



THE FOURTH ESTATE

VOLUME II: INVICTUS ENERGIA



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DIRECTOR'S WORD



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MESSAGE

It gives me immense pleasure to know that the 2nd volume (2017-18 even semester) newsletter is being released under “Fourth Estate”. During this semester IIPET Act has come into existence with the signing of the order by the Hon’ble President of India, Sri Ram Nath Kovind on 5th January 2018 and has come into effect from 23rd January 2018.

Faculty interviews were conducted for some more contractual positions and about nine candidates were selected, who joined subsequently.

A committee was formed by MOP & NG for preparation of draft statutes. It has submitted the draft to the MOP & NG in the month of June 2018.

I am also happy to recollect the excellent event that was organized in IIPET in the month of April 2018, when the Hon’ble Vice President of India, Sri M Venkaiah Naidu, addressed the students of IIPET on 12.04.2018 and inspired them a lot. He also had provided number of tips to the students for their personal growth as well as institutional growth. His experiences as a student at Andhra University, as a Politician, as a Leader and as a Statesman have inspired all the sections that were present, including students, faculty, staff and the media.

I am totally impressed the way the students of IIPET are moulding themselves different from others with their self-controlled discipline and with positive energy.

The slump in the oil prices is followed by the raise in the oil price internationally. However, the alternative energy sources are to be now strengthened much more to keep up with the pace of the changing energy needs.

I wish and expect my faculty colleagues and students to look into this aspect seriously and work for a better solution.

I wish all the faculty, students and staff the best and I am confident that with the involvement of every one, IIPET will grow leaps and bounds.

With Best Wishes

(Prof. VSRK Prasad)
DIRECTOR

Date: 28.06.2018

KSHITIJ 2018, - IIT KHARAGPUR

19th – 21st January, 2018

20th January 2018 is the day 4 students of IPE will definitely remember lifelong. On this day Rohan Anand, Shourya Shrivastava, Debabrat Kanungo and I bagged the opportunity to participate in the Indian Case Challenge, one of India's largest case study competitions in terms of participation and prize money at stake. The competition is organised by the Business Club of IIT Kharagpur. It is conducted in association with Kshitij, the annual techno-management fest of IIT Kharagpur.

The Indian Case Challenge, popularly known as the ICC gives graduates and undergraduates the platform to showcase their talent in business management. The ICC witnesses active participation from students involved in various fields of study ranging from Business school students to engineers. We came across this esteemed competition through Kshitij's website. The four of us were very enthusiastic about competing as it would provide us the exposure we needed to showcase our managerial skills.

With these hopes and aspirations in mind, we started working for our 1st round - case study which required us to prepare a presentation on "Environmental Intelligence". It was a bit difficult for us to co-ordinate with each other as our semester had just ended and we were all at our homes for the winter break. Just five days before the deadline for article study submission, it was time for us to step up and be the best example of successful group dynamics. Work



was distributed equally amongst all and topics were discussed on whatsapp and on calls. Finally, we succeeded in submitting our presentation minutes before the deadline.

With high hopes and immense optimism in our eyes, we eagerly waited for the results of the 1st round. Indeed, hard work never goes in vain! I received a call from the business school of IIT

KGP informing about our group's selection for the 2nd round of competition. To our delight we also came to know that we were among the top 15 teams nationwide.

We were invited to present our case study at the Vinod Gupta School of Management, IIT KGP, one of the top business schools' in India. We all were on cloud nine to get this prestigious opportunity.

The topic for the second round was "Amazon in 2017". There is no substitute for hard work and we knew that quite well. We worked twice as hard for this round. For us, going to IIT KGP and experiencing their tech-culture was a huge motivation in our quest to work diligently. There was excitement

of witnessing an event of such a grand scale, not just a deep desire of winning the competition. We worked for hours on research and on collecting information which made our study perfect.

On the 19th of January, we reached Kharagpur and were awestruck to look at the IIT campus. Many techno-management enthusiasts had gathered there to share their knowledge. We were all very happy but at the same time nervous, due to the competition ahead of us. We faced 15 teams in the final round, all of them from diverse backgrounds. Professors from VGSOM, IIM Calcutta and XLRI Jamshedpur had come to preside over as the judges of the event. Although, we

didn't win the competition, we still were very glad for the opportunity to go upto that level. We got to see and learn so many things. After our event, we went to see Robocars, aeromodelling competition, car racing and many more events. At night we went for the DJ night and also met Imtiaz Ali, the famous Bollywood director. It was a wonderful experience for us personally and as students from a growing institution who are always striving to learn and widen our horizons. We must aspire to participate in as many such competitions.

Anusha Srivastava

REPUBLIC DAY

26th January, 2018

The day started at 8:00 am with a parade in the basketball court at AU North Campus. There our director and the special guest of the event hoisted the flag. After this, there was a speech by our director followed by the speech by the special guest. He enlightened us about the real meaning of Republic Day, its significance in the development of our nation and how getting a constitution changed the way India was, forever.

Followed by that, our director addressed the gathering by adding few more insights to heighten the spirit of Republic Day and emblazed a flame of patriotism in us. National anthem was sung in high spirits at the court and thereafter we proceeded to the IIPE venue.

There began the latter part of the program. On that eve, our hearts



were overwhelmed with patriotism triggered by programs which took place therein. Many patriotic songs were rendered and the song sung by our batch mate Harsha Praveen was exceptionally amazing.

Shortly after that, faculty speeches followed and we concluded the event with Vande mataram and national anthem.

Uday Kiran Gumma

WPCC CONFERENCE, NEW DELHI

15th to 17th February, 2018

In the Spring of 2018, I attended my very first conference - WPCC. The World PetroCoal congress, WPCC's main focus was on discussions and coming up with innovations in the field of Energy, and the two primary fuels i.e. coal and petroleum.

