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Vol. 5

ENIGMA

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From the Director's Desk



I am very happy to know that the 5th edition of ENIGMA, the student e-magazine of Dr. D.Y. Patil Biotechnology & Bioinformatics Institute (DYPBBI) is soon going to see the light of the day. I am particularly pleased to see that despite the extensive trauma of the Covid-19 Pandemic lingering over the past two years, the students continued to contribute to this and other co-curricular activities sincerely. Thus, the untiring effort of all including the present Cultural Committee resulted in completion of the 5th edition of ENIGMA.

As it appears in the draft of the 5th edition, the students are quite capable and are enthusiastic in this useful endeavor. It has covered a wide spectrum of student activities highlighting the diverse talents at DYPBBI. Besides, some important and unique institutional facilities/processes for students like, International student and faculty exchange program, Faculty research groups, National Science Day celebration etc. are included in it. Overall, the e-magazine ENIGMA completes half a decade since its

inception in 2017, and all the editions including the present one bear testimony to the students' talent, creativity and competence in varied areas beyond their routine learning. We, the faculty members appreciate their hard work, and we support this activity whole heartedly, As the Director of the Institute, I congratulate them all including the Cultural Secretaries, in particular for their effort, and I wish them the best for making this magazine a very meaningful one for the DYPBBI family and the student community at large.

Prof. Dr. J. K. Pal
Director

Dr. D. Y. Patil Biotechnology & Bioinformatics Institute

Editor's Note



Hello Readers.

The beginning of this year's calendar is, at its heart, a fantasy of newness – of the chances to do things differently and with more attention to purpose. In reality, it was also one of the most challenging times of our lives as we had just come out of lockdown. By taking proper precautionary measures we had wished for things to go back to normal. And they did which allowed us to host and be a part of multiple college fests and events. The sense of celebration was our biggest cheerleader and our inspiration in creating this magazine.

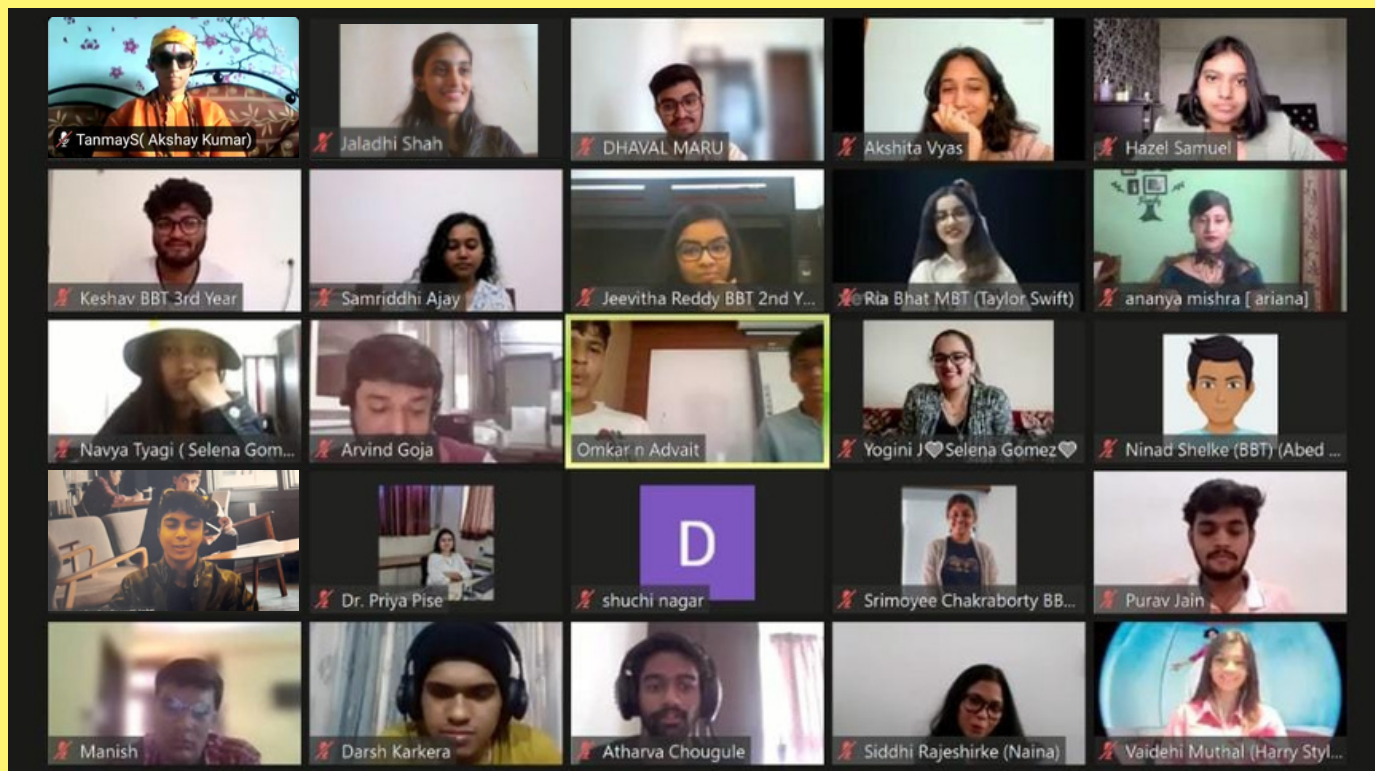
As promised, we are committed to encouraging reading and writing among the youth, to excite their imagination and senses of mankind. We have used the 'word' – as it was always meant to be used – to refresh and inculcate a sense of wonder. Our aim was to make each and every student feel represented and have tried our best to capture the essence of this academic year in our pages. While this issue of the magazine largely stands for a new normal, we hope it reflects that spirit of community and finds you in good health.

We present to you ENIGMA 5.0

***Ishita Mohanty &
Sanniddhya Bardhan***
Magazine Secretaries (2021 - '22)

FRESHERS '22

DON'T STOP, MAKE IT POP!



As students move from school to college there is a great pressure that unfolds with change. And this transition period is made a little bit easier with the 3-week induction program and freshers event held by our college. Students get to know their institute, interact with their peers, seniors, and teachers through competitions and interactive sessions, and get to be part of live talks on subjects of matter with regard to this change.

In the first week, the newcomers are introduced to their college faculties,

labs, clubs, organizations, council, sports, hostels, placements, CGPA system, and everything they would need to know about the place they would be learning and growing as individuals for the next 4 years. The induction week started off with Freshers Deeksharambh: a seminar given by the chief guest Dr. K.N. Ganesh, Director, IISER Tirupati. Our institute has 42 faculty members who would each deal with different subjects and expertise all being equally approachable during the induction week.

During the fresher's event, all students were given the opportunity to participate for Mr. and Miss freshers 2021-22. There were three competitive rounds held over the course of 3 weeks, each round helping the judges to understand the participants better. With the first round being a questionnaire round, the second, an interview round and the final being held on the final day of the program with games and questions being asked to the final participants. Alongside the freshers event, several other competitions were held like the heritage walk, e-poster, and short movie-making, etc., there was also a full-day world and desired skills workshop, which helped the freshers to know and interact with their peers better.

There were also alumni interactions where freshers got to interact with DY Patil graduates, they also had Speaking of seniors, the interactive sessions with seniors in college that helped freshers feel comfortable having seniors to rely on and take advice from as they entered college. There were live talks held by teachers and/or professionals on different challenging topics like aspirations and concerns, mental health and stress management, homesickness and gratitude, nutrition and the role of education, and having a holistic perception.



Arya Gondaliya - Mr. Freshers '22
Ria Bhat - Ms. Freshers '22

These talks were of extreme importance as students moving to a different environment may face a number of challenges like stress and anxiety, and may need support not just on academic but also on personal fronts.

Keeping this in mind we also have the mentor-mentee program at our college, which - the freshers are introduced to, in which each student has a teacher he/she can go to regarding any issues they face academically or in personal matters. We end the 3-week thrill of the fresher's program and let the newcomers enter their new home by the final day freshers event. The freshers came dressed as their favorite pop culture icons and participated in fun games and activities. The final round of freshers was also held after which the Mr. and Miss freshers 2021-22 were announced!



