

BHARTIYA VIDYA BHAVAN'S
SARDAR PATEL COLLEGE OF ENGINEERING
Presents



DISHA

2019

*"The only real prison is fear and the only real
freedom is freedom from fear."*

AZADI

AZADI

“The inherent human nature to be free from constraints, the sacred feeling of not bearing the weight of boundaries, is Azadi or freedom. Freedom is so innate to us that we cherish it in every moment of our lives. Freedom is like a mighty river or a powerful gust of wind, flowing infinitely.

The interpretation of Azadi varies in terms of individual perception and becomes only more thorough and complete with time. Older interpretations of freedom depicted the oppressed attaining freedom from their oppressor (king, colonizers, and dictators). Despite that definition has not changed, it has evolved and broadened. Freedom apart from self-determination encompasses free speech, freedom against discrimination (on basis of religion, gender, race, caste, creed and economic status), freedom of privacy and a lot more.

Freedom is like salt, its presence often goes unnoticed but its absence makes a difference. The Indian freedom struggle witnessed our nation fighting for this attribute of Azadi, great men and women laid down their lives so we could achieve and appreciate this undeniable human right of freedom. And hence we the youth of this nation make the unspoken pledge to the martyrs of India that we will respect and value this liberty, that we will use this sacrosanct right judiciously, that we will respect the feelings and rights of others as we cherish freedom.

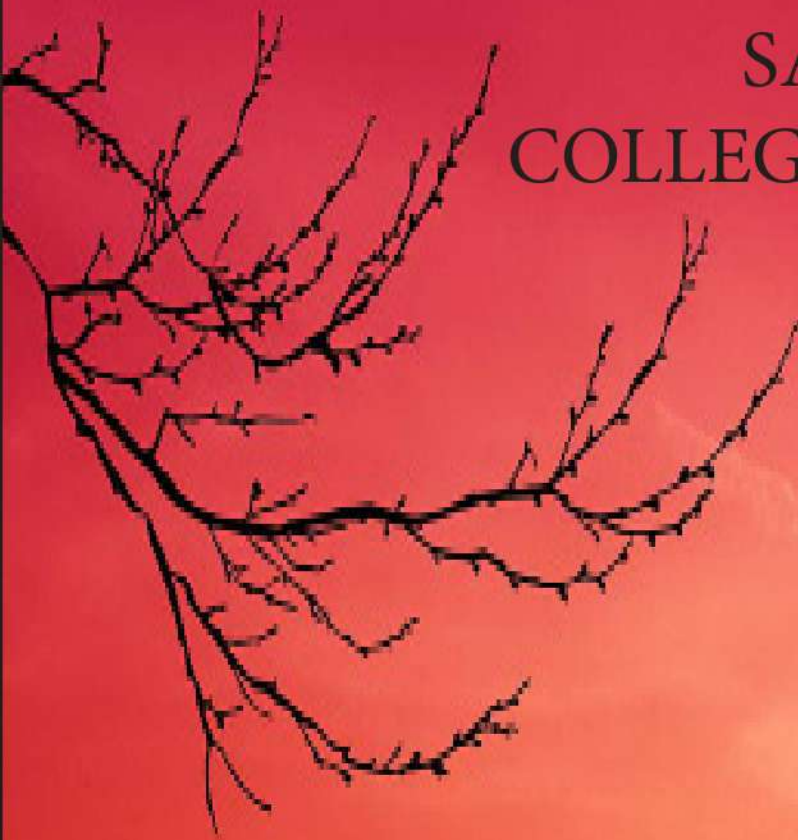
This year at Disha we celebrate Azadi, its importance, the struggle to achieve and sustain it, and the moral responsibility that it bestows upon us.”

BHARTIYA VIDYA BHAVAN'S

SARDAR PATEL
COLLEGE OF ENGINEERING
PRESENTS

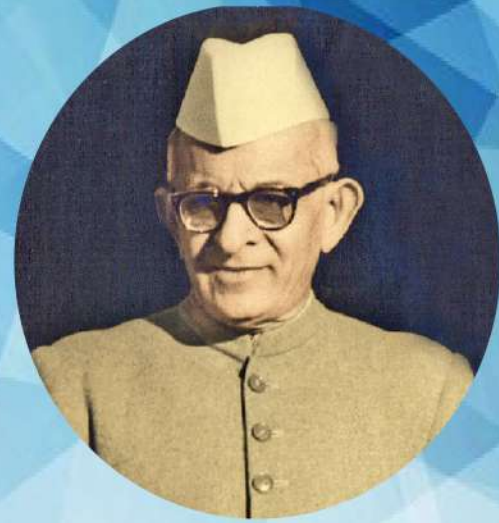
Disha
2019

AZADI





Shri Sardar Vallabhbhai Patel



Kulpati Shri Dr. K. M. Munshi

VISION

Sardar Patel College of Engineering (SPCE) aspires to be an institution of national repute that will create professionals with competence and motivate research for the progress of the nation.

MISSION

To impart quality education through time relevant curriculum in academic programs.

To enhance career opportunities for students through industry institute interactions and value added courses.

To promote excellence by encouraging innovative ideas and lateral thinking.

To inculcate a sense of discipline and responsibility towards society.

FOREWORD

It is with immense pride that we present Disha-19. Since its inception, Disha has acted as an interface between the technical sphere of SPCE and the creativity of its students. Disha aims at capturing the exuberance of the world of SPCE into the simplicity of words. The magazine is a gateway to SPCE's diverse committees, its fascinating fests, and the imaginative minds of its students.

DISHA returns in its 38th edition with the theme Azadi. Azadi or freedom is the feeling of being free from constraints and the ability to exercise free will. Disha this year champions the sacred quality of freedom. Through the medium of our college magazine, we intend to impress on students the significance of liberty and the moral responsibility of using this freedom carefully.

The freedom we enjoy today is the result of a great effort by people across the world. The magazine, in its centrefold, brings to you a list of remarkable struggles and movements across the globe, that shaped the current world we live in.

We are extremely thankful to the Principal, Dr. P.H.Sawant, and Vice-Principal Dr. M.M.Murudi. Our utmost gratitude to Dr. Shyamlee Solanki, Chairperson, Students' Welfare Committee, and all the members, for being a constant pillar of support and encouragement. We would like to take this opportunity to thank the Magazine Committee for their dedicated work throughout the year, and our friends, for their expertise and timely help, without which all this would have been impossible.

Without further ado, we present to you DISHA'19 and hope this will be a delightful and memorable reading experience.

From the Principal's Desk

Sardar Patel College of Engineering (SPCE) under the management of Bharatiya Vidya Bhavan's, was established in 1962 to meet the growing demand for engineering talent. SPCE is an autonomous institution since 2010, and holds a top 3 ranking in Maharashtra.

SPCE has held up to its high standard of self-improvement as is evident by the accreditation received by the Civil Undergraduate programme from the National Board of Accreditation (NBA) for three years. Concurrently, the Post-Graduate programme for Construction Management and the Undergraduate programme for Mechanical Engineering have also been recognized under the same umbrella. The institute has also maintained its standing amongst elite institutes receiving an NIRF rank in 2017 and 2018.

The college is one of the 192 institutes in India and 17 institutes in Maharashtra, selected for Technical Education Quality Improvement Programme (TEQIP) I, II and III for transformation of the talented education system. Due to outstanding performance in implementation of TEQIP, the college has received a grant of 2 crores from TEQIP II and has also been selected under TEQIP III. The college has established 'Center for Continuing Education' under TEQIP to transform teaching and learning process by conducting various courses and workshops for faculty, support staff and students.

Through implementation of these programs, the institute has emerged as one of the top colleges in India in transforming the education system. Acknowledging the efforts of the college, SPCE is a mentor institute for developing other weak institutes from other states of country in TEQIP III.



Entering its 7th year of autonomy given by the UCG, SPCE has juxtaposed institutional growth with intra-institute progress. The institute inducted its Entrepreneurship Cell (E-Cell) to encourage creativity and pizzazz in students wanting to hone their entrepreneurship skills.

SPCE boasts of a stellar lineup of professors, with 27 professors out of total of 42 holding a Ph.D. degree. Several professors also seek to broaden their scope of knowledge by attending international conferences and engaging in research projects. The supporting staff engage in several developmental courses and endeavor to implement better practices amongst students and professors alike.

The transformation plan also has contributed in overall development of students. SPCE students have achieved academic excellence and have also won prizes in National level competitions. Students also have showcased their talents in organizing various technical and social events such as Spectra, Space, Annual Debate Competition, SPCEMUN, Spirit etc. Students are also playing a vital role in various government schemes such as Unnat Bharat Abhiyan (UBA), and Unnat Maharashtra Abhiyan (UMA) acting as enablers to execute project objectives.

**F
A
C
U
L
T
Y**

**A
D
M
I
N
I
S
T
R
A
T
I
O
N**



**DR.P.H.SAWANT
PRINCIPAL**



**DR.NILESH RAYKAR
HOD. MECHANICAL**



**DR.M.M.MURUDI
VICE PRINCIPAL
HOD. CIVIL**



**DR.ANUPA SABNIS
HOD. ELECTRICAL**

Annual Report 2018 - 2019

Mechanical Engineering Department

□ Faculty Achievements

- Dr. S. B. Rane received best paper award, third position, at international conference at SOA University, Bhubaneswar, in September 2018. The paper was titled “Tool condition monitoring system in radial drilling machine by vibration analyser”.
- Dr. S. B. Rane was Key Speaker at Malaviya National Institute of Technology, MNIT Jaipur and conducted sessions from 10th to 12th December, 2018 in Short Term Course on Data Analytics For Engineers
- Prof. Kunal Bhavsar has been elected in June 2018 as ‘Young Engineers at ASHRAE Chair’ for Mumbai Chapter for year 2018-19. Prof. Kunal Bhavsar has also been elected second time in succession in April 2018 as ‘Student Activity Chair’ at ISHRAE for Mumbai Chapter.
- Dr. Bhole has received a grant of Rs 20 Lakhs from Science and Engineering Research Board of Department of Science and Technology, Government of India Currently the project is running in its completion phase.