India's energy requirements are substantially met from the petroleum and coal sectors. We all know that petroleum, Natural Gas and Coal supply more than 80% of the nation's energy needs. Most experts agree that coal and entire hydrocarbon value chain especially petroleum, natural gas, CBM, oil shale, shale gas and gas hydrates would play key roles in our nation's energy future. Keeping this in view the 8th WPCC-2018 focussed on

the role of innovations and technology as the 'game changer' in optimizing value from both conventional and non-conventional resources and the response of the Oil, Gas and Coal Industries towards 'green energy in low carbon economy'. I had the opportunity to present a poster on "gas hydrates", which is the future of energy. Currently in India, exploration phase of gas hydrates is in progress and it was found that India has 933 TCF of gas hydrates. Hence, we presented the current status, estimated reserves, location in India, and the methods by which we can extract hydrocarbon from them. Our efforts were rewarded as I won consolation prize for poster presentation at the

conference. Apart from this there were many interactive sessions and expert lectures from people from around the world which were very informative. Many officials including Human Resource Personnel from ONGC, GAIL and members from various Petroleum Specialized Universities were present at the event.

This conference not only gave me knowledge about my course but also gave me insight into the decorum to be maintained and the ways of presenting in the presence of diverse audience at a huge event.

Vaibhav Sharma

NSTL VISIT

28th February, 2018

Most of the students studying in any branch of Science and technology (S&T) are aware that 28th February is celebrated as the National Science Day in India. Nevertheless, do you know exactly what for the day is celebrated as the National Science Day?

On this day in 1928, the famous Indian Scientist Sir Chandrasekhara Venkata Raman at his lab in IACS Kolkata, discovered the phenomenon of scattering of light, which later came in fame as the 'Raman Effect'. For this remarkable discovery, he was awarded with the prestigious Nobel Prize in Physics (1930), first time for India in the field of Science (Ref: <http://ncsm.gov.in/28th-february-national-science-day-in-india/>). Following the request and recommendation by the National Council for Science and Technology Communication (NCSTC), the Government of India decided to designate this date as National Science Day. The first National Science Day was celebrated on February 28, 1987 to commemorate the extraordinary discovery of "Raman Effect". We, the students of IIPE were taken to an exhibition organized at the Naval Science & Technological Laboratory (NSTL), Visakhapatnam on National Science Day, 2018. There we got to know how India is

preparing to defend from other countries during war. NSTL was established by the Government of India under DRDO on August 20, 1969. This lab is working as one among the 46 (Ref: <https://www.bestcurrentaffairs.com/list-drdo-laboratories-india/>) DRDO laboratories across the country, and is well-known for undertaking R&D activity on complete major naval systems (Underwater Mines, Torpedoes, Fire Control Systems, Weapon Launchers, Targets, Decoys, etc). The exhibition was arranged by NSTL exclusively for the local school and college

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students. Models of some exercise version torpedoes, machineries of torpedo, various batteries of torpedo and naval mines were displayed in the exhibition. Posters and verbal demonstrations by concerned experts accompanied the real models. At the start of this session of the exhibition, a video was presented regarding NSTL and various naval-defence projects undergoing therein. For instance, underwater weapons, which are classified into 2 types - mines and torpedoes.

Mines are the weapons, which are stationary and are used for defence from other enemy ships. They are laid in the sea floor at certain depth and when the explosive floats from sea level and a ship passes by, they record the magnetic, sonic signature and

explode when the signature reaches maximum threshold.

Torpedoes are the dynamic weapons which move instantaneously to hit the moving target such as enemy ships. Once the target is locked they can change the direction based on the motion of target. Torpedoes can be launched from ships as well as helicopters. They would be in sleep mode until the target is set.

NSTL also designed mine sweepers which are used by the navy so that they will create the magnetic signature same as the ships even before the ships go to divert the mines of enemy. It also makes exercise as well as combat version where they use rechargeable battery in exercise version. In addition, they make AUV (autonomous underwater vehicle) for

the recovery of the exercise version of mines which would be operated from the surface. We also learnt about the blade design of the propeller used and the advantages of various propellers. Around sixty of the second year students (2016 batch; presently third year) visited the exhibition. The trip started from the IPE AUCE campus at around 2:00 pm and the transport was arranged, i.e. IPE bus under the supervision of faculty members Dr. Debarshi Sinha and Dr. Deepak Amban Mishra. Altogether, students enjoyed the half-day tour to NSTL and returned to IPE with some knowledge of naval-weaponry.

Dinesh Chandra

RGIPT "ENERGIA 18" – SPORTS FEST

9th to 11th March, 2018

Sports, an integral part of everyone's life teaches internal discipline and nurtures the spirit of fighting back. We were filled with excitement and sought Director's permission to represent IPE in RGIPT'S fest ENERGIA'18 for the sports volleyball and kho kho. He accepted our request although the location is very far from our campus. The intention behind the acceptance is to create social bond between the two institutes, which run on the parallel lines under MOPNG ministry. A secondary motive of the

student's council was to interact with RGIPT students to know how they had managed initial hiccups in mess, lab, infrastructure and so on.

After visiting the RGIPT campus we were able to imagine our future campus which gave us a sense of happiness. We completely enjoyed the stay over there. We interacted with senior students of RGIPT about placements, internships etc. We also visited the Petroleum labs and discussed our observations with our faculty.

We participated in two games -volleyball and kho kho. Despite our first volleyball match being with RGIPT, the crowd was cheering for the IPE team, which felt like a friendly gesture from them. This made us feel at home and as if we were playing in our home ground, especially when they supported us even when we scored a point. The game was nail-biting and closed very tightly with scores of 18-21 and 15-21. Eventually we lost the match. Same scenario took place in kho kho. We

lost the match with Amity University with scores of 12-22. That aside, due to participating in this sports fest we were exposed to the competition at the national level and it helped us make a decision to be determined, to prepare ourselves for the next event with

better practice. Although, we were sad to lose, we were happy that we got several suggestions from seniors of RGIPT, bagged many experiences and received positive vibes from students of RGIPT. In short, I can simply say that it was the tour which has put forth

before us a chance to explore newer things and systems by interacting with the students and faculty of RGIPT.