BBT - 1st Year



BBT - 2nd Year



BBT - 3rd Year



MBT - 1st Year



Class of 2021-22



MIT - 1st Year



MBT - 2nd Year



MIT - 2nd Year



MBT - 3rd Year



MIT - 3rd Year



BTAI - 1st Year

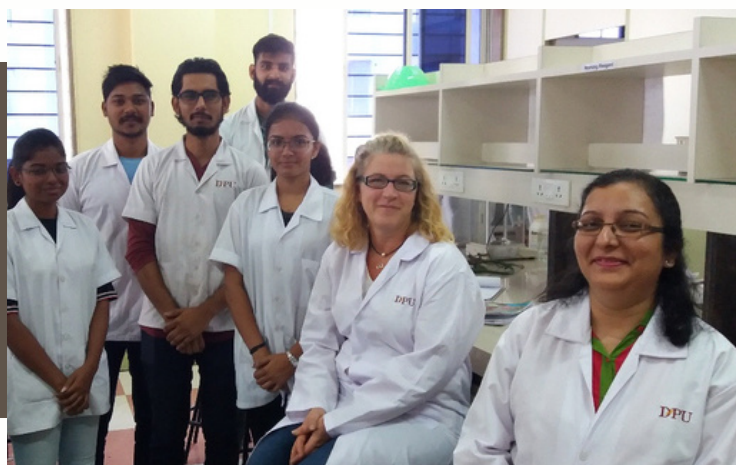


M.Sc. - 1st Year



MIT - 4th Year

—STUDENT EXCHANGE PROGRAM—



The School of Bioscience at UoS and Dr. D. Y. Patil Biotechnology & Bioinformatics Institute (DYPBBI) at Dr. D. Y. Patil Vidyapeeth (DPU) have collaborated for almost eleven years. The collaboration started with a research project between two professors (Prof. Abul Mandal, UoS, and Prof. Neelu Nawani, DPU) and has over the years expanded into both teacher and student exchange. The exchange program has been funded by Linnaeus-Palme through the Swedish Council for Higher education. UoS offers many educational programs in bioscience both at Bachelors and Masters level that are taught fully in English. This means that many of the students attending the programs are



international students who mainly come from Asia and countries like India, Bangladesh and Pakistan. In addition to the teachers' insights in another education system and foreign culture the exchange program also provides teachers with international experiences that will function as a platform for future collaborations in research and education. The vision of DPU is to excel in all aspects of academic life, so as to make the institute nationally and internationally reputable. The institute also envisions the empowerment of students through imparting of knowledge and skills in biotechnology and bioinformatics and the provision of education of global standards. With international exchange programs, both students and teachers receive an exposure to the education of global standards. These programs strengthen the cooperative efforts of the partner universities in mutually adopting the teaching and evaluation methodologies besides identifying common research interests.

Besides academics and research, the exchange helps in professional and personal development. The exchanges offer valuable in-service training for language teachers who are able to improve their linguistic skills, update their knowledge of the culture and develop opportunities for their students in terms of correspondence links, student exchanges, joint curriculum projects, work placements and other materials. Teachers can also gain knowledge of new and emerging technologies and provide professional development resources and opportunities for the subsequent generations.



Team from DPU, India; Rajshahi University, Bangladesh; UoS, Sweden and SASNET at the joint workshop under the collaborative research project on Bioremediation. (L to R: Prof. Ananda Kumar Saha, Dr. Noor Nahar, Prof. Balasaheb Kapadnis, Former Vice Chancellor University of Skövde Prof. Sigbritt Karlsson, Prof. Abul Mandal, Lars Eklund)

Project Leaders:

International exchange coordinator, HS: Dr Maria Algerin, Senior Lecturer in Life Sciences, Department of Life Sciences, Email address maria.algerin@his.se, Phone number +46-500-448641

International exchange coordinator, DPU: Dr Neelu Nawani, Professor, Dr. D. Y. Patil Biotechnology & Bioinformatics Institute, Email address neelu.nawani@dpu.edu.in

TÊTE-À-TÊTE

WITH ANUSHKA PHADNIS

Q. What has been your biggest challenge in being a part of this exchange program and staying away from home?

A. I feel dealing with homesickness is one of the biggest challenges anyone faces in a completely different country away from home, but getting out of your comfort zone is what helps you grow.

Q. What are the skills required by a person to get selected in the interview round of this program?

A. The right amount of confidence would be the first thing on the list. It's important to not appear over or under confident. To add on, conversation skills and knowledge of the important subjects would take you a long way.

Q. Did you always plan on following this path? If no, what was your dream when you first started studying Biotechnology?

A. Yes, I heard about this exchange program on the day of my admission and it's been my dream since. Throughout my 4 years, I've been completely focused on this exchange program, but I did have a backup plan too.



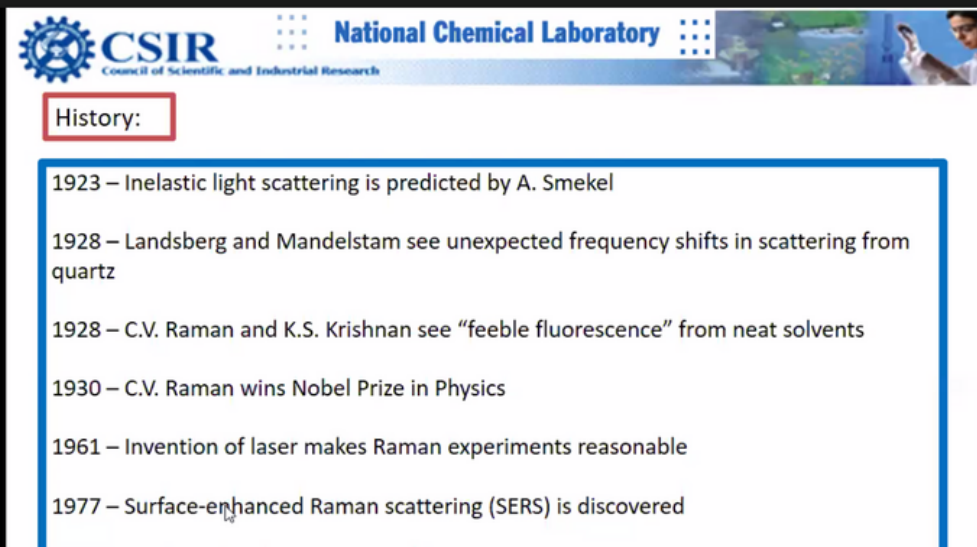
Q. What are your subjects of interest; ones you wish to work on? Any future plans?

A. I'm inclined towards molecular biotechnology and stem cells and I would like to research on stem cell applications in skin therapeutics in future.

Q. What advice would you give your younger self? What would you change?

A. If I could change something then I would tell myself to stay a little stronger and face challenging situations rather than running away from it.

NATIONAL SCIENCE DAY

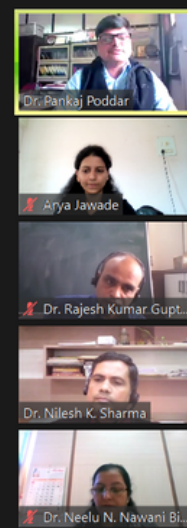


CSIR
Council of Scientific and Industrial Research

National Chemical Laboratory

History:

- 1923 – Inelastic light scattering is predicted by A. Smekel
- 1928 – Landsberg and Mandelstam see unexpected frequency shifts in scattering from quartz
- 1928 – C.V. Raman and K.S. Krishnan see “feeble fluorescence” from neat solvents
- 1930 – C.V. Raman wins Nobel Prize in Physics
- 1961 – Invention of laser makes Raman experiments reasonable
- 1977 – Surface-enhanced Raman scattering (SERS) is discovered



National Science Day is celebrated in India on 28 February each year to mark the discovery of the Raman Effect by Indian Physicist Sir C.V. Raman in 1928. For his discovery, Sir C.V. Raman was awarded the Nobel Prize in Physics in 1930. National Science Day is celebrated to spread a message about the importance of science used in the daily life of the people. It is celebrated to display all the activities, efforts and achievements in the field of science for human welfare. It is celebrated to discuss all the issues and implement new technologies for the development in the field of science. This celebration allows us to encourage the people as well as popularize science and technology.

This year National Science Day 2022 was celebrated at Dr. D.Y. Patil Biotechnology and Bioinformatics Institute, Tathawade with the National Theme “Integrated Approach in

Science and Technology for Sustainable Future”. In view of the COVID-19 pandemic situation, this year the entire event was organized in an online platform. Prof. J.K. Pal, Director, DYPBBI gave an introduction of the Institute to the guest speaker and enlightened the students on the importance of National Science Day. Two Guest lectures were organized. The first being Dr. Pankaj Poddar, Senior Principal Scientist, Physical and Materials Chemistry Division, CSIR – National Chemical Laboratory. The second one being Dr. Neelu Nawani, Professor at DYPBBI.