□ Student Activities and Achievements

- Mr. Ujjal Mavinkurve, final year B.Tech.(Mechanical) has secured the prestigious Japanese Government (MEXT) Scholarship for the Research Students 2019
- Our alumnus Mr. Niket Shah (2018 batch) secured All India 6th Rank at Joint Admission Test for M.Sc. (JAM 2019) in Physics stream.
- Ms. Sharada Gavade and Mr. Varad Abhyankar (both from T.Y.B.Tech. Mechanical) have won two special awards: (i) Young Researcher Award, (ii) Best Paper Award at International Conference ICNTE 2019 held at Fr. C. Rodrigues Institute of Technology, Vashi, on 4-5 January 2019. Their work titled “System Development for Simultaneous Measurement and Control of pH and Moisture of Soil” was co-authored and supervised by Dr. Kiran Bhole.
- SPCE Racing team secured overall 11th Rank at national level for Formula Bharat 2019 competition.
- Ms. Tasneem Kabeer and Ms. Preeti Shete, Third Year B.Tech.(Mech.) and student members of TE-SA-SPCE, won a prize in Technical Paper Presentation at ABHIYANTRIKI-2018, K.J Somaiya College of Engineering, Vidyavihar, Mumbai. Their paper titled ‘Heat Exchangers in Nuclear Power Plants’ was prepared under guidance of Prof. Parag Muley.

□ Industry Interaction and Workshops

- Dr. S. B. Rane was invited as Jury for the prestigious ‘Process Improvement Award’ along with senior management member from TVS by Larsen & Toubro, Powai in August 2018.
- Dr. R. B. Buktar arranged for visit of third and final year B.Tech. students to Tata Motors, Sanand Plant, Gujrat.

Civil Engineering Department

□ Faculty Achievements

- The research paper “Development of feeder route system for Mumbai Metro line 2A & 7 using QGIS”, presented at Conferences on Technologies for future cities held at Pillai College of Engineering Mumbai, 8-9 January, 2019 by Anand Singh, P. Shrivastava, A. R. Kambekar and Pallavi Kulkarni received best paper award
- The paper “Framework for Implementation of VE in Infra projects” presented at 34th INVEST International Conference organized by Indian Value Engineering Society, held at Mumbai 7th-8th Dec 2018 by Jay Pavecha and Gaikwad P G., has received best Paper Award in 34th INVEST International Conference.

- PhD was awarded to the following student of Dr. P.H. Sawant by University of Mumbai.
- 1. Mrs. Uma Kale
- PhD was awarded to the following students of Dr. M.M.Murudi by University of Mumbai.
- 1. Mrs. Shilpalata Kewte
- 2. Shri. Amardeep Bhosale
- M.Tech Scholar, ANAM SAYED, student of Dr. Anil N. Ghadge received young Innovator Award-2018 for best M.Tech Thesis award from Zee media.

□ **Site Visit Organized by the department**

- M.Tech Scholar, ANAM SAYED, student of Dr. Anil N. Ghadge received young Innovator Award-2018 for best M.Tech Thesis award from Zee media.
- Organized survey project to vihar lake, powai on 05th to 08th February, 2019 for S. Y. B. Tech civil students.
- Organized Site visit at Govardhan Eco Village at Wada for third year students under core course of development Engineering - Sept. 2018
- Organized Site Visit at Bombay Exhibition Center, Mumbai, Big 5 Construct India Exhibition for S. Y. B. Tech. (Civil) students on 5th to 7th September 2018.
- Organized Technical Visit to Reliance Infra Astaldi JV, Mumbai Metro Project Line (Package CA-08) Mumbai, Near Kurla Station (Anik Depot) for T. Y. B. Tech. (Civil) students on 29/03/2019
- Organized Technical Visit to IMD RMC-Colaba Mumbai, 23/08/2018 for Final Year B.Tech (Civil) students.
- Organized Technical Visit to IMD RMC-Colaba Mumbai 24/08/2018 for Final Year B.Tech (Civil) students.
- Organized sites visit of Mumbai Metro Line 3 (Underground) at four locations on 20-April 2019 for T. Y. B. Tech. (Civil) students. 1. Azad Maidan Station, 2.Siddhivinayak Station, 3.International Airport station, 4.Marol Naka station.

□ **Guest Lectures by Experts from Industry/Institute Organized .**

- Guest lecture on “Deep Foundation construction for modern bridges- on 25-04-2018 by Mr. Eklakh Khan. For B. Tech (Civil) & M. Tech (structural) students.
- Guest lecture on “White Cement, Wall Putty, Primaxx and Supergrip (Tile Adhesive) – By Mr. Nitant J. Shah - Senior General Manager (CTS) – J.K Cement Ltd And “History of cement & Cement Manufacturing process”- By Nikhil Pimputkar, Dy. Manager -CTSJK Cement Ltd 23-10-2018. For S Y B. Tech (Civil) students.
- Guest lecture on Pre-engineered Building Interarch “ Young Builder Program” arranged on 28th September 2018 at 2.30 pm at Room no 119. Speaker; Mr. Sandeep Koul , Assistant Vice President – Sale & Marketing at Interarch Building Products Private Limited, Noida, India. For All UG (Civil) and PG (Civil) students.
- Arranged guest lecture for final year students for ‘Construction projects - Metro work’ - Nov. 2018.
- Guest Lecture on “Application of Building Information Modelling in Construction Industry” on 06th March 2019, delivered by Er. Aiyaz Qureshi. For All UG (Civil) and PG (Civil) students.
- Guest Lecture on “Soil Exploration” is arranged on 28th March 2019 at 2.30 pm in Room no 119. Speaker: SHUBHADA JAGTAP Geotechnical Consultant Mumbai. For T.Y. B. Tech (Civil) students.
- Guest Lecture on “ Dynamic and Integrity Testing of piles on November 2018, delivered by Mr. N.T, Chinivar from M/S Enlab Services.

Sr. No.	Class	Percentage of passing
1	M. Tech (Structural) I st year	83.33%
2	M. Tech (Structural) IInd year	100.0%
3	M. Tech (Construction Management)Ist year	88.89%
4	M. Tech (Construction Management)Ist year	100.0%
5	B. Tech (Civil)	95.95%
6	T. Y. B. Tech (Civil)	79.75%
7	S. Y. B. Tech (Civil)	81.01%
8	F.Y.B.Tech (Civil)	66.67%

Result of B.Tech and M.Tech students for the year 2017-18

Electrical Engineering Department

□ Faculty Activities and Achievements

- Apart from publications by faculty and students in international journals and conferences our faculty Dr. Sangeeta Daingade received Mumbai University Minor Research Grant of Rs 35,000/- for the project “DSP based control of SRM”.

- Number of research conferences/seminars attended = 05

- Number of technical publications in international conferences = 14

The following faculty attended workshops at IIT Bombay in the AY 2018-2019”

- CEP course: IT Enabled learning for STEM attended by Prof. Ushma Shah Duration 10/09/2018-12/09/2018)

- CEP course: Electromagnetic fields and waves: Pedagogy and computation attended by Prof. Vishal Dake (Duration 12/11/2018-16/11/2018)

- CEP Course: Scientific computing with Python for Electrical Engineers attended by Dr. Sangeeta Daingade and Dr. Swati Lavand (Duration 11/02/2019-15/02/2019)

□ Students Achievements

- Forty six students appeared for GATE examination and Nineteen students are qualified in the same.

- Our S. Y. B. Tech. students secured first rank in VJTI Robotics Challenge (VRC) competition during Technovanza VJTI, 2018 (28-30/12/2018). The team members for the same were Mr. Ayush Sagatiya, Mr. Pranav Kumbhar, Mr. Tarang Bavishi, Mr. Rahul Jha, Ms. Divya Shah and Mr. Aditya Bakshi.

- Ms. Saiprabha Mittal (T.Y.) was selected for state level Debate/Elocution Competition on Energy Conservation at Divisional Office, MEDA Mumbai.

- Our students Mr. Akash Jadhav(B. Tech.) and Mr. Rutvik Rathod (S. Y. B. Tech) were the team members for the competition International Robotics Challenge (IRC) organized by IIT, Bombay. The team secured second rank in national as well as international level rounds.

- Mr. Sourish Gavali (T. Y.) and Mr. Anand Wataney(B. Tech.) participated and won in the following debate competitions and secured runner up position at the national level Father Concieao Rodriguez memorial debates.

- Spandan debate competition at Xavier’s institute of engineering

- Crossfire debate at MPSTME

- Debate competition at Atharva college of engineering

□ Result Analysis of the AY 2017-2018:

Sr. no	Electrical Class Academic Year 2017-18	Passing Percentage
1	F.Y.B.Tech	64.29%
2	S.Y.B.Tech	77.39%
3	T.Y.B.Tech	83.57%
4	B.Tech	89.61%
5	M.Tech First Year	83.33%
6	M.Tech Second Year	100.00%

□ Guest Lectures

The following guest lectures were arranged for B. Tech. and M. Tech. students during AY2018-2019. These lectures were delivered by experts from industry and reputed academic institutes to update students with advances in technology:

- “Scheme of Auto Change over using Electromechanical relays” by Mr. Sachin Khare from L & T on 08/10/2018.

- “Introduction to Motor Protection using Digital Relays” by Mr. Harshad Divekar from L & T on 08/10/2018

- “Power System Oscillations monitoring using WAMS” by Dr. Gopal Gajjar, Sr. Research Scientist from IIT, Bombay on 09/10/2018.

- “Combined cycle gas based power plant” by Mr V.B. Agashe, Consultant on 06/03/2019.

