describes

how he delved into different disciplines, learning little skills that made him who he was. He had paintings in art galleries, knew how to break open safes and learnt to play the frigideira.

The selection of stories from Richard Feynman's life that constitute this book though, offer far more than jokes and pranks. Besides his sheer genius, there is an immense practicality in every aspect of his life, perhaps explaining his rather moderate success at socialising with the opposite sex. Apart from his scientific brilliance, there is a genuine interest in imparting this knowledge to future generations, a commitment to scientific integrity and an insistence upon science being taught the right way.

Beyond Feynman's life itself, is a lesson on how to live life. Uncomplicated, cynical when it comes to accepting facts at their face value, practical and dedicated.



presentation

- Arshad Nair

"BioBlock": to keep it simple, neither fictitious or fanciful.

- Aurnab Ghose.

"Life Block": Motivated by Erwin Schrödinger's book 'What is Life'.

- Apratim Chatterjee

"Funnel Square": Nothing in biology makes sense except in the light of Evolution.

- Anonymous



FIRST, A NAME - MENDELLEEV
THEN, A LETTER - h
NOW, A SYMBOL SHALL SUFFICE.

"Vita": Latin for life

- Anonymous

"Phenomics Block"

- Milind Watve

"Darwin Block"

- Siddharth Das,
Avinash Khare, Sulabha Kulkarni,
V.S. Rao, Nitish Singh, Anonymous

"ATGC Block"

-Seban, Jeet

"Lab life in Bio Block

E coli, drosophila, planaria, fish...

Why, you could even find some humans there.

Story of the transplantation from Sai to the more fertile IISER campus unfolds."

- KP Madhu

"Ramachandran Block"

- Ramaswamy Manoharan

"Drift Block"

- Shraddha

"Gene Block"

- Karthik Prabhu,
Soumendra Panja

"Triple Helix"

- Nive

"The Cell"

-Varun K., S.K. Rejaul,
Rugved Pund, Ashwin

"Hooke Block"

- Khilav

"TB-block": Acronym TB here stands not for the terrible disease but for: "Temporary Biology" :)

The name is to stress on the point that these fancy BIO labs created in the so-called "prefabricated" structure using --- worth of funding will be after all a temporary abode of the IISER Pune biologists

- Surjeet Singh

"LS (Life Science) Block"

- Amit Kumar

"Galapagos "

-Yashraj

"Genome Block"

- Kundansingh

"Noah's Ark"

- Smits, Lakshmi

"Gene Expression": In honour of the Sentience team

- Team Sentience

"Rosalind Block"

- Bhmeshwar,
Saikat, Agrim

"Life itself"

- Abhishek Shukla

"BioStation" or "BioSome"

- Soumitra Athavale

"The Gene House" or "The Niche"

- Mansi Mungee

"Genesis Block"

-Nandini Hazra

"Tissue Tissue"

- UN Owen

"WC Block": for Watson and Crick

- Prakash

Poets of

eHe



Foodie Corner

Siddhartha Sohoni

In an inconspicuous corner of an inconspicuous street, if you were to see an enormous queue emerging out of nowhere onto the footpaths, you are sure to be around Darshan. Darshan is a Pure Veg restaurant that has been a favourite of the glitterati, from Aamir Khan to Narayan Murthy for several years in running now.

The starters include their famous nachos and tacos, and the main course comprises of popular dishes like pasta, pizza, sandwiches, burgers and sizzlers. The flagship dessert at Darshan is their strawberries with cream. All the dishes are delicious and are served in no time. This goes well with everybody, the hungry people inside as well as for the queue outside.

However, Darshan takes a beating when it comes to dining. Given the space constraint that they have, compromises have been made on the ambience but this should not be a concern for die-hard foodies.

Darshan, with its amazing food and veritable menu, is one of Pune's most famous restaurants, and rightly so. With a meal for two costing around Rs. 500, it is definitely worth a try.

Contact:

Address : Darshan, 759/60, Prabhat Road, Pune

Phone no: 020 - 2566137
020 - 25673671