A poster making competition and an extempore competition was held for the students. In the poster making, 20 students participated in 11 groups and in the extempore competition 10 students had participated. It was a really fun event and the winners had performed really well.

Cancer Breakthrough

Sanniddhya Bardhan - (MBT 2nd Year)

A tiny group of people with rectal cancer just experienced something of a scientific miracle: their cancer simply vanished after an experimental treatment. In a very small trial done by doctors at New York's Memorial Sloan Kettering Cancer Center, patients took a drug called 'dostarlimab' for six months. The trial resulted in every single one of their tumours disappearing. The trial group included just 18 people, and there's still more to be learned about how the treatment worked.

"This drug is one of a class of drugs called immune checkpoint inhibitors. These are immunotherapy medicines that work not by directly attacking the cancer itself, but actually getting a person's immune system to essentially do the work." Says Dr. Hanna Sanoff of the University of North Carolina's Lineberger Comprehensive Cancer Center. Very few side effects have been observed within the patients, in fact, surprisingly few.

"THESE ARE IMMUNOTHERAPY MEDICINES THAT WORK NOT BY DIRECTLY ATTACKING THE CANCER ITSELF, BUT ACTUALLY GETTING A PERSON'S IMMUNE SYSTEM TO ESSENTIALLY DO THE WORK."

This experiment is revolutionary. It allows the patients to skip surgery. The treatments used by current doctors will leave you with consequences that may, in fact, be life changing. The doctors working on this project hope that they would like to get a bigger trial where this drug is used in a much more diverse setting to understand what the true response rate is going to be.

"It's not going to end up 100%. I hope I bite my tongue on that in the future, but I can't imagine it will be 100%. And so, when we see what the true response rate is, that's when I think we can really do this all the time.", says Dr. Hanna.

THE DANDELION

You seemed lonely with no one to guide,
Swinging alone beneath the sky,
Your little ones are all ready now,
Don't worry because the wind's by their side.

You know you're brave too?
flying all the way till here;
with your friends one or two?

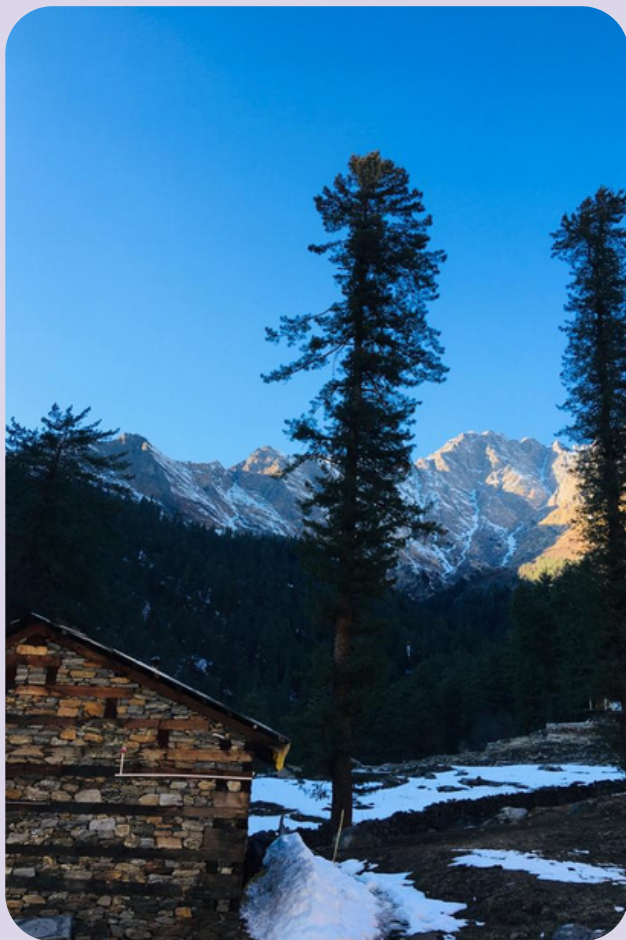
Did you know where you'd go?
were you not scared? were you not low?
Did you not lose your way?
or gulped down by a sparrow as it's prey

Yes! I was. I was small, I was pale,
and had no idea if I would fail.
The only one in my heart was my mom,
she was my hero, and that's where I'm from.

I knew I could lose, I knew I could fall,
but that was not in my mind after all.
I had to fly here and that was my destiny.
I made the moon my friend,
forgetting my enemy.

It's them now; They have to fly;
and if you can, please wave them
a sweet goodbye

- INDRANI S.
(MBT 2ND YEAR)



PHOTOGRAPHED BY - SHREYASHI DAHIYA
(MIT 2ND YEAR)

RESEARCH GROUPS

of DYPBBI

MICROBIAL DIVERSITY RESEARCH CENTER



DR. NEELU NAWANI



DR. RACHNA PANDEY



DR. SUPRIYA KORE



DR. SARIKA PAWAR



DR. VINITI VAIDYA



DR. GAYATRI GERA



DR. SWAPNIL GAIKWAD



MR. AMOL SALAGARE



MRS. ARTI DESHMUKH



MRS. MANISHA JUNNARKAR

PLANT & ENVIRONMENTAL BIOTECHNOLOGY RESEARCH LAB



DR. MINAL WANI



DR. AFREEN HUDA



DR. ALLIKA SAILAJA



DR. JYOTI AMOL DESHPANDE



DR. HEENA TABASSUM



DR. SUPRIYO CHOWDHURY



GENETICS & MOLECULAR BIOLOGY RESEARCH LAB



DR. ARVIND GOJA



DR. SATISH SASIKUMAR



DR. SATISH K. RAUT



DR. GANESH PATIL



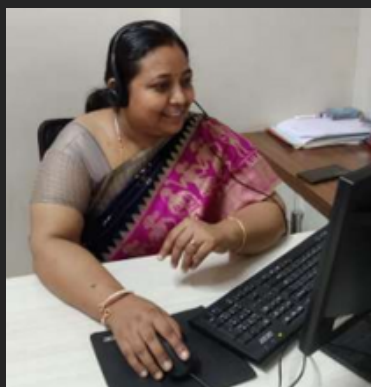
CANCER & TRANSLATIONAL RESEARCH LAB



DR. J. K. PAL



DR. NILESH SHARMA



DR. SOUMYA BASU



DR. MANISHA DESHPANDE



DR. AMIT RANJAN



DR. ADITEE RANE



PROTEIN BIOCHEMISTRY RESEARCH LAB



DR. MANJUSHA DAKE



DR. RAJESH GUPTA



MRS. ASHWINI
PUNTAMBEKAR



MR. SAMPAT K. JADHAV



ARTIFICIAL INTELLIGENCE DATA SCIENCE



DR. PRIYA PISE



DR. AKANSHA GOEL



MRS. MILY LAL



STUDENT COUNCIL 2021-22



INTERVIEWED BY SAATVIKA ARUN & CHINMAY MOREY

Keshav Mittal

General Secretary

Q. What do you think are the most important skills a GS should have?

Keshav. I believe being a good listener, supporting your fellow council members, having good communication skills and taking hard decisions when needed are some of the most important qualities a general secretary should have.



Q. What are your main motivations to succeed at work?

Keshav. My motivation to success at my work is to bring the change which I believe is needed in the college and try my level best to help as many students as I can.

Samriddhi Ajay & Purav Jain

Joint General Secretaries

Q. What are the roles of a JGS?
Samriddhi. The JGS acts as a bridge to both the students as well as the higher management. Basically, the role of the JGS is assisting the General Secretary and working in a close proximity with them. JGS assumes the role of the General Secretary and steps up in case of their absence.

Q. What resources do you require to operate smoothly?

Samriddhi. For any leader to operate in a smooth work environment, the utmost important thing is to have cooperative teammates along with students who are enthusiastic to team up and volunteer, completing jobs which might seem tedious. Apart from this the institutional guidance, appreciation and support, both strategically and financially are needed of course.

Q. What are the qualities a JGS should possess to be effective?

Purav. JGS plays a very crucial role between students and the higher authorities in the college.



JGS should acquire certain skill sets to be an effective council member i.e. One should be a team player, have organizational skills, time management, along side he/she should be a great listener and easily approachable by the students.