- “Bus Bar Protection Scheme” by Mr. Shrotri, Consultant on 01/04/2019

- “Stakeholder Management” by Mr. Suvedh Jayvant from TISS on 03/04/2019

- “Cost Management” by Mr. Suvedh Jayvant from TISS on 03/04/2019
- “International Conventions on Climate Change” By Mr. Suvedh Jayvant from TISS on 10/04/2019
- **Industry visits and workshops arranged**
- POSOCO for B. Tech. Students.
- T.Y. B. Tech. Students visited Govardhan Eco Villege Palghar.
- Beginners Guide to Python on 01/09/2019-02/09/2019
- Advanced Processors on 06/10/2019
- Android Application Development on 13/10/2019-14/10/219
- Introduction to Electronic hardware design with PCB layout on 19/01/2019-20/01/2019

Developments in SPCE Library

Central Library of SPCE has started a round the clock (24/7) reading facility from the academic year 2018-19. The additional multipurpose computer lab is being developed with Intel Core i5 machines which will increment the number of computer terminals to 100. The reading area is expanded by installing new compactors in the reading room and the lending section. Wi-Fi facility is also extended to reading and lending section. Plagiarism software is subscribed to check research and thesis of students. Book exhibition was organized in the month of February which was a platform for students and faculty members to recommend books for the library. Books worth Rs.4 lakh were recommended during this exhibition.

List of Meritorious Students 2018-19

Based on CPI

M.Tech List

Civil-Construction Management

1	Goud Sagar Jawansing
2	Mutha Ashish Narendra
3	Joshi Geetanjali Mukund

Civil-Structural Engineering

1	Asher Ankit Manoj
2	Shah Manan Sanjaykumar
3	Sharma Shankar Chandrabhan

Mechanical-Thermal Engineering

1	Joshi Akshay Achyutao
2	Chormule Suhas Rangrao
3	Bari Dishank Gajanan

Mechanical-Machine Design

1	Surase Mahesh Annasaheb
2	Pharande Sushil Mahadeo
3	Salmuthe Sandip Ramdas

Under-Graduate

Civil Engineering Department

First Year B.Tech

1	Gawande Durva Sudhir
2	Panigrahy Sumit Abhimanyu
3	Ukarde Darshana Sunil

Second Year B.Tech

1	Baviskar Prashant Manoj
2	Sarah Farooque Niyazi
3	Doshi Dhananjay Vaibhav

Third Year B.Tech

1	Cheulkar Iqra Zahoor
2	Vishariya Aalisha Premji
3	Meet Maru

Final Year B.Tech

1	Vora Chintan Vijay
2	Shirule Devyani Gopal
3	Vadakummuryil Jimmy Chacko

Electrical Engineering Department

First Year B.Tech

1	Bavishi Tarang Kanubhai
2	Wankhede Prashil
3	Divya Shah

Second Year B.Tech

1	Mani Rishabh
2	Mundy Aadesh
3	Rohit Ramkrishnan

Third Year B.Tech

1	Nidhi Shridhar
2	Madhavi Surbhi
3	Narayan Ranjani

Final Year B.Tech

1	Gholap Pavan Bharat
2	Shrivastav Aarti
3	Narang Vidushi
4	Kadam Devesh

Mechanical Engineering Department

First Year B.Tech

1	Salunke Shaunak Nitin
2	Gore Suhas Vikas
3	Ambekar Amogh Santosh

Second Year B.Tech

1	Gavande Sharada Atul
2	Dangi Sejal Subhash
3	Edhate Prajwal Maruti

Third Year B.tech

1	Chaudhari Sejal Narendra
2	Patel Pawan
3	Kenge Aadity Nandkumar

Final Year B.Tech

1	Bhosale Tejasvini Deepak
2	Berde Shradha Sunil
3	Soni Ved Deepak



GENERAL SECRETARY

Rashi Sharma

CULTURAL SECRETARY

Tushar Singh
Suporno Ghosh

FINANCIAL SECRETARY

Roharsh Bhadane
Shreya Burlikar

TECHNICAL SECRETARY

Abhishek Deshmukh
Prathamesh Sawant
Amit Chitanvis

LADIES REPRESENTATIVE

Mitalee Chaudhari
Neha Hunge

MAGAZINE SECRETARY

Sourish Gavali
Ashwini Bidwai

SPORTS SECRETARY

Tsuzo Lohe
Arbaz Naikwadi
Anushree Ghurka

OFFICIAL PHOTOGRAPHER

Sarang Chudhar

LITERARY SECRETARY

Bibin Lukose



STUDENTS' WELFARE COMMITTEE

**STUDENTS
WELFARE
COMMITTEE**



General Secretary's Address

The academic year 2018-2019 was a year to look forward to. It was full of fun and responsibilities! The year commenced with the formation of the Students' Council on 3rd August'18, where I was privileged to be elected as the General Secretary of this prestigious institute. Apart from the joy and excitement, I realized the importance of the role I had to play for all the students and the college.

The Council enthusiastically organized its very first event, Independence Day, which was celebrated with choir and street play performances. PRARAMBH'18 was held on 6th September to welcome our dearest 'Freshers'. These newbies are full of hope, dreams and face various challenges. And we, as seniors, made sure that they could trust and depend on us. This year, we introduced the Gandhi Jayanti celebration, where students wrote essays and showcased drawings on the occasion of the same. Continuing the trend started a few years ago, the SPCE Annual Debate Competition was conducted on 26th and 27th of October. Finally, the Garba Night held on 12th October, came with an aura of exuberance, bringing students dressed in traditional attire and ready to showcase their moves.

2019 began with the celebration of Republic Day. 'SPECTRA- Tomorrow Happens Here', our two-day annual technical festival was welcomed with excitement. On 1st and 2nd February, we invited technical talents from all over Maharashtra. The annual sports festival SPIRIT raised the energy within SPCEians from 15th February to 25th February.

The month of March carved its way to SPCE's most awaited annual cultural extravaganza "SPACE" which was held on 7th, 8th and 9th of March'19, with the theme- 'Back to your roots'. The fantastic events like Stand-Up Comedy, Fashion Show, Swaranjali, Step Up were the highlights. It also witnessed introduction of two events- Rhyme and Reason and War of DJs.

The Annual Day and Degree Distribution ceremonies were held on 23rd April'19, to felicitate deserving students. Social week was held to maintain excitement even towards the closure of the year. And to bid adieu to our beloved final year students, farewell for B.Tech students was held as April came to a close. Also, this year built the foundation for SPCE Drama Club, with students performing Street Plays in various competitions.

I would like to express my sincere thanks to Principal Dr. P.H. Sawant, Vice Principal Dr. M.M. Murudi, our beloved Chairperson Dr. Shyamlee Solanki, Member Secretary Prof. Jayram Gholave, the entire Students' Welfare Committee and teaching and non-teaching members for extending their valuable support and showing faith in us.

"It takes both sides to build a bridge." I was truly incomplete without my team. I'd like to extend my appreciation to the Students' Council members, extended committee members and all the students for always being there. Being the General Secretary will remain my best memory of SPCE. I got to lead an amazing team, interact and work closely with all the students and have lots of fun. I extend my best wishes to the Students' Council of next year and hope that SPCE continues to reach out for the stars!

-Rashi Sharma



Cultural Secretary's Address

The position of the Cultural Secretary brings about a lot of responsibilities and hard work. This year we successfully achieved a seamless merger of cultural and technical events in the college.

A plethora of events followed and strengthened our bond with the entire Council. Our first task together was the 72nd Independence Day celebration. This was followed by PRARAMBH, where we officially welcomed our Freshers and offered them a platform to showcase impeccable dancing skills. They practised diligently and fought for the first position in the group dance as well as in Mr and Mrs. Fresher. We conducted an essay writing competition during Gandhi Jayanti which enlightened the students about the principles of the father of our nation. Garba night was another huge success. Filled with vigour, flashy lights and tasteful music, the event was well received by all. January of 2019 ended with the celebration of Republic Day.

March was the time for the mega cultural event at SPCE. Sardar Patel's Annual Cultural Event, like every year, was a huge success. This year's theme was "Back to your Roots", where we focussed on spreading awareness of the hardships and upliftment of the women in rural India. We had exhilarating and entertaining performances by famous musicians like Shubhangi Kedar and Pravin Koli. Inspiring guest lectures were conducted by ex-ias and first lady election commissioner, Mrs. Neela Satyanarayan. We even had eminent comedians such as Saurabh Mehta. Events such as Comedy Hunt, Rhyme and Reason, Vyakhyanmala, War of DJs, Fashion Show, Cinespace, Step-Up, Mr and Mrs Space, and Swaranjali saw heavy participation from students all across Maharashtra, which made them a huge hit. We would like to profusely thank everyone who played their parts in making this cultural extravaganza, a grand success.

Finally we would like to extend our gratitude to our Principal, Dr. P.H Sawant, Vice Principal, M.M Murudi, Student Welfare Committee Chairperson, Dr. Shyamlee Solanki, all other faculty members of the Student Welfare Committee and all the students who extended their external support and made this year successful, despite all hardships. Also we would like to thank our entire Student Council team for their support.

-Suparno Ghosh

-Tushar Singh



Technical Secretary's Address

The academic year 2018-19 was indeed an eventful and challenging year for the technical secretaries of SPCE. We realized that leadership is about vision and responsibility, not power. We not only managed our Annual Technical Extravaganza, SPECTRA, but also contributed in other activities of the college.

This academic year, SPECTRA was a massive success, with heavy participation from various colleges all over India. Mega events like Robowars and Sardar Patel Robotics Challenge stole the show, with huge crowds cheering for all the contenders.

Competitions like Aqua Drifter, ICRC, Robo Sumo, Robo Soccer and Technical Paper Presentation were a big hit, and loved by all.

What we have learnt is to not worry about the pressure. Just live in it, have fun, and when everything seems to be going right, just stay humble and remember your team.

We want to acknowledge the effort and time dedicated by all the volunteers, organizers and the Core members for making this festival a grand reality. We extend our heartfelt gratitude to the faculty and staff of SPCE, without whom we would have faced twice as many obstacles.