Adi Vishnu

TECHKRITI 2018 – IIT KANPUR

15th to 18th March, 2018

Our Experience in IIT KANPUR

Team members: Ysaswy Sriramoju, B Sai Harsha, Sourjya Naskar, Anshuman Singh Yadav, Vysakh Nikhil, Pavan Pinninti, Dhan Raj, Jaya Revanth Alugubilli

Techkriti 18 was Asia's largest technical and entrepreneurial festival organized at IIT Kanpur by the student community during 15-18th March, 2018. The major goal of Techkriti was to set up a platform to focus the limelight on the people's innovative and creative excellence for social benefits. With great excitement we started for our first technical fest outside IIPE. We embarked on a long journey to the prestigious IIT Kanpur. It took two long days for us to reach. The reason for our visit to IIT Kanpur was for an RC Car competition into which we put our heart and soul. We had been building our car from past four months.

On the first day at IIT Kanpur, it was early morning when we reached Kanpur. We had breakfast and quickly reached IIT campus. Holding all our luggage, we started walking on the endless roads of IIT Kanpur. We were awestruck at the infrastructure of

campus and we drew parallels with our present campus life.

After walking a long distance, we reached the main hall where we registered for the fest and we were allotted accommodation for the next four days. The effect of the journey dawned on us and we rested for the whole day. Our event was on the third day so we had two full days totally to enjoy splendid campus life.

On the second day, we woke up early in the morning, walked for around 3 km to reach the main ground where all the main events were happening. The first event was Robowars. We enjoyed every bit of Robowars witnessing the pure destruction between the machines. It was afternoon and our tummies were craving for food. This was the best part of the trip. The mess food of IIT Kanpur was very tasty and inexpensive too. You could do all your future studies in IIT Kanpur for the sole purpose of eating the mess food in IIT Kanpur, is the thought we got at that time.

Night crept in and after searching for an hour, we found the amphitheatre of IIT Kanpur. They were screening Indie movies and we were privileged

to get an opportunity to watch "El-Classico" with large number of fans. It was like a dream come true.

On day three: It was the day for which we all worked hard. We had confidence in our RC car on which we were working for quite some time. Our event was followed by treasure hunt.

On day four, since our event was over, we had no pressure and wanted to enjoy the day totally. This day we engaged ourselves in comedy and dance. The stand-up by Biswa Kalyan Rath was mesmerizing and DJ night by Willy Williams was electrifying. We were tired but as usual we prowled on the tasty food of IIT Kanpur.

It was day 5 and the day of journey. We got ready to leave, with a bundle of memories and a load of knowledge though we didn't feel like ending the trip. The pleasure of IIT Kanpur just left us in determination to come back next year. Truly, the experience has been one of a kind and to describe all the experiences, we can write a whole book.

Vysakh Nikhil and Sai Harsha

SPORTS MEET – IPE

15th to 17th March, 2018

Indeed, it is well said that “Winning takes talent, to repeat takes character”. Academics and sports go hand in hand. Both have a significant impact on an individual’s life. During this event, the students and staff of IPE come together to conduct the sports meet each semester. This is a much-awaited event of our academic calendar as students get time off from their hefty academics and class schedules. The Indian Institute of Petroleum and Energy had organized its even semester sports meet from 15th to 17th of March 2018. Our honourable Director, Dr. V.S.R.K Prasad presided over the event.

As the event began, students were filled with enthusiasm and the will to excel their competitors in their respective sports was clearly visible in the environment. We began with Kabaddi, which was held at the volleyball court in the AU South Campus. First round of kabaddi was between the second year boy’s teams of the petroleum and chemical branches. What a way to kick off!!!!. Petroleum team despite being the underdogs, showed great commitment and composure to knock out the chemical team with a rather big defeat margin. Then, facing each other were chemical and petroleum boys of 3rd year, in which the former team emerged victorious in a rather one-sided encounter. And finally, for the winner’s spot, we had a showdown between the petroleum 2nd year vs the chemical 3rd year boys.



After a neck to neck match, the 3rd year team won. Later that evening we also had an all 2nd year vs all 3rd year girl’s finale match. The scene was set to what everyone expected to be a great sight full of aggression and outburst of emotions. Indeed, the match lived up to our expectations and the second year girls rose up to the top. All knew that it was a fabulous start to the sports meet, which would rather turn out to be special in every sense of enthusiasm, belief, hard work, happiness and victory.

The second day of the event started with same excitement. Batsmen all padded up, bowlers warming up and umpire analyzing the pitch. It was time for the cricketers to take centre stage. The tournament started off with the petroleum 2nd year vs the chemical 3rd year. We had in front of us a thrilling encounter of ten overs per inning,

with the winner to progress to the finale. Petroleum second year students won the match and it was a hard earned victory. But, the second match was the highly anticipated. It was the chemical 2nd year vs the petroleum 3rd year. All the spectators were optimistic that they would witness an intensely tight battle of nerves. And that's what happened. The chemical second year gave an enormous target of 106 runs to be chased by the opposition in the next inning. They started off the defense of their target quite well. Midway, they had most of the opponent's top order batsmen out. But what was about to come, was hardly thought of. Stepped up the talisman of the batting team, Aakash Choudhary. With over 50 runs yet to be chased in the last four overs of the match, he showed all his A-game and stole the win for his team.

It was time now for the last match, between the petroleum 2nd year and petroleum 3rd year. The seniors won the toss and elected to bat first. They didn't set up a big score to chase but it was defendable. At the start of the second innings, the batting team faced major setbacks as they lost early wickets. The bowling team started to get a firmer grip over the game and again it was down to the final over of the match. The batting team had to get 2 runs to win of 3 balls. In a tight battle of nerves, the petroleum 3rd year team emerged victorious with a margin of one run.

Next up was football or should I say soccer. Perhaps not just a sport of physicality but also a burst of emotions. People win, people lose, they fight and argue, they cry but one thing that keeps them going is the spirit to play as a team, as ONE. It was kick off time and first up were the chemical 2nd year vs chemical 3rd year. The latter were the favorites for the win and the outcome was nothing different. They defeated the former with a score line of 3 goals to nil and progressed to the finale.

The second fixture featured the petroleum branches of 2nd and 3rd year. Knowing the faults we committed last time out, we the 2nd year students were totally up for it. It was blockbuster performance but both the teams with the score tied at goalless- at the end of extra time. It was time for penalties. Yes, of course the very same point at which we were knocked out last time. Unfortunately for us, the result was again the same. We couldn't make it again. Sad we felt, but life goes on and the show must not stop. All the players demonstrated great gestures of sportsmanship.