Q. Describe your relationship with your co-secretary?

Purav. I'm glad Samriddhi is my co-JGS, I genuinely couldn't have asked for someone better. In my whole tenure she has been the constant source of motivation and support system. All the activities and events that we have had in the college were not be that smooth if samriddhi wasn't there. I appreciate her work ethic and great attitude.

Mayuri Rai & Arya Jawade

Academic Secretaries

Q. What makes you the best candidate for this role?

Mayuri. I am a highly dedicated, result-oriented person, people's interests are my own, and I will take everyone into account in my decisions, no matter who they are. I also deeply empathize with others. All of these qualities make me the best candidate for the position of academic secretary.

Q. What work do you generally do?

Mayuri. Conducting seminars and webinars in the Saturday seminar series, organizing events such as National Science Day, Unmesh, Open day, NDLI club events, Cytosoul, working together with the general secretary and the placement coordinators for new internship opportunities and career counseling sessions for all the students and managing the clubs.

Q. What interests you about this position?

Arya. As an Academic Secretary you're in the position where you can bring the best for the students



-which is also the need of the hour in numerous ways. Arranging activities and seminars which can be informative whilst being enjoyable is the most optimal part.

Q. What interests you about this position?

Arya. The most rewarding part is that it helps you understand what goes into organizing and handling events. You get to experience and bring to the table ideas which can be helpful in favor of the students. It also helps you build a good network with professionals which can be beneficial for your future..

Akshita Vyas & Dhaval Maru

Cultural Secretaries

Q. How do you stay motivated for the job?

Akshita. I am motivated by meeting set targets within deadlines, as it gives me a sense of accomplishment and it's something that I can look back on and say "I achieved that". My friends and family are always there to keep me going on days when I don't feel motivated.

Q. How do you manage your time?

Akshita. I usually plan my day the night before so as to prioritize my tasks which in turn helps me to get all of my work done effectively without missing out on the important details and even if I'm not able to do certain things it gives me a clear vision of planning my next upcoming tasks and to come up with innovative ways to finish the said task in a shorter timespan



Q. Why Cultural Secretary?

Dhaval. I wish to develop and promote an inclusive culture that inspires students to take part in cultural events. My goal is to plan and conduct activities that provide students the chance to explore and knit some beautiful memories together.

Q. What kind of strategies and mindset is required for this role?

Dhaval. I think to be able to manage your schedule is of utmost importance in this position. One small thing not checking out can create a lot of chaos. So the best way to handle it is with a calm mind and lots of patience.

Ishita Mohanty & Sanniddhya Bardhan

Magazine Secretaries

Q. What steps will you take to make sure that the magazine is appealing to the students?

Ishita. We have made the magazine compact and fun, just like the students want it. Secondly, we have tried to capture every event in this year, so one can re-live it through the magazine. We made sure interested students had a say in the making of the enigma.

Q. What was it like working with your co-secretary?

Ishita. I am someone who is very anxious but he is equally calm. So it's a great compliment. He is very supportive of me not just as a co-secretary but also as a friend. I am truly grateful that I got to work with him.

Q. What kind of content do you plan to promote in the magazine?

Sanniddhya. The kind of content I wish to promote would be what's more helpful and important for the students as well as fun to read.



The magazine is basically a proof of what we did in the past year and I want to share this pleasant experience with everyone in the college.

Q. What's it like being the magazine secretary?

Sanniddhya. I'm not going to lie, it is hard. We're always under pressure. Our work ranges from making MoM's to making reports of each and every event and last but not the least, creating the magazine that matches the expectations of both the students and the faculty. But it is definitely worth it as you learn and gain unique experiences and skills.

Hemakshi Dhar & Sahil Puri

Sports Secretaries

Q. How do you prioritize all your duties as a Sports Secretary?

Hemakshi. I prioritize my work according to the objectives and what is expected of me. I organize my workload to reflect my most urgent priorities. I follow tasks with creating the outlines and discuss with the team and prepare daily to do list and list them from highest to lowest priority.

Q. The most challenging situation you faced as a Sports Secretary?

Hemakshi. Most challenging moment as a sports secretary was when it was to arrange a basketball court at the eleventh hour for the planned match during cytosol, as the college basketball court was demolished for some construction purposes before the match.

Q. What are the biggest challenges you faced while organizing a grand competition?

Sahil. The main challenge was to organize different sports at different locations on the same day to complete a busy schedule of sports which was to be conducted in a mere 3-4 days time.



Another crucial challenge was the pressure to win the cytosoul house cup which we finally brought home after 2 unsuccessful attempts.

Q. What things do you enjoy the most being in this position?

Sahil. The title itself, from the beginning of my college year I knew if I was ever to be in the council, it would be as a sports secretary. Being a sports secretary means that the responsibility of leading the college to different competitions and ensuring a win. I enjoy the freedom and support from my friends and juniors creating a memory I will always remember.

Devansh Fulara

NSS Coordinator



Q. What tools do you use for time management & scheduling?

Devansh. According to me, forming a foolproof workplan with trial runs and backups plus an effective delegation of work are two essential tools for management of time. It is also important to add a buffer period while planning an event in case of any unforeseen incidents. As far as scheduling is concerned, one should ensure that all the requirements are met prior to the deadline and nothing is left till the last moment.



Q. What is the most rewarding part of being in this position?

Devansh. For me it was the enthusiasm and engagement shown by the students for any social event be it women's day or the environment day rally or anything else. The creativity that students show while planning or performing in these events is quite inspiring and when you add to that the feel-good factor that comes along with NSS events, it is a worthwhile reward in itself.

Omkar Dhaygude, Aarushi Bhattacharjya, Pragati P. Desai & Disha Ganguly

Placement Cell Co-ordinators

Q. Why Placement Cell?

Omkar. Firstly, you gain knowledge of the Industrial or Corporate world. You gain the experience that is required to manage and tackle with firms and learn the way you need to approach the firm. Remember, It's all about how you present yourself

Q. What kind of work do you have to do to be in the placement cell?

Omkar. As a Placement co-ordinator, I think the main goal is to help people decide what exactly he/she wants; that is which specialized field they want to work in and then help them to find them an opportunity for the same.

Q. What is your motivation to do your job?

Aarushi. Many of my juniors are not aware about what and how to proceed with their career. With my help they become insightful and able to grow academically that brings a smile on my face and motivates me to work more.



Q. What kind of placement do you seek to attract for the students?

Aarushi. Being a placement cell coordinator I first try to help the students understand what their interests and future goals are. I do that by encouraging them to attend workshops, seminars. I try my best to bring more organizations in the placement from various departments so that it brings a variety to the students.

Q. What ideas do you have for students to know more about their variety of fields and help them choose their future path?

Pragati. Choosing a career path is not easy. To not demotivate, we conducted few seminars and workshops to help the students get a better understanding of the options aligning to their interests. We provided assistance to connect to alumni so everyone could understand their journey to help them narrow down on their career path.

Q. What can/will you do for students to have a better placement?

Disha. As Dypbbi provides a great platform for the students, but I would like to conduct seminars with the help of council members and teachers specially for the students to get placed.

Q. What kind of work do you generally do in your position?

Disha. I generally provide every useful information regarding placements to the students and bridge the gap between the professors and the students.

Q. Do you think you can meet the expectations of the students that they have placed on you?

Pragati. Yes, I think I have done a fairly good job. Our major aim was to set a platform where people from the industry and students can interact and make decisions about their career. We have also tried to establish a better connect between the alumni and the students with the help of Dr. Supriya Kore.



OPTOGENETICS: A REVOLUTION IN HEALTHCARE

- Saatvika Arun (MBT 2nd Year)

SCI BUZZ >

NEURONS AND OPSINS

Biological systems are inherently complex, but the human brain outdoes them all. The brain is made of billions of neurons wired into intricate networks firing neurotransmitters and biochemical signals. Combining genetic engineering with optics, optogenetics enables us not only to record but also to manipulate the activity of individual neurons in living tissue with the use of light and to observe the effects of such manipulation in real time. Neurons of interest are genetically modified to be made responsive to light, which is done by means of inserting opsin genes, once these genes arrive at their determined destination, they cause neurons to express photoreceptor proteins. The rapidly developing field of optogenetics is providing scientists with tools that may be sophisticated enough to understand the complexity of our human brain.

Optogenetic mapping creates many possibilities for investigating how the brain works.

We can also zoom in on the brain to see how individual neurons connect.