We extend our best wishes to the next Student Council and hope that they will take SPECTRA to newer heights in the years to come.

-Abhishek Deshmukh

-Amit Chitanvis

-Prathamesh Sawant

Unveiling The 'Indianness'

The 21st century world has witnessed drastic changes when compared to the past few decades. And India is no exception. We have been fortunate enough to embrace the progress. However, is this change bringing progress or downfall? India has experienced a wonderful journey right from the ancient times to the medieval period to the modern era. From 'Sone ki chidya' to a technical hub, we have witnessed several new advancements. Scientists are linking these advancements and humungous progress to what I call 'Indianness'.

I hope this terminology 'Indianness' doesn't hamper my grammatical outlook of this article. Now talking of 'Indianness', it is the unique behaviour and stereotypes which are indigenous to Indians. Everyone is associated to it in some way or the other. This 'Indianness' includes several Indian philosophies like our culture, habits, systems, people and their relations.

Talking about history first, India has been fairly rich in this sector. Our country has witnessed golden eras of history, be ancient or medieval. The then states flourished under the regime of the noblest of kings like Chandragupta and Ashoka, while Tenalirama and Tansen's over brimming talents amazed the world. Take the example of Shivaji Maharaj, the king who dreamt of 'Swarajya'- 'A kingdom of self-rule'. His administration and warfare strategies are studied in many American and European countries. The president of Vietnam quoted, "Had this great king been born in our country we would have ruled over the world". Similarly, with Indian mythology, foreigners tend to mix our history with our mythology. The rich knowledge of the Vedas is often treated as Indian Mythology. The day we realize this, it will be too late.

I personally don't mind Indians following traditions, be it worshipping trees, applying turmeric or eating with bare hands. Most of them having logical reasons behind them. For instance, we shake hands to greet someone on first meeting them. The reason being, we tend to remember the faces of people better when finger tips touch end to end. This enhances the memory. Such small practices are not to be ashamed of. Rather, they must be retained and followed for our own good.

The picture of modern India is no different. We are the largest democracy till date, despite our religious and cultural differences in languages, customs, cuisine, etc. The best part is, we managed to remain bound by the invisible threads of love, faith, integrity and harmony. The helpful nature and quick friendship are the striking features of this 'Indianness'. Perhaps this explains the unpopularity of Google maps, where Indians prefer paanwalas to get directions. Another important aspect is that we refuse to break our morals at any cost; we share an unbreakable bond of love with our parents at every stage of life.

My favourite feature of 'Indianness' is the 'Indian Mother'. For her, her child is everything. A teacher can be wrong, a judge can be wrong, a Prime Minister can be wrong. But a mother is never wrong about her child. For her children, she can do anything. It has often been joked, that if Hulk was Indian his mother would have said "Bada patla ho gaya hai, avengers waale khana nahi dete kya?" But trust me, it is no joke! Not just a mother, there's an army of women standing behind a successful man in the form of wife, sister, mother, etc. No other country has the ceremony of tying a sacred thread (rakhi) to symbolise a brother's responsibility towards his sister. Indian sisters amaze me in the sense, when they don't stop loving their brothers in spite of the brother's troublesome and annoying behaviour (excluding me). I believe that women don't deserve a status equal to men. Why should they, when they are already superior to men. Another medal must be given to the wives and mothers of the army personnel. They selflessly sacrifice their dear ones so that we live peacefully with our dear ones.

As far as I think, India is the most pious land on the earth. We may seem to be in a bad phase now, but perhaps this is because the darkest shadows make the brightest stars visible. Our fault isn't that we aren't modernising, but that we chose to modernize impulsively rather than acquiring our inheritance of this 'Indianness'. It's quite surprising that we, the successors of the greatest warriors, musicians, dancers, architects, scholars fail to shine in 21st century. Let's get back into the golden age when we were the masters of world and bring back our culture to glory once again.

-Sahil Bhand
S.Y.Mech



LOOK FOR ME

*Flitting between the pages unknown
I peek to catch a glimpse of thee
You, who enters my world, Anon
My tale yearning to be free*

Look for me

*Lilting across the meadows yore
Skipping to beat of the heart
Sunrays kissing my fair nape, and
Beckoning a new sweetheart*

Look for me

*Waving into open space, I think
This jaunt of ours comes to an end
I shall wait by the meadows, friend
By the meadows we shall meet again*

Look for me

*- Anand Wataney
Btech Electrical*

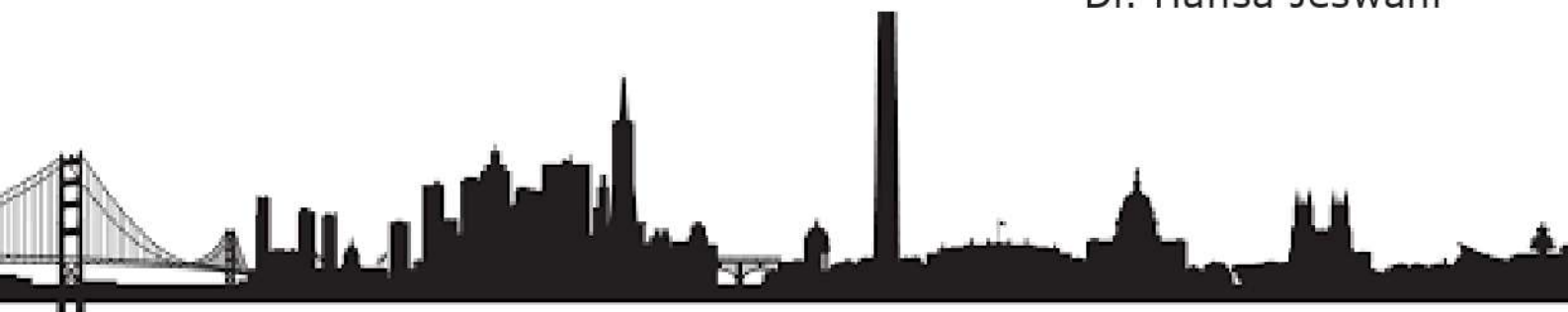
LIFE FULL OF CARE

It is 8:05 am. I watch by the gliding stations from the metro as a fellow passenger plays candy crush in absolutely cramped metro. I wonder how and why Mumbai spirit sails through. I smile at her and she acknowledges. I look towards another co passenger in her 50s and she is playing subway surfer and yet another listening to jarring songs with her headphones (though most of us can listen to them). I ponder over the past 15 years of my life in around 15 minutes from Ghatkopar to Azad Nagar. The maximum city attracted me in July, 2003. I used to commute each day in the local train from Churchgate to Andheri as I stayed in Colaba. Every day included enjoying the little train ride with a book or listening to songs on FM or the buttery smell of dough at Vile Parle or just looking out of the train window. However everything has changed in 15 years and the poetry by William Henry Davies echoes in my mind

*What is this life if, full of care,
We have no time to stand and stare.
No time to stand beneath the boughs
And stare as long as sheep or cows.
No time to see, when woods we pass,
Where squirrels hide their nuts in grass.
No time to see, in broad daylight,
Streams full of stars, like skies at night.
No time to turn at Beauty's glance,
And watch her feet, how they can dance.
No time to wait till her mouth can
Enrich that smile her eyes began.
A poor life this if, full of care,
We have no time to stand and stare.*

The lady beside me was more worried about the candy power than the beautiful Cinque Terre of India at Jagruti Nagar or the myriad of hotel terraces near airport road. It is a plight that we are so addicted to mobile phone that we don't have time to look who is standing beside us (it may be an old lady or a pregnant woman who deserves the seat more than us). I wish all of us a little more affection and attention to detail. As in the end what is life full of care (that to care for a mobile phone).

-Dr. Hansa Jeswani



BRICK BY BRICK

Recently, I opened a giant Lego set, reliving some treasured childhood memories. It involved constructing a model of the NASA Saturn 5 rocket, which carried Apollo 11 with the first men to the moon. Like the year in which it was launched, the set has exactly 1969 bricks, and was equipped with a 198-page manual. To piece together the entire rocket, one has to complete 12 segments. And as always, my fascination for Lego incremented as soon as I unboxed and assembled the contents of the set.

It might seem baseless for an adult to be drawn to Lego. But there's far more to it than the childlike love for making toy brick structures. Of course, toy bricks know no age, and I'm so glad the sets no longer specify an upper age limit. And yes, the older enthusiast groups like 'Adult Fans of Lego' possessing huge collections do exist.

However, making Lego the product that it is, is most definitely not child's play and here's why. As of December 2018, the global consumer sales of Lego group were worth DKK 36.6 billion (Danish Krone: the official currency of Denmark).

Every brick set they make, there's zero compromise on quality and complete detailed pictographic instruction manuals. One can only imagine the precision that goes into designing models of an exact number of pieces with definite shapes and sizes.

But it's not always been sunshine and roses for the Danish toymaker. In 2004 Lego faced bankruptcy. Sales had dropped to a record low and other trends like digital platforms stole the attention of children world-wide. What followed next was a series of ingenious moves that hit bull's eye.

Firstly, they identified the cause as over innovating and understood that sticking to their core product will help them the most. Instead of diversifying too much, they looked to rewiring the humble brick set for children, their major audience. After all, even the older fans started off as children exposed to the toy bricks.

Then came the move that was truly game changing. They partnered with movie studios like Warner Brothers and Disney, to help develop toys on the lines of their movie franchises. They churned out sets based on Star Wars, Harry Potter, DC, Marvel and so much more. This killer licensing strategy helped them stay relevant, provided narrative to their simple toy sets and attract fans of several different franchises. As of now, from dinosaurs to Marvel super-

heroes to popular automobile models of companies like Ferrari and Porche, there's a Lego model set for literally everything.

Over the 90s, video games emerged as a popular pastime among children and teenagers. The humble Lego bricks could no longer match that. Fortunately, they played this in their advantage too. They developed Lego versions, bringing their products for different entertainment franchises into video game forms, and made significant investments in high quality animated films as well. Both of these were well received by the fans (including my twelve-year-old self). This way, they found newer markets to dominate, instead of perishing with time.