The final showdown was against the chemical and



petroleum engineering branches of the 3rd year. Though the petroleum team being the favourites, didn't really live up to the expectations in this match as the scores were again goalless at full time. However, they showed great composure and calmness till the very end and won it after penalties. Indeed, the win was theirs for the taking.

On the last day, we also had kho kho and volleyball in our very own north campus of AU. Players running and dodging with agility and quick feet to catch each other in the game of kho kho was quite entertaining for the eyes. These sporting events help in enhancing one's individual skill. It is at this time of our academic calendar that we interact with everyone. No matter what, we fight or we smile but we all do this as a family. These interactions and emotions bring us all close to each other and make us feel we are all ONE –IIPeians.

Abhinav Bharadwaj

AAVHAN – IIT BOMBAY SPORTS MEET

30th March – 1st April, 2018

The game of football, which is embraced by millions around the world, was kept lighted in our little campus through a few, who find joy in gathering at the grounds and living the game. During the second year of our college, the team and game were evolving into better shape and we decided that it was the right time to form our first formal football team of college and AAVHAN - 2018 paved the way for it.

AAVHAN, IIT Bombay's premier sports festival witnesses great deal of talents each year. It seemed like an impossible journey initially and a few among the team itself expressed their doubts but the rest believed this first effort will be a stepping stone to the development of the sport within the campus. Finally, we gathered as a team and began to sincerely focus on practice sessions till 28th of March, the day we set out to Mumbai.



AAVHAN was conducted from 30th March to 1st April. We reached Mumbai on 30th March, early morning. IIT Bombay was a beautiful sight to witness. The campus was a feast to our eyes. It is immensely rich in flora and fauna and its green cover was a refreshing welcome for each one of us. The place was crowded with young athletes and soon the festival began. We roamed around the campus witnessing students from around our nation competing with vigour with the cheers of their friends overwhelming the grounds. We planned for sightseeing but then it had to change as we had much greater tasks to plan - our game was scheduled the same day at 6pm with IIT Bombay's team B, popularly known as 'SNATAKK' the team comprising PG and PhD students; both present students and alumni of IIT B. It was a tough match ahead for us and we failed to match with their experience, thus losing the match with a score of 0-4.

The defeat hit us hard but we

accepted the defeat as it was just the first among the many matches to come. SNATAKK played with pure sportsmanship and even won the tournament beating IIT BHU, IIT BOMBAY team A and VCET in the finals with a staggering score of 3-0. Even though defeat is not something on which one would like to build their game, this experience left us with an urge to raise our level and test our limits on each day that we practice.

The story of IPE's venture in AAVHAN would be incomplete without mentioning the college's talented young speedster, Pushpendra Singh Parmar and his fellow mates of the relay team - Ranajoy Bhattacharya, Rakshit Joshi and Rohit Kumar. Pushpendra is a source of inspiration for the whole IPE as his level of dedication and hard work is quite a rare sight to witness. But misfortune struck this team, as lack of experience and the proper gears paved the way for another

IPE - AAVHAN 2018



defeat. But this defeat similar to that of football only triggered the flame within for success, as they remained motivated and practicing for the next stage with lessons gained from AAVHAN.

AAVHAN kindled in us, a desire

to hone ourselves for upcoming competitions and the experience sparked in us the fire to win. Though it cannot be termed a dream start, AAVHAN was a stage worth experiencing and in the coming years IPE will surely leave a mark with the

great young talents the college has in its football team and in athletes such as Pushpendra.

Vysakh Nikhil

PETRO BAZAAR WORKSHOP, IPE

26th March, 2018

“Science of today is the technology of tomorrow.” IPE being a technical institute, academics, research and technology contribute to a strong foundation. “Internet of Things in Petroleum Industry” is a booming and interesting area of expertise. PetroBazaar.com conducted in collaboration with IPE, a one-day workshop at IPE campus on this topic. The chief guest for this workshop was Shri Vishnu Vardhan, a very eminent person in this sector. He had presented his experiences in this sector and elaborated opportunities in IoT, both of which left us thinking of various options for the future.

Mr VishnuVardhan, is the founder CEO of Vivartha Innovations. He shared his business strategies and



how he coped with the competitive business world. His talk was very inspirational. His life experiences as an entrepreneur, brought new ideas into our young minds.

In the second half, an interaction session was arranged, during which the students were given the opportunity to showcase their innovative ideas. Finally, the event ended with the distribution of trophies for best presenters, workshop participation certificates and Director Sir's closing remarks. In short, the workshop was very motivating and was successful in igniting a spark in the youngsters to become future entrepreneurs.

N. Swabhaav



BLOOD DONATION CAMP, IIFE

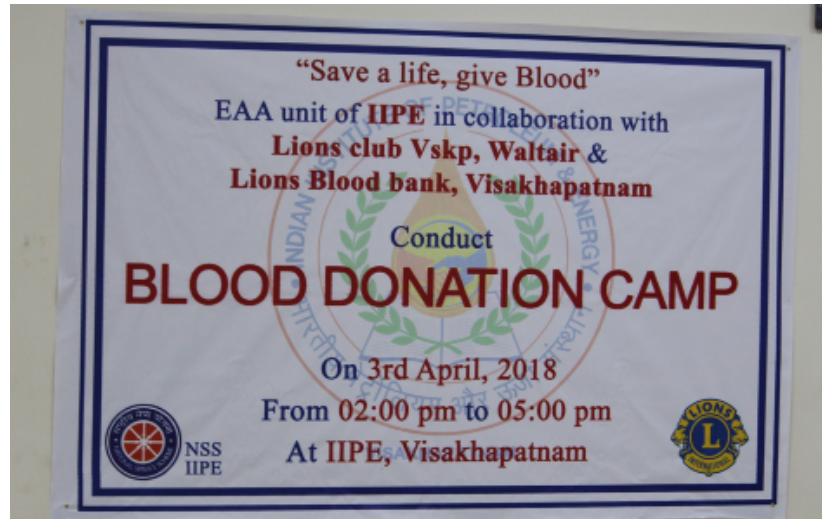
3rd April, 2018

"Tears of a mother can't help the child but your blood can"! This has really inspired all of us to donate blood to the poor and needy as "Blood can't be manufactured artificially". Since blood can only be transfused between humans, we all are mutually dependent in this case regardless of caste, religion, financial status, name, fame etc. It is irrelevant to credentials.