Using optogenetics, we can investigate how the neurons work together, by using light to turn some neurons on and record the response of the other neurons. This detailed view is useful for understanding how and when the neurons communicate with each other.



INDUSTRY >

OPTOGENETICS TO RESTORE THE VISUAL FUNCTIONS

In healthy eyes, photoreceptors react to light by sending electric signals to ganglion cells. Photoreceptors in light retinas respond to a broad spectrum of light wavelengths. The opsin which was used only responds to light in the dark orange/red part of the spectrum. The special goggles take in the visual field and translate that into amber points light that could trigger the opsin in the patients ganglion cells, and send a signal to the brain.



DETAIL >

FUTURE PROSPECTS OF OPTOGENETICS

Optogenetic mapping creates many possibilities for investigating how the brain works. We can also zoom in on the brain to see how individual neurons connect. Using optogenetics, we can investigate how the neurons work together, by using light to turn some neurons on and record the response of the other neurons. This detailed view is useful for understanding how and when the neurons communicate with each other.

Optogenetics has unlocked a new power among the scientists from investigating the neurological underpinnings of disorders like depression, schizophrenia and narcolepsy to restore the motor functions in patients with paralysis. Someday, if desired, it would even be possible to "upgrade" our bodies by replacing some of their parts with more effective components!



THE SKYROCKETING APPEAL OF

MAGIC MUSHROOMS

A FACT OR FACADE

JALADHI SHAH
BBT 2nd YEAR

Introduction

Hallucinations are defined as “A profound distortion in a person's perception of reality, which may be a sensory experience in which a person can see, hear, smell, taste, or feel something that is not there.” Apart from the ones that are caused by mental trauma, sleep deprivation, hallucinations are also induced by illicit psychedelic drugs like cocaine, LSD, or ecstasy.

One psychedelic drug that has been on a fast-track to market boom in recent times is ‘magic mushrooms.’ Morphological and toxicological analyses had disclosed that the most psychoactive component of these mushrooms is psilocybin.

Legal Status of Mushrooms

In 2019, Denver became the torchbearer first city in the the U.S. to decriminalize mushrooms. Oregon followed suit to legalize psilocybin for mental health treatment in supervised settings. Similar ground-breaking reform was also seen in other places. However, some countries like U.K., New Zealand, etc. have vetoed the possession, sale, transport, and cultivation of mushrooms.

The New Investment Trend

Psychedelic drugs that were once considered illicit are now, like marijuana, following the trail to mainstream acceptance and Wallstreet excitement. Consumer demand is quickly outpacing legal supply. In early 2020, the U.K.-based pharmaceutical company Compass Pathways became the first psychedelic company to break into U.S. markets—which is forecasted to be nearly a \$6.9 billion business by 2027.

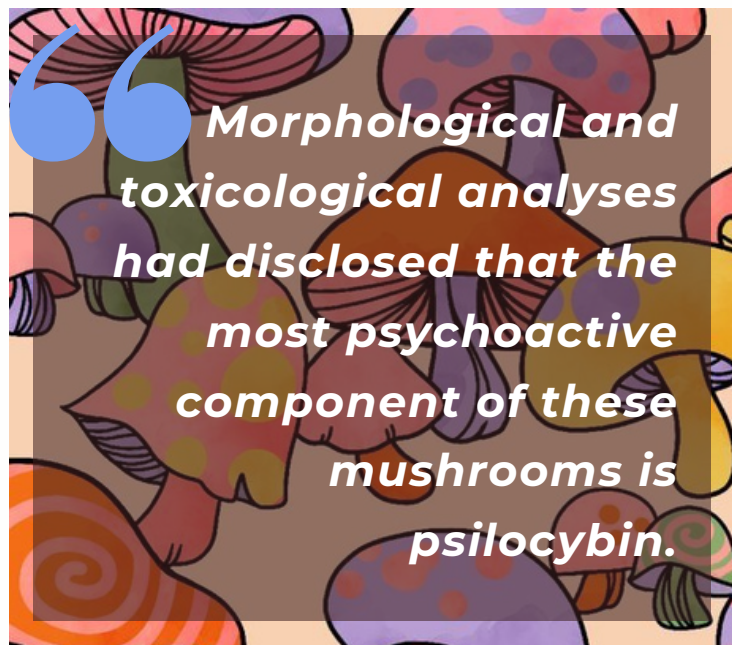
Therapeutic effects

In recent years, America's FDA granted breakthrough therapy status for psilocybin. Research from Johns Hopkins Medicine concludes that two doses of the psychedelic substance psilocybin, along with supportive psychotherapy, rendered large cutbacks in depressive symptoms in adults with MDD. Psilocybin has evidence of robust efficacy in treating cancer-related psychiatric distress, depression, anxiety, nicotine and alcohol addiction, and substance use disorders.

Brain scans reveal psilocybin leads to brain activity that is linked to distinct emotional thinking but uncoordinated activity that is responsible for high-level thinking. Magic mushrooms have very real risks, which can be appropriately mitigated with the types of safeguards that we use in research and medical settings.

Conclusion: Into the Future

Although whether the decriminalization and thriving marketplace will have a net positive effect is still an open question, these shrooms are surely foreshadowed to pique the interest of influential researchers. One could fence-sit on psychedelic mushroom's legal approval, but a future where your prescription reads magic mushrooms isn't a moonshot away.



Angelou

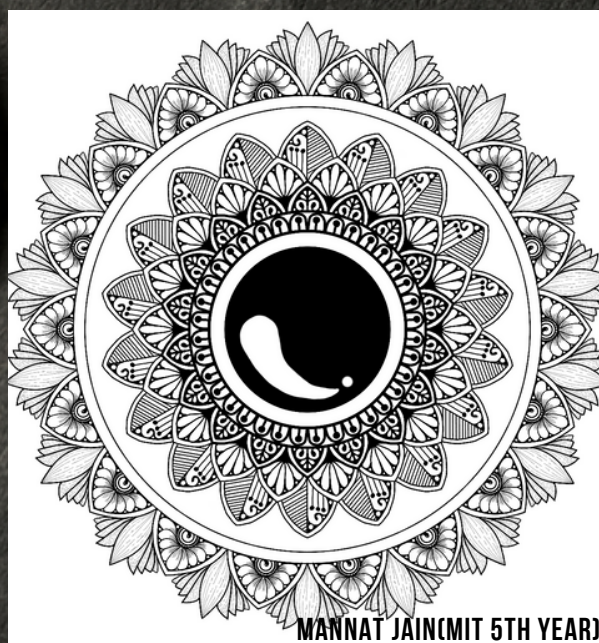
In the darkest of rooms,
She sat, imprisoned.
Her head bent down,
And hands on her knees.
Suddenly, thoughts of the future flooded her mind,
Will it be a bright and beautiful one?
Or a dark and unthinkable one,
Full of insecurities?



Not the first one, she thought.
After all, she has spent almost half of her life.
In that gloom,
And all her goals and hope
Have been washed away.
Lost in a deep forest
Of innumerable thoughts,

Her hair is now rough,
Her scars are remarkable pieces of art.
Each incredibly different mark,
Has a unique experience and tale to share,
Of valour, battle, and fortitude.
And most importantly,
Her loneliness turned her words,
Into poems and musings.

- SHRUTI SRIVASTAVA
(BBT 1ST YEAR)



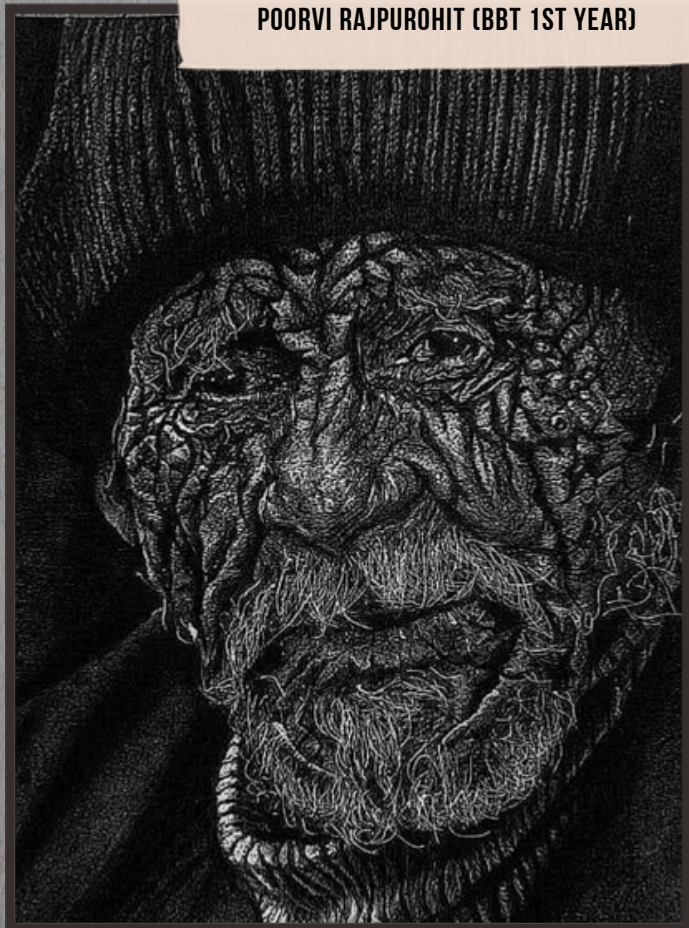


POORVI RAJPUROHIT (BBT 1ST YEAR)