Fan involvement on a massive scale was another exceptional move Lego executed. Noticing fans teaming with creative energy, it incorporating fan suggestions into the products. In fact, they frequently keep fan competitions to reward for outstanding idea suggestions and online platforms to discuss creations. They hired adult fans, once again playing childhood nostalgia to their advantage, for product designing, just to deliver exactly what is loved.

Gone are the days that I spent hours after school casting spells or fighting villains on Lego Harry Potter or Lego Batman video games. But no matter how old I am, no number of Lego brick sets will ever be enough. And the adult in me sincerely admires the toy-maker, taking back a lot of lessons on building a brand brick by brick.

-Aarushi Dave
S.Y Electrical



एकटीच

या गजबजलेल्या दुनियेमध्ये
एकटीच मी असते.

कधी कंठ दाटूनि येती
कधी हर्ष उल्हसित करिती
सांगाया कल्लोळ मनाचा
आसपास कुणी नसते.

या गजबजलेल्या दुनियेमध्ये
एकटीच मी असते.

या परिचीत चेहऱ्यांमधले
भाव मला ना कळले
कधी स्वार्थासाठी मधुर वाणी

कपट मनात अन् डोळ्यांत पाणी
वर्तन या सर्वांचे
क्षणांत बदलत असते.
या गजबजलेल्या दुनियेमध्ये
एकटीच मी असते.

-MADHURI BANDGAR
(T.Y.ELECT)

चुपचाप !

चुपचाप सब हो जाता है
होकर के गुज़र जाता है ।

वो शैतानी काला साया
पीछे से आजाता है ,
गुर्रा के ऐसे झपट्ता है
जैसे बाज़ चिड़िया ले जाता है...
बदन पे फर्क क्या हि पड़ेगा
वो तो रूह में आग लगाता है.....

चुपचाप सब हो जाता है
होकर के गुज़र जाता है ।

रास्ते पर इज़्जत लुटती है ,
रास्ता भी थरथराता है...
आंखों से आंसू नही गिरता
बस लहु सा टपक जाता है....

चुपचाप सब हो जाता है
होकर के गुज़र जाता है ।

मिलता वहां इंसाफ उसे

जो इसके लिए लड़ जाता है
और उसके ज़ख्म वासुर बने
जो अपने ज़ख्म छुपाता है...

चुपचाप सब हो जाता है
होकर के गुज़र जाता है

-PALLAVI WAR
(F.Y.MECH)



IN SEARCH FOR...

Throughout history, we see humans who are in the quest for something unique. Let us adventure into the past to gain an insight into the lives of such people and what made them follow this path.

Diogenes was a Greek Philosopher. He used to criticize the artificial society that existed during his time. His famous words: "I'm looking for an honest man" show a great relevance in the philosophical world. He was a man who had a lamp in his hand glowing and would search for an honest man during the day. Glowing it onto one's face and went away with no answers. Another intriguing person was Siddhartha, the Prince. He soon realized that happiness that existed in society was artificial and the sorrows and sufferings that he saw made him think beyond the realms of material wealth. Siddhartha eventually, left all his wealth and comfort and went in search of eternal truth and happiness. Siddhartha transitioned himself into Gautam Buddha with such great wisdom.

Rabindranath Tagore had written a letter to a person on 12th April, 1919. It stated: '... And India's opportunity for winning it will come to her when she can prove that she is morally superior to the people who rule her by their right of conquest'. The term 'morally superior' was understood by Gandhiji to whom the letter was addressed. Gandhiji's ideologies were superior to those who ruled us. His principles that he believed in made him the MAHATMA.

The Common characteristics that we observe in Diogenes, Siddhartha and Gandhiji is that they searched for something that was unique. Their belief in their principles kept them on this path. We often, during real life situations lose our affection for the principles that we stand by. You may be alone but it is because you are unique. The affection for living beings made them practice it in real life. So let us think beyond and search for...

**-BIBIN LUKOSE
T.Y.ELECTRICAL**



Charlotte Brontë's novel *Jane Eyre* champions feminist ideals. The book went on to revolutionise prose fiction and is a classic of English literature.
(1847, England)

Under the leadership of Abraham Lincoln, the 13th amendment to the U.S constitution is passed, abolishing slavery.
(1865, USA)

Rosa Parks refuses to relinquish her bus seat in the "coloured section" to a white passenger. This incidence is regarded as an international symbol of resistance to racial segregation.
(1955, U.S.A)

Dictatorships across Africa (Libya, Ethiopia, Egypt, Zimbabwe etc.) have seen a great decrease in the past decade.
(2019, Africa)

The apartheid system comes to an end. Nelson Mandela, anti-apartheid revolutionary is elected president in the first fully democratic election.
(1994, South Africa)



**A mob of people storm the Bastille, a political prison, to end the abuse of power by the monarchy. The fall of the Bastille is considered the flashpoint of the French Revolution.
(1789, France)**

**72 years since the conclusion of its great freedom struggle, India is all set to host the largest democratic election in the world.
(2019, India)**



**Mahatma Gandhi leads the Salt March (Dandi March), an act of nonviolent civil disobedience in colonial India.
(1930, India)**

**First self-governing country to grant voting rights to all women above the age of 21.
(1893, New Zealand)**

राष्ट्रीय युद्ध स्मारक

मैं गंगा की सांस हूँ,
मैं ब्रह्मपुत्र के प्राण हूँ।
मैं देशभक्ति की हूँ ज्वाला,
दुःसाहस का परिणाम हूँ।
हूँ स्वर्ण की ज्वालामुखी
और सिंह की संतान हूँ ॥

वन्देमातरम गान और तिरंगे की शान हूँ,
काशी, मथुरा, वृन्दावन का
ईश्वर मैं वरदान हूँ।

समस्त राज्यों का राष्ट्रीयसम्मान हूँ,
पूर्व सैनिकों की सामूहिक वीरता और बलिदान हूँ,
मैं सारा हिंदुस्तान हूँ ॥

-Vijay Singh



Hope That Were Lies

Once she looked up in sky
See the birds serene which fly
Without a care to live or die
Unraveling hope that were lies

She was forced to care about her look
Forced to renounce on things
in which interests she took
She was judged on the way she cook
She was divest of reading any book
The hands made to play with barbies
Are being incarcerated by darbies
The cage which never opens
Lies the dreams which are broken

Her wings were cut
Hands of society we live in
Are being stained with blood
They are reason for her oblivion
Hope and sanguinity both had lied
Broken on her bed she laid
Her eyes once wet were now dried
She may look alive but her spirit has died

Once she looked up in sky
See the birds serene which fly
Without a care to live or die
Unraveling hope that were lies

- Manav Kaul
S.Y Electrical

ओ मेरे हमराही

नज़दीकियाँ इतनी भी न हों
कि घुटन होने लग जाए ,
फासले इतने भी न हों
कि मिलने को जी न चाहे ।

एक राह पर चल रहे थे जब
मंज़िलें जाने क्यों अलग थीं ,
अब जब राहें अलग होगयी ये मन मुझसे कहता है
इसे तुझे खोने का डर सा रहता है ।

अगर हम फिर ना मिल पाए ऐ राही ,
तो समझना दो मुसाफिर एक सफर में
कुछ कदम साथ चले ,
फिर कभी ना मिले ॥

-Manish S.

SETTLING DOWN **and** **not BEING** **ALONE**

A nurse (woman) taking my temperature is young, not yet 30. Her skin was glowing away, her eyes eager to smile, her whole face nearly smiling already. She wears a crisp white shirt. Staring down at my hands, I notice the tea stain on the arm of my sweatshirt.

As she inspects my ear, I explain that I'm going away for a month, and though I know it's probably only a cold, I wanted to get it checked out before I left, just in case it was serious. She asks, sweetly curious and excited for me, a complete stranger, where I'm going, and I tell her Spiti. She asks if the trip is for work, and I say no. I just want to get away. She asks if I know anyone up there, if I'm visiting family or friends. Again I say no, my voice now shaky. I see confusion hit her face, a flash of concern. Alone? she asks. I nod. She smiles, this time not because she wants to, but because she has nothing else to say.

It's really not the weirdest thing in the world, taking a break from Mumbai, trading my small family apartment and metro traumas for a farmhouse with mountain views at less than half the rent. But for a single, 38-year-old woman, leaving the city to be completely alone for months seems distinctly strange to people. My aloneness, at an age when people expect me to be settling down, when—according to popular studies and nagging mothers everywhere—these next few years may be my last chance to have kids, makes people uncomfortable. They expect me to assure them that I don't want children or don't believe in marriage, to give them permission not to worry for

me. And while I wish I were one of those women who could flaunt her disinterest in these typical paths, I'm not. I'd love to find love; I always assumed I'd have kids. It's just not happening. What I'm realizing now is that the question isn't whether I want those things. Sure, sounds nice. The bigger question for me is: at what cost?

While a woman's late-thirties mark the beginning of the end of her fertility, they also seem to mark the beginning of some next level self-discovery. As my other childless female friends and I enter the pressure cooker that is this age, many of us are starting to examine our lives more honestly than ever. When you assume life will float a certain way—the way movies and books and nearly all stories end for women—and then it doesn't, you're forced to ask yourself which direction you really want to go. Forcing myself to consider this has been unendingly difficult and possibly the best thing that's ever happened to me. It was through this line of questioning that, after many years of misguided, albeit ambitious attempts to "have it all," I allowed myself to take traveling and writing seriously. So, while on most fronts I find myself deviating from the path I'd always imagined, in some sense, I did find love.

Sitting alone in my work cabin, for example, which I've recently allowed myself to accept is my absolute favorite thing to do, I'm plagued by the worry that my future self will look back on my new, reclusive self with venom for not dating more before it was too late. The parental chorus that says there is nothing more powerful than having children rings in my ears, even the dumb saying that you are not complete without your "other half" haunts me daily. Yet after decades of chasing love, I have never felt more complete than I do now, alone.