Personally, I would like to share my story, what made me drive this blood donation camp being organized from the first year of our college. Once my father had to donate blood to his friend's wife at midnight and since then he has lost the phobia towards blood donation, needles etc. Now, he feels very healthy and morally boosted when he donates blood and he has donated blood 78 times to the poor and needy. He is waiting to make it to century before he reaches the age of 60.

The day it happened is 3rd April, 2018. We had awareness talks about blood donation knocking the door of every class and lab along with management from Lions Blood Bank Prof. N.V.N. Durgaprasad who helped all the way. He explained the benefits of blood donation and the Crisis of the blood in Vizag. The students were motivated by their crucial need to donate blood and nearly 54 units of blood has been given by the students and staff of IIFE with the cooperation from N.S.S. Unit of IIFE, Student Council, and some volunteers who facilitated. The programme was conducted in collaboration with Lions Blood Bank Visakhapatnam and Lions Club, Waltair in which our Director is also an active member. They helped all the way in providing fruits and some energy drinks to the students after blood donation.

Adi Vishnu



ASTRALIS - CULTURAL FEST 2K17

6th April, 2018

‘Life becomes a festival when the gaiety and culture blend together’.

Astralis- the Cultural Fest of IPE is the nebula where smiles sparkle and memories form. The event was organized on 6th April 2018. The most awaited event of the year Astralis-2k18 was the first cultural fest of IPE. Many colleges like IMU from in and around Visakhapatnam participated in the fest.

Ever since the evolution of the human life on earth, socialization is the potential reason for its sustenance and civilization. There were mass gatherings held to share their thoughts, feelings and ideologies, which eventually became festivals. In a similar fashion, college is the place where students from various parts of the country with diverse backgrounds meet. This ethnic inclusiveness is what makes college life special and unique.

The day of the event started with the treasure hunt held in the AU campus. The tricky clues and the excitement to win made the hunt very interesting.

‘The greatness of the culture lies in its festivals.’

The festival begun in the evening at YVS Murthy Auditorium (AUCE), Andhra University. We invited Smt. G. Srijana (IAS), Joint Collector as the chief guest for the cultural fest. We also sought the presence of Dr B.S.S. Prasad, Chairman, APPCB as





the distinguished guest of honour and Shri A.S.V Ramanan, Executive Director, HPCL as guest of honour. Several mind-blowing stage performances were given. The splendid host performances set a mark for the competitors to perform. The sizzling ramp walk set the stage on fire. Among all, the stand-up comedy event by second year student Vaibhav Sharma was the show stopper. We also had the Vizag comedians to perform. Some of our creative students recited their poems and entertained the audience with their skilful play of words. The night was filled with bliss and laughter. A fest without DJ night is never complete. This event propagated a wave of excitement and creativity among the students.

'The more you celebrate your life; the more there is in life to celebrate.'

The celebrations were overseen by the faculty members and was concluded by Director's remarks. We are fortunate to have such dedicated and supportive organizers who took all the pains to plan such massive event with ease. Besides the flow of excitement all through the events, we had the final pleasure of having delicious dishes during dinner.

To conclude, we had a great evening in this uniquely positioned great Institute with fully electrified minds and memories; waiting for the next Astralis to happen.

N. Swabhaav



VICE PRESIDENT'S VISIT, IPE

12th April, 2018

As a citizen of India, I had a dream to meet the constitutional Office-holders in person and it was fulfilled by the propitious visit of our Honourable Vice President Shri Venkaiah Naidu to IPE on 12th April, 2018. The moment we came to know that he is going to visit IPE we all were on cloud nine, the preparations in the college started four days ahead, and many delegates/higher officials of various portfolios including the collector of Vizag, local ministers and many others, started visiting the college.

So, finally the day had come and all the students were delighted and gathered in room 311 by afternoon after completion of all security formalities. The much eagerly awaited event took place with on-time visit of the chief guest to campus, which created a first impression that made an impact on all of us about his punctuality. The program started with the traditional custom of lighting of lamp by the Honourable Vice President, Directors of IPE, IIT-KGP and HPCL refineries and other distinguished guests. The session kick started with elaborate speeches by the director of IPE who spoke about IPE and its achievements from its conception, followed by the director of IIT-KGP who delivered a speech on their invaluable mentoring support to IPE.

Then honorable Vice President, Shri.Venkaiah Naidu stepped on to the podium, delivered his speech, and shared his experiences as a Vice president and about his mission to visit all the 29 states in India within a year in office.





The nostalgic vibes with AU made him to share his college life experiences and the struggles he faced during those days as a President of Students' Union and he said, "It was here that I picked up my oratory skills and the campus was responsible for my intellectual development". He even emphasized the importance of the mother tongue in his talk by quoting "The mother tongue is like eyes and the other languages are like spectacles", by which he meant that without eyes there is no point in wearing any spectacles i.e. without knowing the mother language there is no point being a polyglot. Finally, he concluded the oration with witty responses which sent the gathering into peals of laughter. It was followed by the interaction session during which he answered the questions asked by the students in detail and wished IPE good luck for future research in its realm and concluded the knowledgeable interaction session.

Next, he released the newsletter of IPE - FOURTH ESTATE Volume-2 and then we proceeded downstairs where we had the rare opportunity of being part of a historical group photo. The special day is etched in our memories.

Viswakanth Kandala

INTERNSHIP REPORT I

INTERNSHIP AT COROMANDEL INTERNATIONAL LIMITED

I had a month-long internship at Coromandel International Limited, located in Sriharipuram, Visakhapatnam, a company well known for fertilizers. The first thing in the morning is to have a pleasant walk from the entrance gate to the plant for 2km, mid-way one can see the employee's residence colony. I was assigned to the AGM of operations of the Complex Plant along with few other students from ANITS and MVGR colleges. The plant comprises of 3 main parts- Sulphuric Acid Plant, Phosphoric Acid Plant and Complex Plant- along with the utilities. CPC and CPT courses at IPE helped me understand the processes involved.