SHRUTI KUMBARE (MBT 3RD YEAR)



POORVI RAJPUROHIT (BBT 1ST YEAR)



INDRANI S. (MBT 2ND YEAR)

International Womens Day



Not to a country, not to a group nor to any organization. No single government, NGO, charity, or corporation is solely responsible for International Women's Day (IWD). It belongs to all women and all those who identify as women, around the world. As Gloria Steinem, a world-renowned feminist, journalist and activist once explained "The story of women's struggle for equality belongs to no single feminist, nor to any one organization, but to the collective efforts of all who care about human rights."

Observed for well over a century now, IWD stands to give a voice to the struggles faced by women in everyday life, to mark all that has been achieved in the name of gender parity and for all that is yet to be achieved. It is celebrated in various manners across the world ranging from political rallies, business conferences, government activities and networking events through to local women's craft markets, theatrical performances, fashion parades and more. Many global corporations actively support IWD by running their own events and campaigns.

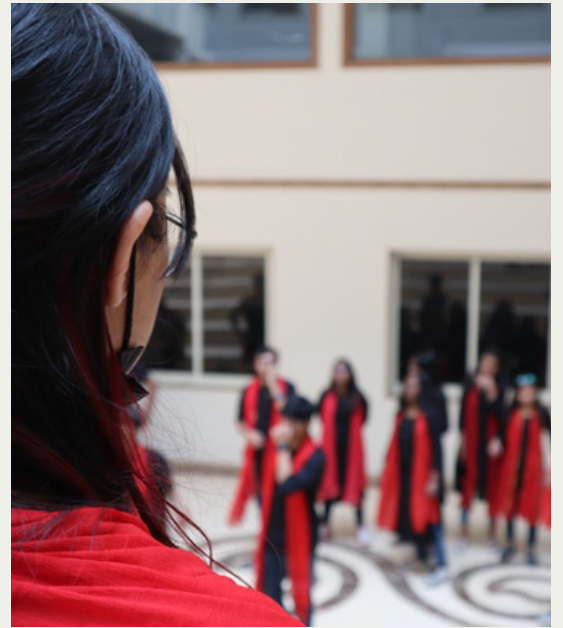


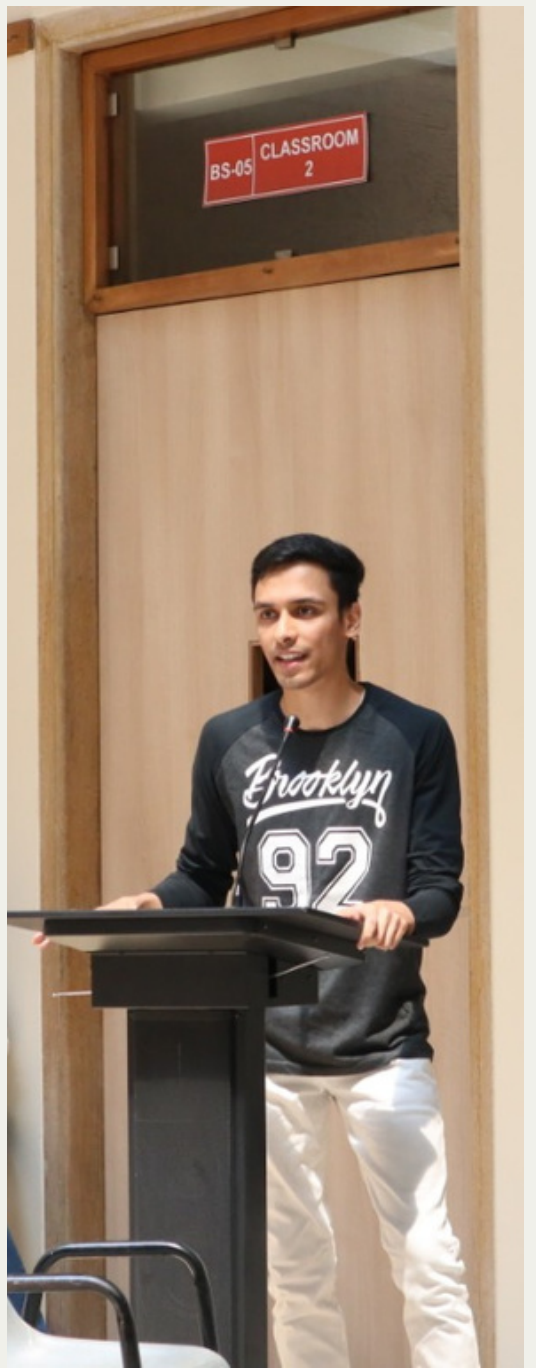


We at DYPBBI chose to celebrate the women present around us by staging a street play depicting the stereotypes which are commonplace in today's society and demonstrated the prevalence of a male voice in decision making on areas particular to women. Students delivered compelling speeches, poetry and songs inspiring a message for all to remember and implement in their lives.



Although, officially celebrated on the 8th of March every year, it is important to constantly remind ourselves of the sacrifices made by women in history and today and for their invaluable role in the shaping of society in the form of lawmakers, philosophers, scientists, doctors and much more.





Beautifully Bizarre

- SANEeya VICHARA (MBT 2ND YEAR)

Earth has been our home for more than 2,00,000 years and over the time, we have explored and colonized most of it. In this process we have come across a plethora of bizarre places; some crafted by nature's skillful hands and some made by man. Here's a collection of such mysterious, dark, yet magnetizing places.



The Winchester Mansion, California

This mansion is known for its hallway mazes, fake doors, second floor windows opening in the bushes below, stairs ending in the ceiling, rooms lacking walking ground and its immensity. It was resided and then built this way by Sarah Winchester, the widow of William Winchester, owner of the firearm company that made the Winchester repeating rifles. Sarah believed she was being haunted by the ghosts of those who had succumbed to the rifle, and hence, from 1886 until her death on September 5, 1922, Sarah continued building the house to keep those spirits at bay, lost in the mazes of the mansion in her pursuit.



The Screaming Tunnel, Canada

Located in Ontario, this drainage tunnel houses the spirit of a young girl who was burnt alive in it. It is said that lighting a fire in the tunnel elicits a loud scream that then douses the fire



The Island of Dolls, Mexico

This island is a chinampa, a technique used to cultivate on fertile land patches on shallow lake beds. It is found bizarre for its collection of old creepy dolls that have been hung all over the island. They were placed there by the previous owner to ward off the spirit of a young girl who had previously drowned there.



Lake Natron, Tanzania

This lake has a pH more than 12 and temperature of 40°C , fed by mineral rich hot springs. The constant evaporation leaves behind natron (sodium carbonate) and trona (sodium sesquicarbonate). Even though it supports a certain range of flora and fauna, animals that die in this lake are calcified. The high concentration of sodium carbonate mummifies the dead animals, giving the lake its tag - "Petrifying lake".



Battle of Life

Life is so strange,
It always amazed me,
by its diverse range.
Sometimes sweet,
sometimes bitter.

With every sunrise,
There's hope to get accomplished,
my unsaid dreams.

No one knows,
whose life has come to an end.

Therefore I want to fly
so high without any hindrance
as fast as I can.

- Dipali Nerkar
(MIT 3rd Year)



erkar
(ear)



CYTOSOUL 2022

The annual college fest of DYPBBI- Cytosoul -2022 kicked off in high spirits after two years. It was a 7 daylong event starting from the dates 7th till the 13th of April. Cytosoul is an event which consists of both Cultural and Sports Activities.