When I explain that I like being alone, people call me lucky, like I am a different species, and I can't help but laugh. But when I consider interrupting my traveling with a date because I basically have to meet the love of my life tomorrow if I want to have children, choosing whether to go out and fall in love is not really the decision I'm weighing. I'm weighing the decision to

interrupt whatever it is I'm happily doing alone for the more likely alternatives—spending time and money on spas because men continue to suggest I should look after my skin, monitoring what I eat, pretending to laugh at mediocre jokes and fill gaps with too many questions, pulling men out of their emotional shells, work that's become reflexive but drains me to my core.

Even now, especially now, there are too many ways I'd rather spend my time. And yet this question of kids still haunts me. These days, I ask myself if I want kids as often as I contemplate another snack, which is to say constantly. In my most honest moments, my hunch is that I don't want children.

My hunch is that any desire I might have is mostly a superficial concern about how out of place I'll feel without them. The same way I feel out of place without a partner. The same way I feel out of place when my hair is wild, natural, and just how I like it. The same way I feel out of place for not wanting to go outside when it's sunny because the only ground I want to explore is the ugly terrain of my mind and I'd prefer to do that from the comfort of my couch.

**By
Dr. Hansa Jeswani**



2019 will go down in the history as one of the most important year in the field of Artificial Intelligence. That is because Geoffrey Hinton, Yann LeCun and Yoshua Bengio - the founding fathers of modern Deep Learning (the most impactful subfield of AI) also credited with bringing the field back from its prolonged dormant period received the coveted Turing Award which is regarded as the technology world's equivalent to the Nobel Prize. This incident acknowledges the fact that learning based techniques are the game changers of contemporary innovation. But the sad truth is, a media believing layman is "concerned" after the words Artificial Intelligence fall on his/her ears. Concerned about evil sentient robots wrecking havoc through their iniquitous motives. Concerned about the future of humanity.

Let's look around ourselves, what do we see? It's an art gallery of marvelous creations. We see and use things today which would have been perceived straight out of a science fiction novel just 20-30 years back. Self driving cars? Check. Universal Language translators at the tip of your finger? Check. Content based on the things you love on Netflix, YouTube, Amazon etc. constantly being served to you? Check. Treating cancer efficiently? Check. The list is nearly non-exhaustive. It can be noted that there is one similarity amongst all these things, they are all powered by artificial intelligence. This "magic" is possible with help of various mathematical based pattern recognition algorithms, statistics, data and computer hardware. Machine Learning, AI, Deep Learning are buzzwords recently due to the last two aforementioned factors, there is huge and easy availability of data that can be analyzed and the computer hardware(mainly Graphics Processing Unit) required to process this data and perform mathematical operations on this data which is constantly being upgraded at a very rapid pace. All the big technological firms in the world are investing heavily into the research of novel algorithms to power various services -from Google maps' route indicator to Facebook's auto-tagging photos feature. These companies are leveraging this technology to maximize their

ARTIFICIAL CONCERN?



ATHARVA ASHOK PAGARE
T.Y BTECH, ELECTRICAL

profits but are also making the research available on internet which free of cost. This not only enables people to constantly upgrade their knowledge at their convenience but has also resulted in a healthy community of people who actively participate into improving the available research and creating amazing projects.

But have we reached at the peak in the field? The answer is a big NO. We are way off reaching anywhere close to human intelligence, many AI powered products are not 100% accurate all the time, these products make silly and embarrassing mistakes occasionally and we still don't know how to integrate cause and effect functionality in various algorithms. The field is at a nascent stage and is becoming ready to cause impactful changes in the world.

So is AI really dangerous and will it cause the apocalypse? The answer to this question is not a definitive one. It is upto us to choose the answer to this question. Popular fiction and ignorant media outlets certainly have certainly influenced many people to believe so. And the problem is many people believe that this is the complete truth. Using AI for rogue militant operations is a potential application, but it is unethical, immoral and downright inhuman. This power falling in wrong hands is a recipe for disaster, certainly. But so are nuclear weapons which if found by wrong hands will potentially cause extinction of human race. Prescription drugs, ammunition, even the internet if used by malicious sources can be detrimental for humans at a scale which we probably can't even imagine. Have we discarded any of the above things for their potential dangers? No, we have come up with statutory rules for controlling misuse.

Can this also be not achieved for AI? Isn't taking responsibility for our actions a moral choice? Are we not depriving ourselves of a better future if we just stay afraid? The level of automation that we allow in our lives is a choice that we have to take judiciously to avoid mishaps. Life threatening and critical decisions don't necessarily have to be carried out by heartless mathematical algorithm. Another issue that is frequently brought up is AI swallowing jobs of millions of people. Yes, automation will certainly result in decrease of manual labour, and same has always been the case during a tectonic shift in global economic scenario. There was a major paradigm shift during the industrial revolution - machines replaced majority of human jobs. But the revolution also caused exponential rise in demand and hence employment rate has not drastically collapsed since then. New technologies turn the luxuries of the past into the needs of the present, and it requires labor to support those new necessities. A person who holds a single job performs many different tasks — and although some of these are vulnerable to automation, others are not. Thus, whereas it's not accurate to say that AI will replace many jobs, AI could take over many of the tasks that make up today's jobs. Predictable physical tasks will be easiest to automate. Machines are great at high-volume, routine work. They use mechanical power to replace human brawn. They will also replace people in rote clerical and menial tasks. But they will remain poor at abstract tasks such as complex problem solving, and even worse at interactions that require empathy or common sense. Nor will they easily handle new environments in which little data is available or there is a large variance and uncertainty in some parameters which determine the outcome. Employers will need to sharpen their skills, that is one truth that we need to acknowledge as soon as possible. The illiterate of the 21st century will not only be those who cannot read and write, but those who cannot learn, unlearn, and relearn. As a community, we have committed a lot of mistakes and sins and we have learnt from them. So why are we focussing so much of our time and efforts fearing and worrying about ill-effects of AI, when we can be solving pressing questions around us like world poverty, enhancing healthcare globally through it's amazing powers. Evolution has made us into beings who have phenomenal survival instincts and have the amazing emotion of love and affection towards other beings. As a species we have survived hundreds if not thousand years of torment, suffering, and we are still going very strong because we are conscious, aware and always have strived to make our lives easier and convenient. So what do we even have to fear? Let's create a better tomorrow. Even the brightest of bulb casts a shadow when obstructed. Let's learn from our earlier mistakes and choose to stay in light this time. Let's be concerned about the right things.

When Words Lose Their Voice

*My words lose their voice
when they see shining stars in the
dark night*

*My words lose their voice
when the rising sun is cheered by
the chirping sound of birds
early morning*

*My words lose their voice
when the efforts of achieving
turns into the celebration
of success*

*My words lose their voice
when the struggle to meet our
loved one turns into a day spent well
with them*

*My words lose their voice
when a person in his bad times
is supported by his
friends*

*My words lose their voice
when unexpected things makes us
surprised*

*My words lose their voice
when I am surrounded by the company
I wish to be*

*Lastly, my words lose their voice
when the surrounding is filled with
peace and happiness!!*

*-Aditi Mohdakar
SV Electrical*

INTERVIEW

With Lt. Rohit Patwardhan



Lt. Rohit Patwardhan is an alumnus of SPCE Mechanical Batch of 2017. Originally from Pune, joined the Indian Military Academy, Dehradun, post graduation. Commissioned in 2018, he was awarded the prestigious 'Silver Medal' as the 'Best Technical Graduate Cadet' by the Indian Army.

Interviewed by Aarushi Dave

1. At what post are you currently serving? Where are you located?

I am commissioned into an Engineer Regiment currently posted to Tawang, Arunachal Pradesh.

2. What inspired you to take up this daunting profession of serving our nation? Since childhood did you always aspire to join the armed forces?

Well, I wanted a life of adventure. And being in armed forces is the most meaningful adventure there is! I get my daily fix of excitement, roaming around remote and beautiful places, and I can do my bit for my country—all at once! And yes, I have seen my father serve in the army since I was a kid. And like all small kids, I always wanted to be like my Baba.

3. How did you prepare to enter the armed forces after a degree in engineering? Could you shed some light for the students aspiring for the same?

Engineering actually prepares you really well for the army! An engineer is expected to be a problem solver, un-daunted by any obstacle. Using his/her theoretical knowledge to solve problems on ground. That is exactly what is expected from an officer in the armed forces. As for what I did in college, I enjoyed every bit of college life! I loved participating in every fest, be it SPACE, SPECTRA or SPIRIT, especially anchoring events. I also captained the football team and played basketball. All these experiences count more than merely your pointer.

4. Tell us about your life after you entered the academy. How have the lessons learnt there influenced you?

Academy life is TOUGH.

As they say, "They break you in every way and remould you into an officer." Mornings begin before the sun rises every single day. Getting through strenuous PT drill, firing, weapon training and outdoor services is tough. And you're supposed to be studying at the same time. All in all- it was the most exciting, fast paced and strenuous time of my life.

The most important thing that IMA taught me is that you're tougher than you think you are. And ALWAYS choose the harder, right instead of easier, wrong.

5. What experiences in the armed forces will have an everlasting impact on you? Is there any particular incident/day that you will never forget?

The army lays a lot of emphasis on the spirit of camaraderie amongst the soldiers. In the IMA, my company was on a 'speed march' which marked the culmination of our final outdoor exercise 'Chindits'. It involves traversing rocky mountains, crossing a ridge and running across approximately 45-50 km of open country in a span of one night. All this while carrying an 18kg load. It is near impossible for a man to do it alone. I surely wouldn't be able to. But pushing each other, carrying each others' pack and rifles, sharing water and chocolates, all of us we did it just like every other Gentleman Cadet in the country.

That camaraderie, that spirit of brotherhood which pushes us and inspires us to achieve the impossible is what I will never forget.