The raw materials are imported; Sulphur from Japan and rock phosphate (containing mainly P_2O_5 and CaO) from Morocco, Brazil and Israel. Sulphuric acid is prepared from Sulphur by contact process and the steam that is generated is used for power generation in the plant. There are two SAP plants (98% and 94% conc.) together producing around 700MTPD. Phosphoric Acid plant gives 50% of the plant profit, mainly because of gypsum, a by-product, sent to the cement industries. Rock phosphate is crushed in the ball mill and then mixed with sulphuric acid before sending to the reactor. The products formed are then sent through

a filter belt around 5 meters in length where gypsum and phosphoric acid are separated while water is flushed from the top. The Complex plant is where the fertilizers are made using the sulphuric acid, phosphoric acid prepared in the plant, while ammonia and urea are imported. This plant has three trains (like subdivisions). 28:28:0 NPK and 20:20:0 NPK is produced in first two trains and third train tries new products containing sulphur and potassium content. The fertilizers are branded with the name GROMOR having different grades like DAP, urea ammonium phosphate etc. It was fortunate that our mentor happens to be the AGM, Operations in

the Complex plant - we got an opportunity to have a detailed look at the instruments. The pipe reactor (like a plug flow reactor) is where acid reacts with ammonia to form ammonium sulphates or phosphates to form a slurry, which is then sent to a big granulator drum. Here urea and potash are added if required to get the required fertilizer grade. One can understand the operating system in the form of a flowchart where there are red and green readings showing whether the limits are exceeding or not. We saw the workers stopping the granulator and breaking the big lumps to prevent choking. The instrumental air is sent to the rotary dryer where the granules are dried and the

required size of particles(1mm-4mm) are separated using screens, while the undersized particles are sent back to the granulator. Sulphur mist is hazardous to health, so wearing a mask is compulsory and the company insists on it. One can also study the bucket elevators and the cyclone separators in the plant. The company has four exits in four directions giving much thought to the safety of the employees. It was thus an excellent learning experience that gave a detailed overview of an important industrial process including safety measures.

Dharani Prasad

INTERNSHIP REPORT II

SUMMER TRAINING AT BHARAT OMAN REFINERIES LIMITED (BORL), BINA (M.P.)

A picture is worth a thousand words. What if something inspires even more? Yes. It is 'experience' that gives a complete overview of any process – something that one cannot gain just by reading books or attending lectures. Similar is the case in engineering - the things we learn in the classroom do not translate sufficiently to gain practical knowledge much required in the industry. Therefore, industrial training and internship are an integral part of our course.

I did summer training at Bharat Oman Refineries Limited (BORL), Bina (M.P.). With a capacity of 6.6 MMTPA, it is one of the most advanced refineries in our country, equipped with the latest technologies. During the training program, I was assigned to the Hydrogen Generation Unit (HGU) of the plant where I came across many reactors, heat exchangers, compressors, a reformer and much more humongous industrial equipment, all of which were nothing more than a diagram in my notebook. What one studies in introductory courses become a reality in the industry.

In the production of hydrogen, the following processes are involved:-

1. Desulphurization of feed
2. Steam reforming
3. Conversion of carbon monoxide by shift reaction

4. Hydrogen purification using pressure swing adsorption

The focus of the study is steps 2 & 3, which are the major steps in the production of hydrogen. But due to presence of impurities in the feed as well as the products, purification steps are imperative. This has taught me how the real processes deviate from theoretical processes giving rise to an industrial plant which is three times the size of a process in theory.

Industrial experience has also taught me how fundamental equipment like heat exchangers, valves, reactors, compressors, pumps, knock out drums work. Training has not only taught me about the working of different units but also the problems associated with machines and processes and how industries cope with them. There one learns how a lag of a few minutes can cause a million dollar loss.

Thus, overall it has been an enriching experience to be a part of the industry as a trainee. Industrial experience added to sound theoretical knowledge is what makes a perfect engineer. If you have both at the end of four years of B.Tech, then believe in yourself and get ready for next challenge!

Anshuman Singh Yadav

PUBLICATIONS

Dr. Swambabu Varani

Dr. Swambabu Varani's paper "Novel In-situ Precipitation Process to Engineer Low Permeability Porous Composite", was published in Scientific reports (a nature group journal).

The paper talks about precipitation of selective precipitation of inorganic nanoparticles in the pore spaces of a web of material. The precipitation of inorganic nanoparticles is well known, but selectively precipitating inorganic nanoparticles in the pore spaces of a web of material or a paper has never been explored. When a packaging material is prepared for applications like milk carton, refrigerated transport, packaging of electronic items, etc., commonly alumina, polymers are added to improve the barrier properties of those packaging materials. The problem with these methods is that end products are hard to recycle or sometimes, non-recyclable.

The main aim of this paper can be explained with the help of an example. For instance, to enhance the shelf life of milk, milk is stored in 'Tetra Pak'. It is a kind of

carton that prevents permeation of oxygen and water vapor through it. However, it is very difficult to recycle Tetra Pak. The method described in this paper can produce films with ultra-low permeability and yet retain its recyclability. Another advantage of this method is that by precipitating nanoparticles in the pores, not only are the pores closed, but the structure of paper is also kept intact.

For interested students, this paper points to a plethora of research opportunities. Precipitation of nanoparticles in films or suspensions is commonly used in industries ranging from packaging industry to petroleum industry. Here we demonstrated with precipitation of CaCO_3 in nanocellulose film. Using this technique one can precipitate any nanoparticles (np) like silver np, gold np, etc. If one can precipitate silver nanoparticles on paper using same technique, a paper with very good anti-microbial properties can be produced. Precipitation of gold nanoparticle on/in a film can be used for many sensor applications like SERS (Surface-enhanced Raman spectroscopy), which is used in biomedical applications.