For the first time since the pandemic the fest was hosted in such an enthusiastic manner. The new council along with the students was hosting it guided by our teacher-in-charge Dr. Arvind Goja.

An exciting concept of the House Cup was introduced this year in the field of sports. The idea of the House Cup was that the students of each year (1st year, 2nd year, 3rd year and 4th year) accumulated points by winning in various sports.

On the Final Day of the fest, the year with the highest cumulative points would be entitled to the House Cup. The sports days were held on the 8th, 9th, 10th and 12th of April. It consisted of multiple sports ranging from Tug of War to Football. The Cultural Days were held in a span of 3 days- All of them having exciting themes of their own. The Staff, Faculty and Students showed active participation in the celebration.



DAY 1

SARANG

7TH APRIL '22

The Cultural fiesta was inaugurated by the Director of DYPBBI, Prof. J.K. Pal in a ribbon cutting ceremony which marked the beginning of Cytosoul 2022. The first day was named "SARANG". The girls shone brightly while the boys looked dapper in their beautiful traditional attire.

The ribbon cutting ceremony was followed with vibrant cultural performances. Folk dances of different states like Punjab, Gujrat, South India and West Bengal instantly uplifted everyone's mood. There was no way the students could resist not dancing along to the tunes of the performers swaying.

Our hosts for the day also got our professors to be an active part of the celebration by making them play musical chair, but with a twist. This was such a great addition to the day as everyone saw a fun side of their professors which is now etched on their memories.

The final performance of the day was "The Big Hit Show", a play, an initiative taken up by the members of four majorly active clubs of the college, namely, Drama Geeks, Soulscape, Bibliolives and Vox Populi. The play was about the life of students and how they deal with post pandemic college, their mental-

-health and their relationships.

With great acting, a Bollywood twist and hilarious punchlines this play was indeed a big hit like its name.

The day was concluded as the students showed support to the non-teaching staff by giving them a small memoire as an expression of gratitude.





DAY 2

11TH APRIL '22

CELESTE



There were many powers packed performances which included multiple dances, vocals and instrumental performances. Our hosts for the day had an interactive session where the students were asked to recreate trending reels. The audience was such an enthusiastic crowd.

The theme for the western day was “Whites and Lights” and hence all the Students, Staff and Faculty were dressed up in their stunning formal attire. The décor was night sky themed, suiting to the name suggested for the day- Celeste. The whole idea of Celeste was to introduce the concept of Prom in our college and of course who isn't exited for their prom. The day began with students having a ball dance session for which 14 students- 7 boys & 7 girls –were paired together. This was followed by our Director Prof. J.K. Pal dancing with our Joint General Secretary, Ms. Samriddhi Ajay.



The day was concluded by a highlight performance- The BTS show. It consisted of a team of dancers led by Bini Biswas from MBT 3rd year phenomenally dancing to the tunes of world-famous K-Pop boy band BTS.





THE FINALE

DAY 3

13TH APRIL '22

Cytosoul 2022

The most awaited day of Cytosoul, Day 3-The Finale. The stage was set at Dr. D. Y. Patil Vidyapeeth Auditorium. The evening began with the lighting of the lamp by Dr. P. D. Patil, Chancellor, Dr. N. J. Pawar, Vice-Chancellor, Dr. Smita Jadhav, Trustee & Director, Dr. (Col.) Derek SJ D'Souza, MDS, MBA(HR), F. IIOPM Director (students and training development), Prof. Dr. J.K. Pal and Dr. Arvind Goja.

Followed by Shailaja singing Saraswati Vandana, hailing the goddess of knowledge and wisdom. The prize distribution of all sports played during Cytosoul was done by Prof. J.K. Pal and the faculty members of the college. This day was full of amazing performances from our college students. We witnessed various graceful dances and melodious songs by our students. Their wonderful performances elevated the mood of the evening. This was followed by a spectacular fashion show put together by the students. The themes for the fashion show were Aurelia, Bollywood Retro, Esmerade and Texas Roadhouse.

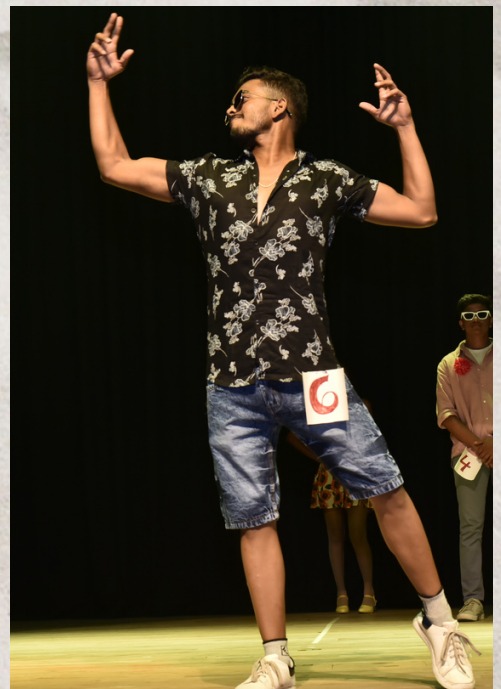


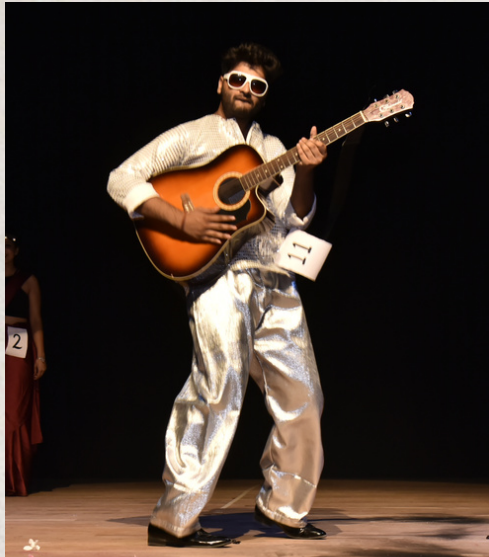
The newly elected student council also graced the stage with their Fashion walk followed by a token of appreciation for the décor, tech and management teams. The prize distributions for cultural events were also held and prizes were, again, distributed by Prof. J.K. Pal. This year, the House Cup was bagged by the students of 3rd year who displayed such a great performance in all categories. The evening was concluded by our beloved General secretary Keshav Mittal delivering a heartfelt vote of thanks.

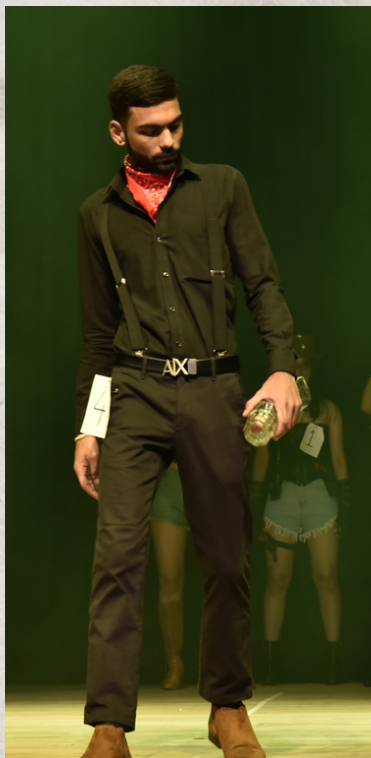
















The student council has tried their best in doing so. We sincerely hope that such mega-events would be organized time and again giving the students a chance to display their talents.

College fests are a medium of communication between students and the faculty. The whole point of conducting Cytosoul was networking; making new bonds and strengthening the previous ones. The excitement behind organizing a whole event and celebrating college life together as one team is where the students make real memories which they will cherish forever.



Enigma 5.0



COMPETITION

This category has the following sports.
Football, Basketball, Volleyball, Cricket, Chess, Athletics, Table Tennis, Badminton, Throwball, Carrom., Archery

EVENTS

Arcane
Parakram
Cytosoul
Urja

SPORTS

TENACITY

RISING
UP
EVERYTIME

GET YOUR GAME ON WITH ARCANE

The D.Y. Patil Vidyapeeth University decided to have an exciting sports week in each and every college. The same was known as “ARCANE” in our college, Dr. D.Y. Patil Biotechnology and Bioinformatics Institutes. The event was held between 22nd March and 27th March. The university organized various outdoor and indoor competitions on an institutional level between years 1st, 2nd, 3rd and 4th amongst the batches B. Tech Biotechnology (BBT), Medical Biotechnology (MBT), M. Tech (Integrated) Biotechnology (MIT), M. Sc. Biotechnology and B. Tech Artificial Intelligence (BTAI).