6. Please share with us some fond memories from your student life in SPCE. How did these years shape you?

SPCE is my alma mater. I spent the 4 most important years of my life within that little campus. Roaming marine drive, sitting besides Bhavan's lake, hogging in the canteen, and dancing on DJ nights in SPACE. Being a 'hostel-ite', my LIFE became SPCE. I made the best of friends living side by side with some of the best brains in Maharashtra. The kind of talent that lies within those yellowing walls of our college building is astounding! I tried to learn from everyone around me. The last night panic before exams, bunking classes, playing football, and the sleepless nights and busy days of our college fest. These are the memories I cherish the most from my time in SPCE. I owe all I have done till now to my college. To the professors, who along with engineering knowl-

edge also impart so much more. They are all role models to us, but I would like to specially mention Dr.Raykar- a more thorough gentleman I have never seen.

And to my fellow classmates and hostel buddies who I can never forget!

7. As a youngster serving the country, could you lend some wisdom for the students of SPCE.

I am too inexperienced and young to impart wisdom! But one brotherly advice I would like to give is that- these 4 years go faster than you can blink! Make the most out of them.

Study hard, play hard, party harder!

Participate in everything, make the best of buddies.

This time you will cherish forever.

Thermal Engineering Students Association Sardar Patel College of Engineering



Thermal Engineering Students Association (TESA-SPCE), an academic forum of students of Mechanical Engineering Department, SPCE, was incepted on 30/10/2017.

Prof. U.N.Gaitonde, Department of Mechanical Engineering, IIT Bombay graced this occasion with his key note address and valuable guidance to our students. Prof. Parag Muley took the initiative for creating this forum as Faculty Advisor.



Key note address by Prof. U.N. Gaitonde at Inception of TESA - SPCE



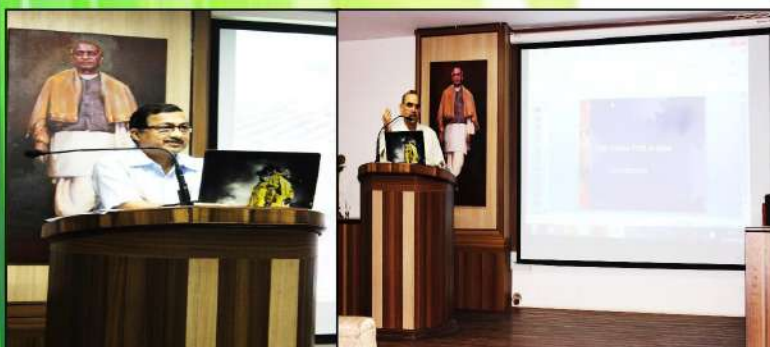
Practical sessions AutoCAD workshop by TESA-SPCE student

A Two Day program of '*AutoCAD Workshop*' was organized by TESA-SPCE on 20th and 21st January, 2018 for the academic benefit of students of F.Y. B.Tech. Semester II of our Institution under the guidance of Prof. Parag Muley. The contents of AutoCAD Workshop were designed as per course contents of Engineering Graphics-II for Semester-II. The theory and practical sessions were conducted by student members **Varad, Divyesh, Sharada, Suraj, Avanish** and others of TESA-SPCE. Total 42 students of all three branches of F.Y.B.Tech. (Mech/Civil/Elect) Semester-II participated in this Workshop.

A One Day Program of '*Industrial visit to Reliance Dahanu Thermal Power Station (DTPS)*' was organized under TEQIP-III on 10/04/2018. The visit was arranged by Prof. Parag Muley for students of B.Tech. (Mech.), Semester-VIII and Semester-IV. Total 38 students attended this Industrial visit for their academic benefit.



Industrial Visit to Reliance Dahanu Thermal Power Station



Address by VicePrincipal
Prof. M.M.Murudi

Prof.S.V.D.Nageshwar Rao, SJMSoM,
IIT Bombay giving lecture on Economics

A One Day Program titled '*Management for Engineers*' was organized by Prof. Parag Muley under TEQIP-III on 24/04/2018 in the academic interest of students of B.Tech.(Mech.), Semester-VIII. **Prof.S.V.D.Nageshwar Rao, SJMSoM, IIT Bombay** and **Mr.T.N.S.Mehtab, AGM (Retd.), CRISIL**, delivered lectures on Engineering Economics and Financial Management respectively. The program was attended by 65 students of B.Tech.(Mech), Semester VIII for their academic benefit.

Thermal Engineering Students Association Sardar Patel College of Engineering



'One Week Internship Training Program at Reliance Dahanu Thermal Power Station (DTPS)' was organized from 9th to 14th July, 2018 by Prof. Parag Muley for the academic benefit of our students. Total 30 students of S.Y.B.Tech. (Mech/Elect) successfully completed this Industry Internship which included Classroom Lectures and In-plant Training sessions by experts from Reliance DTPS on Power Plant Familiarization.



One Week Internship Training Program at Reliance DTPS



Lecture for Indian Traditional Knowledge by Ujjwal Rane Sir

A Lecture titled "*Mathematics by Bhaskaracharya*" was organized on 12/10/2018 under TEQIP-III. Mr. Ujjwal Rane, a distinguished alumnus of Department of Mechanical Engineering, SPCE, delivered the lecture. The lecture was arranged for the mandatory course of Indian Traditional Knowledge instructed by Prof. Parag Muley. Total 65 students of Second Year B.Tech. (Mech.), Semester-III attended this program.

Ms. Tasneem Kabir & Ms. Priti Shete, T.Y. B.Tech.(Mech.) student members of TESA-SPCE, were the **WINNERS** in Technical Paper Presentation at '*ABHIYANTRIKI-2018*', organized by *K J Somaiya College of Engineering, Vidyavihar, Mumbai*. They presented their paper titled '*Heat Exchangers in Nuclear Power Plants*' under the guidance of Prof. Parag Muley, on 5th and 6th of October, 2018. Total 21 teams from various Engineering colleges of University of Mumbai contested in this event.



Felicitation of Ms. Tasneem Kabir and Ms. Priti Shete, Winners at ABHIYANTRIKI-2018, by Prof. Raykar and Prof. Muley

Currently 11 student members of TESA-SPCE of T.Y.(Mech.) are working on a project titled '*Development of Experimental Set-ups for Thermodynamics Laboratory*', under the guidance of Prof. Parag Muley. The project has been granted a financial aid of Rs 2.16 lacs from our institution under TEQIP III. This project work is an attempt of in-house development of laboratory set-ups by TESA-SPCE student members. These laboratory experimental set-ups will be utilized as learning resource for academic benefit of students in the forthcoming batches of Mechanical Engineering.

TESA-SPCE Team of motivated students led by **Student Coordinator Divyesh Jilka** of T.Y.B.Tech.(Mech.) is committed for undertaking various activities of academic benefit of students with support of Mechanical Engineering Department.



Electrical Engineering Students' Association (EESA)

Electrical Engineering Student's Association (EESA) is a committee comprising of the Third-year students of the electrical department, under its member faculties and supported by a co-ordinator team from the second-year students. The committee stands as the representative body for all the students of the electrical department in the college.

EESA strives to improve the co-curricular life for electrical students with facilitation provided by the faculty members of electrical department and under the guidance of the Head of Department- Dr Anupa Sabnis. EESA has been responsible for organizing various activities which are designed to provide over all development for the students by imparting technical, communication and management skills in addition to their academic growth.

The committee has been organising various workshops, technical events, seminars, industrial visits as well as fun and sport's events to improve students' understanding of core curriculum along with inculcating team work, networking and communication skills.

EESA committee for the academic year 2018-19 has conducted the following events and activities:

- Orientation programme for First Year students- Freshers were introduced to the college culture of SPCE, they were briefed in detail about the student committees, the council and about different clubs active in college.
- Pointer and scientific calculator workshop- The students of first year were taught in depth the methods and steps of using the scientific calculator. They were also given a brief idea about how the grading is done in the CGPA system.
- SPECTRA- The committee members were on the core committee of the annual technical fest of SPCE, SPECTRA 2019 along with other dept. committee as well as the student council members. The members of the committee were responsible for all the events organized under the Electrical department. Their responsibility ranged from raising sponsorships for the events to managing and executing them. This year the members were successful in reinstating the robotics event Sumobots which was scrapped for the previous year. Other events like Robowars, SPRC and Robosoccer were extremely successful.
- EESA Cup- EESA cup 2019 was the annual sports event of the committee where all four classes of the department competed in various indoor and outdoor sports events for the trophy. All the popular sports like cricket, football, volleyball, throwball, carom, chess as well as computer games like counter strike were organized under the EESA cup and the third year emerged as the overall winner of the Cup with the second year as the runner up.

Other activities of the EESA committee include the SPCE Cup in association with MESA and CEA, treasure hunt, Industrial visit, Teachers Day celebration etc. The committee is thankful for the consistent support of the HOD and member faculties for all its endeavours. It has tried its best to serve the students in the best possible ways and hopes that the future committees will keep on raising the benchmarks by bringing in more activities and events for the welfare of the students.



Civil Engineering Students' Association (CEA)

Civil Engineering Association (CEA) is a committee consisting of third year students and faculty members of the Civil Engineering department. We work with the vision of the welfare and holistic growth of all civil engineering students. The committee strives hard to fulfill the co-curricular requirements of the students, aided by CEA committee advisor and ex-officio Prof. S. J. Kumbhar and under the guidance of Dr. M. M. Murudi, the Head of Department. The committee is involved in organizing various activities which enhance the knowledge of students. It helps in improving the technical, communication, management and soft skills, apart from the curriculum and academics of the college. The committee not only organizes various workshops (technical and non-technical), seminars, guest lectures and Industrial Visits to enhance the students' understanding of the core curriculum, but also conducts several fun events and interesting activities which inculcate team building, team working, networking and communication skills.

It also supported the Students' Council and the Core-SPECTRA team with the Annual Technical Festival SPECTRA-2019. Many events, testing the knowledge of Civil Engineering were organized, with participation from Maharashtra and several other states.