SCIENTIFIC REPORTS

OPEN

Novel *In-situ* Precipitation Process to Engineer Low Permeability Porous Composite

Swambabu Varanasi^{1,3}, Uthpala Garusinghe¹, George P Simon², Gil Garnier¹ & Warren Batchelor¹

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Inspired by the natural precipitation of minerals in soil and rocks, a novel, simple and industrially scalable *in-situ* precipitation process to produce low permeability porous composites is presented. This process relies on capillary flow in wettable porous composites to absorb and store liquid. In this process, a porous composite first absorbs a salt solution, after which the composite is dipped in a second salt solution. Salts are selected such as they react to form an insoluble precipitate. As big pores absorb more liquid than small pores, the precipitated particles are formed specifically for each pore. In this paper, precipitation of CaCO_3 nanoparticles in cellulose nanofibre (CNF) films was demonstrated as an example. Precipitation of 1 wt% of CaCO_3 nanoparticles in the CNF film reduced the pore volume by 50%, without changing the density. This reduced the water vapour and oxygen transmission rates by one order of magnitude to $4.7 \text{ g/m}^2 \cdot \text{day}$ and $2.7 \text{ cc/m}^2 \cdot \text{day}$, respectively. The barrier properties of *in-situ* precipitated composites showed superior performance to previously reported CNF films in literature. The concept is general and of very high industrial interest as it can easily be retrofitted to current continuous industrial processes.

POEMS

FATE

Life's like a magical dream
Going forward like a river stream
Journey is nice and fine
It gives a kind of freedom to resign
Anywhere you want, anywhere you think
Provided you have guts to leap
Over the edge and towards the oblivion
Or you can just wait your time to end
You feel the way you go is unique,
And what you do means something,
That you mean something
But you are just one of many with the same thinking
Your absence doesn't make a difference
Cause what you do is replaceable and you have no
reverence
No matter how far you reach or how high you soar
You'll eventually knock the death's door

-Pavan Pinninti

AVALANCHE

The flickering bulb inside the tent was the only available
light.

Casting a doubtful shadow on the sleeping soldiers plight.

There was no bodily movement
So the brain was completely reliving life's beautiful
moments.

He remembers his son spraying red during holi.
Tries to forget the red his friend shed saving him slowly.
He remembers the banter shared in the campfire.
Tries to forget the people he lost to battle fire.

He remembers his sons toothless smiles
Tries to forget his wife sad goodbyes.
He remembers his father's war heroics.
Tries to forget his mother's mourning of that martyr.

He remembers that he needs to guard the border.
Tries to forget that he needs to sleep in order.
He remembers the lullaby his mother sung.
Tries to forget the tales of his bravery that will remain
unsung.

He remembers what they were upto until then.
Tries to forget what God was upto with his men.
He remembers a mountain of snow falling.
Tries to forget that he and fellow comrades ain't surviving.

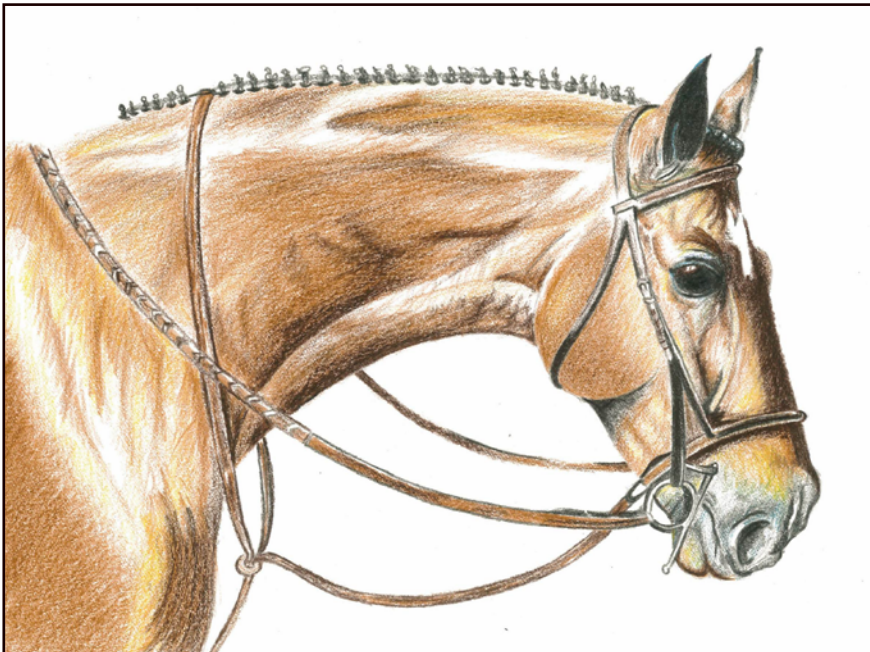
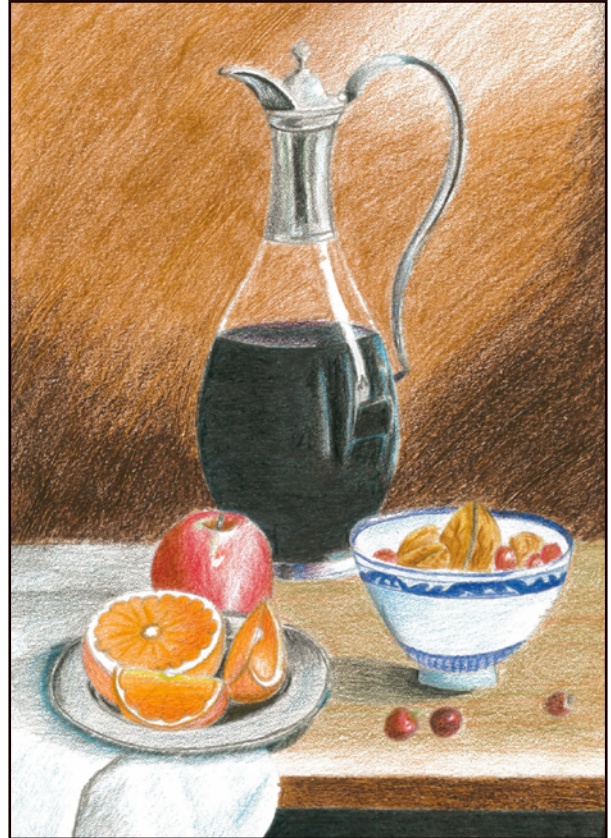
He remembers the promise of returning home.
Tries to forget that he is under tonnes of ice.
He remembers he is still at the brink.
Tries to forget that he will definitely sink.

The flickering light lost its fuse.
And the battle he could lest win was there to lose.
He saw how sand was covering his body from the distant
sky.