Because of this event, the students in college grew closer to each other. The same people who were divided by classes and years. This was the first sports event held in college after the 2 year long pandemic, due to which the students were very enthusiastic and non-participants showed an immense support. The students had the chance to showcase their talents in the field of sports.

SPORTS	WINNERS
Football (Men)	2nd Year
Football (Women)	3rd Year
Basketball (Men)	3rd Year
Basketball (Women)	2nd Year
Cricket (Men)	3rd Year
Cricket (Women)	3rd Year
Volleyball	3rd Year
Throwball	2nd Year
Badminton (Men)	3rd Year
Badminton (Women)	2nd Year
Chess (Men)	3rd Year
Chess (Women)	1st Year
Table Tennis (Men)	4th Year
Table Tennis (Women)	4th Year
Carrom (Men)	3rd Year
Carrom (Women)	1st Year



RULE THE COURT THROUGH CYTOSOUL

The most awaited intracollege sports fest finally took place after two years of lockdown, Cytosoul. Cytosoul was organized on 8th, 9th, 10th, and 12th of April on the grounds of Dr. D. Y. Patil Vidyapeeth University and multiple turfs. Cytosoul was open to all those who wished to participate, and the matches were conducted in a league format between years 1st, 2nd, 3rd and 4th for both boys and girls. All the enthusiasts showed active involvement in the practices which were conducted by the captains and the sports secretaries after the college hours every day. Their constant assistance guided these students to become exceptional athletes.

WINNERS TABLE (MENS)

SPORTS	WINNERS	RUNNER'S UP
TUG OF WAR	3rd Year	2nd Year
FOOTBALL	2nd Year	4th Year
BASKETBALL	3rd Year	4th Year
BADMINTON	Haet (1st year)	Shreyan (3rd year)
TABLE TENNIS	Pratik (4th year)	Nutan (3rd year)
CRICKET	1st Year	3rd Year
CHESS	Narayan (3rd Year)	SHAIL (1st Year)
VOLLEYBALL	3rd year	2nd year
CARROM	Shriyash (3rd year)	Aditya (3rd Year)

WINNERS TABLE (WOMENS)

SPORTS	WINNERS	RUNNERS UP
TUG OF WAR	2nd Year	3rd Year
FOOTBALL	1st Year	2nd Year
BASKETBALL	4th Year	3rd Year
BADMINTON	Urvashi (2nd Year)	Pragati (3rd Year)
TABLE TENNIS	Ketki (4th Year)	Mahekdeep (3rd Year)
CRICKET	4th Year	3rd Year
CHESS	Chani (1st Year)	Dipali (3rd Year)
THROWBALL	2nd Year	4th Year
CARROM	Nandini (3rd Year)	Nishwa (2nd Year)

PARAKRAM



A Parakram, an event held by our neighbouring college, The Dr. D.Y. Patil B School. The sport sector of the event consisted of the college hosting multiple sports events. Our college too participated in all the inter-college competitions held by them. It was a grand event in which our college performed extremely well. Our achievements were portrayed in front of many colleges.

Some of our achievements were:

- 1) Badminton: 1st place
- 2) Basketball: 2nd place

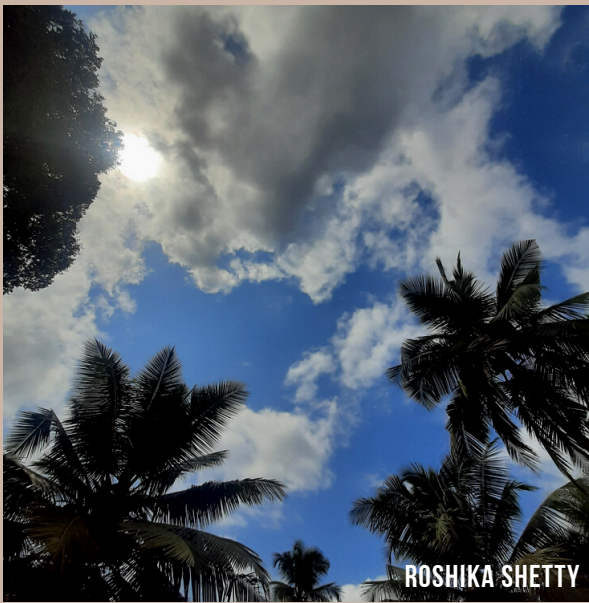


Urja is the annual sporting event for all talented athletes across all the DYP institutes. It is one of the biggest and the most awaited intercollege event of the year for all the DPUs. This multisport event occurred from 27th April to 10th May 2022. With our new 'Back to normal' reality after two years of lockdown, our talented students showed active participation in all sport events, embracing good sportsmanship, and acting with integrity.

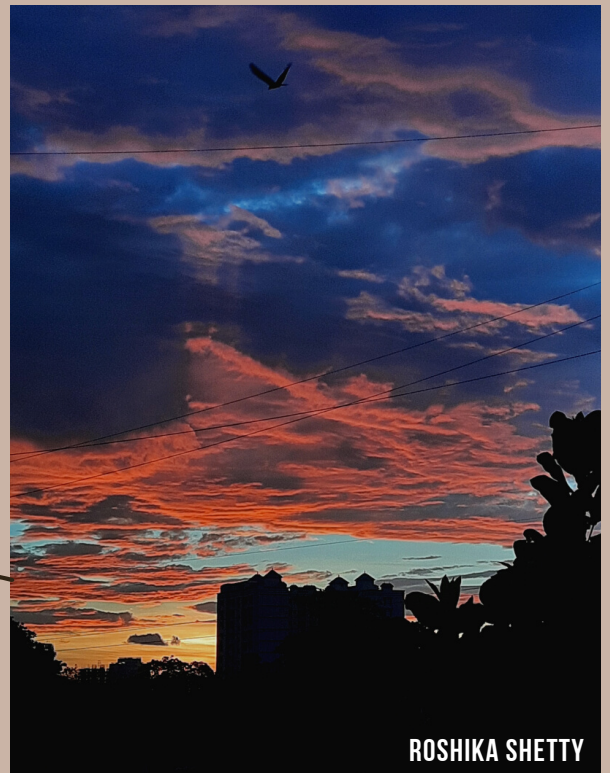
“Believe me, the reward is not so great without the struggle” the wise words by Wilma Rudolph, a world record holding Olympic champion. Our students lived by these words and practiced every day and night and were prepared to conquer the fields.

SPORTS	PRIZE AWARDED	PARTICIPANTS
BASKETBALL	Silver	<ul style="list-style-type: none"> • Riya Soni • Hazel Samuel • Pranali • Jeevitha Reddy • Manasi Kotewar • Anjali Dawange • Angela Manoj • Vaishnavi Sharma • Hemakshi Dhar • Kavina Patel • Urvashi Mishra
CHESS	Silver	Vedika Phal
ARCHERY	Bronze 63	Ishani Sarkar
RACE (100 mts.)	GOLD	Ayushi Singh
RACE (200 mts.)	GOLD	Ayushi Singh
RACE (400 mts.)	BRONZE	Hemakshi Dhar
RELAY	SILVER	<ul style="list-style-type: none"> • Ayushi Singh • Hemakshi Dhar • Priya Dhumal • Shiny Raj
LONG JUMP	SILVER	Ayushi Singh

SPORTS	PRIZE AWARDED	PARTICIPANTS
BASKETBALL	SILVER	<ul style="list-style-type: none"> Nishanth Reddy Shlok Salvia Shanki Lawatre Omkar Dhaygude Atharva Chougule Narrayan Raam Sankar Divyansh Shrivastava Sanniddhya Bardhan Shubham Athare Haet Kothari Arya Gondaliya Ibrahim Abdul Shukoor Dhaval Maaru
RACE (200 mts.)	SILVER	Jasraj Anand
RACE (400 mts.)	BRONZE	Jasraj Anand
RELAY	SILVER	<ul style="list-style-type: none"> Sahil Puri Jasraj Anand Dhaval Maaru Siddhesh Ugale
LONG JUMP	GOLD	Jasraj Anand



Clicks
& Kicks



Acknowledgement



Saatvika Arun



Palak Bafna



Kavina Patel



Devansh Fulara



Chinmay Morey

Best Wishes & Warmest Regards
- team Enigma