He remembers that he left his shoes at the gateway.
Tries to remember that his son wore them anyway.

-Lohit Yadav

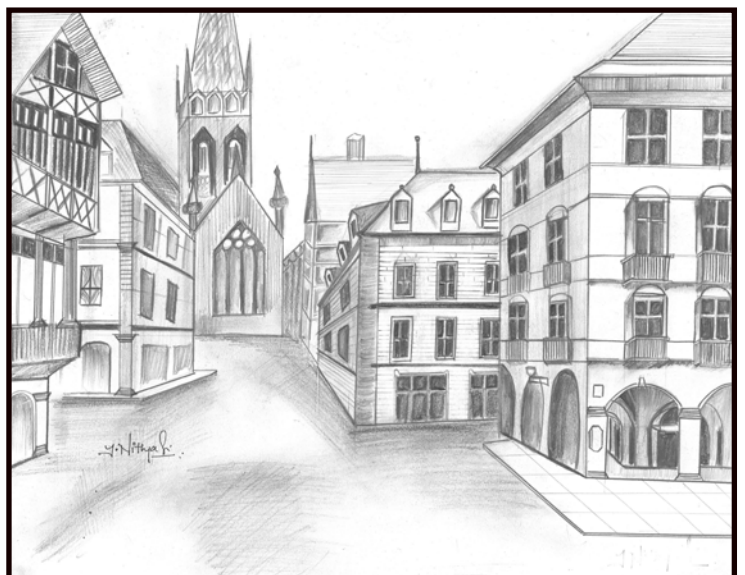
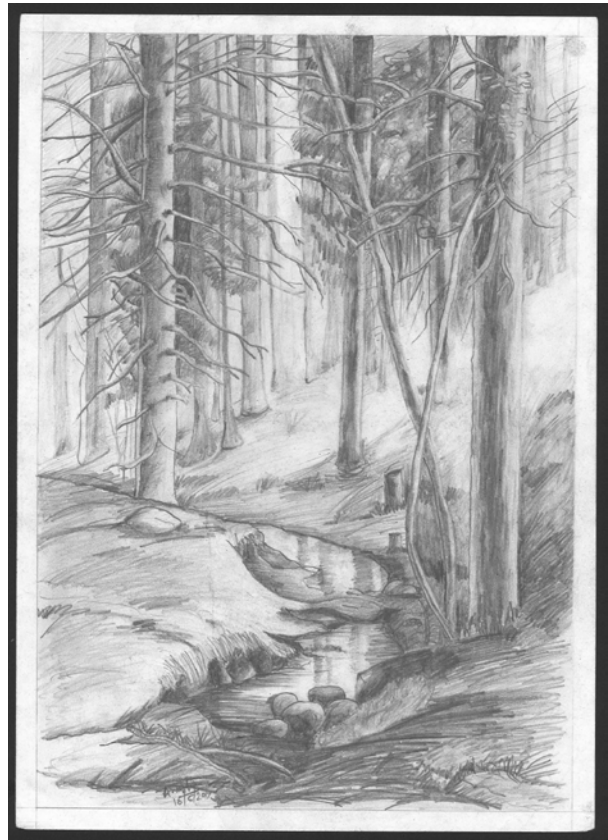
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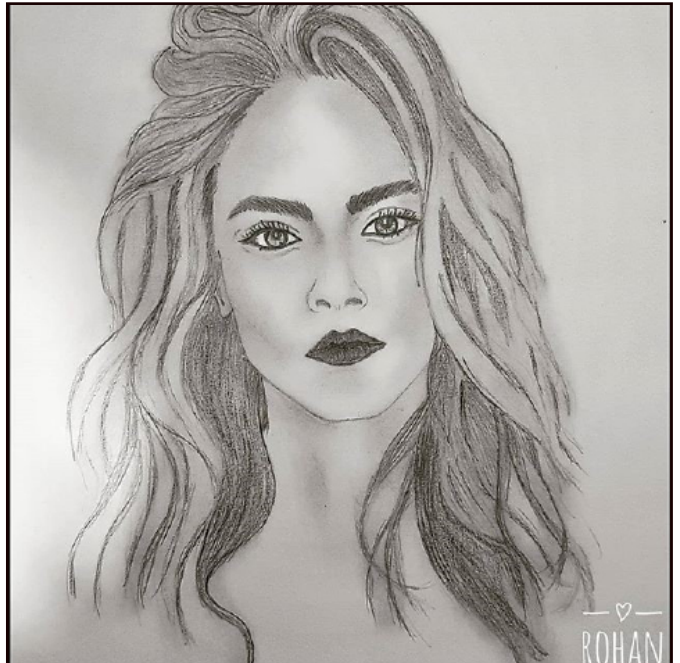
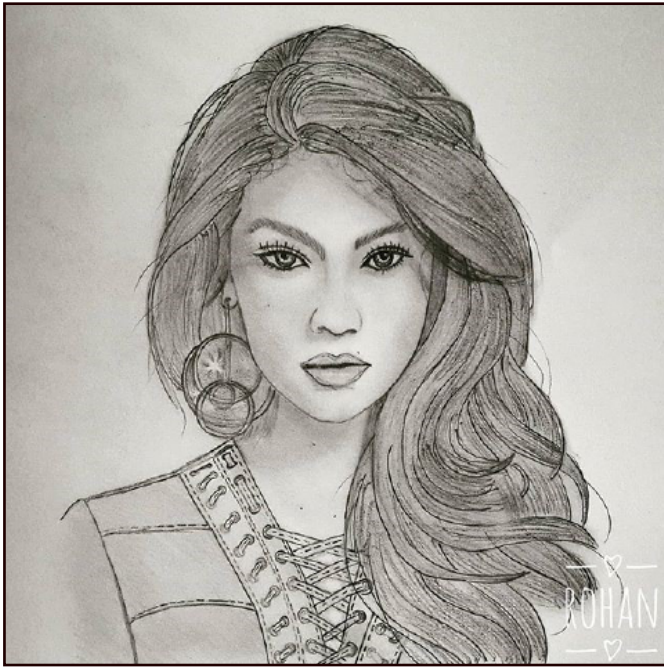
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