The activities and events organized by CEA for the year 2018-2019 are as follows:

1. AAGAZ (23rd August 2018): The official orientation and fresher's meet for first year and direct second year students.
2. Grading and Pointer workshop and Scientific Calculator workshop for first year students.
3. One day full Site Visit (7th Sept. 2018):Gowardhan Eco Village, Wada, Palghar for third year students under the course Development Engineering & course instructor Dr. Reshma Raskar-Phule. It provided practical examples of sustainable civil engineering structures.
4. Trekking Adventure (8th Sept. 2018): Kothaligad Peth Fort.
5. Guest Lecture (28th Sept. 2018): On "Young Builder Innovation Program" by Mr. Sandeep Koul, Assistant Vice President, INTERARCH Buiding PVT. LTD.
6. SPCE CUP – 2018: Annual sports festival of college (in association with EESA & MESA committees).
7. Blood Donation Camp (25th Oct. 2018).
8. CEA IV 2018 (5th – 15th Dec. 2018): 10 days tour in Uttarakhand.
9. Treasure Hunt (28th Jan. 2019): A fun event which helped students learn team building organized throughout campus.
10. SPECTRA 2019 (1st – 2nd Feb. 2019): The Annual Technical Festival of SPCE organized in association with Students Council, EESA and MESA.
11. Guest Lecture (28th March 2019): On "Soil Exploration & Sub-surface Investigation Techniques" by Mrs. Shubhada Jagtap, Chief Consulting Engineer - MRUDA GEOTECH CONSULTANTS & Geotech Consultant for Mumbai Metro Line-4.
12. Technical Site Visit (29th March 2019): At Reliance Infra Astaldi JV, Mumbai Metro Project Line-4, Kurla for third year students, under the course Geotechnical Engineering-II & course instructor Dr. P. G. Gaikwad. It provided practical & technical insight of soil testing & exploration.
13. CEA CUP 2019 (8th – 16th April 2019): Annual Sports Festival of Civil Engineering Department.

The committee looks forward to serving for the betterment of the students of the civil department. It aims to continue putting all its efforts in coming up with more events and activities that enrich the years that students spend at SPCE. Further, it hopes to provide the students an enhanced knowledge of what they study, and provide a humble platform to apply it.



Mechanical Engineering Students' Association (MESA)

Mechanical Engineering Students Association (MESA) is a students' committee comprising of Third Year Mechanical students and faculty members of the Mechanical department, for the welfare and improvement of students. The committee works hard to fulfil the co-curricular requirements of students, with the help of member faculties and under the guidance of Prof Megha Janbandhu and the Head of the department Dr. Nilesh Raykar. The committee not only does co-curricular activities but also extra-curricular activities including interaction with the industry; industrial internships, industrial visits, sports and seminars.

The various activities and events organized by MESA for the year 2018-2019 are as follows:

- Stress Management workshop for first year Mechanical students on 31st August 2018.
- Teachers Day function on 5th September, 2018.
- 1 Day Trek to Karnala on 9th September, 2018.
- SPCE Cup, an annual sports event, from 3rd October to 18th October, 2018.
- 9 days tour to Uttarakhand from 7th December to 15th December, 2018.
- Training at Air India from 18th December, 2018 to 13th January, 2019.
- Training at BEST from 17th December 2018 to 14th January 2019.
- Blood Donation camp in association with Bombay Blood Bank on 22nd January, 2019.
- RCF visit for final year students on 18th February 2019.
- CNC workshop for first year students from 20th February to 26th February 2019.
- MESA Cup, a departmental annual sports event from 1st April to 9th April, 2019.

The committee has always worked for the betterment of the students to the best of its abilities and looks forward to come up with more events activities to enrich the years that students spend at SPCE.

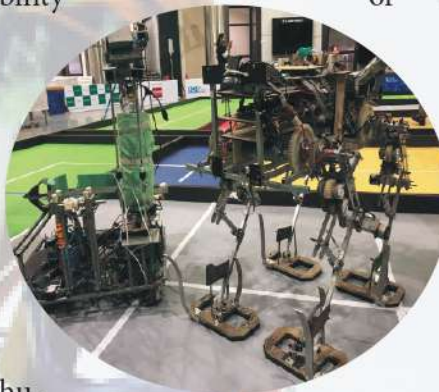
THE JOURNEY OF ROBOCON 2019

SPCE Robocon is an Under-Graduate Robotics team under Sardar Patel Automation and Robotics K'lub (SPARK) from our College. The team consists of mechanical and electrical engineers who work in unison. The aim of our team is to make inexpensive, indigenous, intelligent and innovative robots. In Academic Year 2018-2019, the team started with summer training for the new members of SPARK. Summer training included dividing members into three specific branches viz. Circuitry, Manufacturing and Programming. Software such as CATIA V5, Eagle and Arduino IDE were also taught during the training. SPCE Robocon participates in various national and international Competitions which include:

- ABU Robocon
- International Robotics Challenge (IRC), TechFest
- Meshmerize, TechFest
- Code-Decode, TechFest
- VJTI Robotics Challenge (VRC)
- Sardar Patel Robotics Challenge (SPRC)
- E-Yantra

The team stood Runners-up at the Internationals and Nationals at IRC, TechFest-IIT Bombay. The team has been winning VRC every year since 2014 and securing podiums at SPRC for consecutive years and this year was no different. SPARK Team consisting of Juniors trained under Robocon Team stood 4th at the VRC 2019. A workshop was conducted for SPARK Members on Radio Fre-

quency controlled Wheeled Robot wherein attendees were taught fundamentals of robotics. The team also conducted testing of new mechanisms and techniques to make efficient functionality possible. This year, the team extensively tested using Raspberry Pi for Image Processing which wasn't used in previous years. Also, to solve challenge of having multiple input and outputs to Microcontroller, team cascaded two Arduino Boards and combined them with Raspberry Pi. Learning from previous years limitations, team tested using of Encoders so as to reduce any possibility of



human error. ABU Robocon is the principal competition of our team. It is a theme-based competition, hosted by Mongolia this year. It has two phases: National level (Robocon India) and International level (ABU Robocon). Winners of National Level represent India at International Level. This year the national level winner is shortlisted after three stages with elimination at every stage.

The competition involves manu-

facturing two robots for assigned tasks, one manually operated, MR1 and second completely automatic, MR2. Manual robot has two main challenges, tracing fixed path with some hurdles in between and pick and throw an object called Shagai. Autonomous bot has a bigger challenge as it has to walk on 4 legs i.e. legged robotics, introduced for the first time in history of this competition. The robot has to follow non-linear path with hurdles and climb up a ramp to finally complete the task. 4-legged mechanism : Three mechanisms were tested individually on the automatic robot:

- Hoeken's Mechanism
- Piston and Cylinder
- Servo Motors

Out of the above three mechanisms, Hoeken's Mechanism was selected as it was the most stable and achieved adjustability according to MR2 and arena. Raspberry Pi and camera are used for obstacle detection and line following using image processing. The arena according to this year's theme was also built in the college workshop for robot testing. Amongst 86 colleges participating from across the country, the team stood AIR 1 in Stage 1 and Stage 2 of Robocon India. It secured AIR 9 in the final stage of the competition. The team also received an award for 'The Best Technical Report/ Best solution idea' at the national stage.



SPCE RACING

“I couldn't find the sports car of my dreams, so I built it myself,” this famous quote by Ferdinand Porsche is perfectly true for the engineers at Team SPCE Racing that participates in Formula Student competitions. Formula Student is an exclusive student design competition focusing on safety, good engineering practice and engineering design.



Team SPCE Racing had participated in Formula Bharat 2019, a renowned competition for design and fabrication of Formula style cars, held at Kari Motor Speedway, Coimbatore, from 23rd January to 27th January 2019. Months of hard work and many sleepless nights finally paid off as our car, Klein 4.0, slalomed around cones, drifted around curves, negotiated tight corners and finally zipped past the checkered flag. The revving sound of our engine was suppressed by the echoes of our team name across the speedway. Miles of stretches of tire marks left on our testing tracks helped us earn a mark of respect in the formula student community.

The team cleared Mechanical Scrutineering on the 24th January (the 2nd day) becoming the 6th team at the event and the first team from Mumbai to clear it. The next day (25th January) saw the team clear Tilt test and Noise test as per schedule. The team cleared Brake test, and thus the entire technical inspection on 26th January and was cleared to participate in the dynamic events. Endurance event was to be attempted on 27th January, where the team had a good start and finished 9 laps before driver change in quick succession. However, the team faced an issue of overheating of the engine due to less effective cooling by the radiator. The engine could not be started in the allotted time after driver change as a result and we could not complete endurance.



The team stood 4th in autocross, 5th in business plan presentation, 7th in Skidpad, 8th in overall dynamics and secured an overall rank of 11th out of the 85 teams. It also presented in the FabHeads Composites Finals, an additional event in which the top 7 teams presented their design and use of composite materials like carbon fibre in their vehicle.

It was an honour for the team to get an opportunity to discuss with international judges, Claude Rouelle, Pat Clarke and Peter Jones, from whom we got important tips and necessary improvements for the next car. Their suggestions will be effectively implemented in the next season.

Formula Bharat 2019 was a successful competition for our team, where we discovered our potential to be among the best. The 5 days were a great learning experience for the team, where it diagnosed and solved problems in the way of clearing technical inspection and also having ideal setups for the car at the various dynamic events. The team also interacted with other teams from various colleges across India and now commands a position of respect among them.

Our team is all ready to set its foot on international tracks now. We have qualified for Formula Student Czech and Formula Student East competitions and plan to participate in an International Formula Student Competition next season!

“Winning isn't everything, it is the will to win that matters more,” We hope to get back stronger and win the next competition, Formula Bharat 2020, and also give an outstanding performance in the Internationals.

SPCE WAVE

It has been extremely eventful year for SPCE WAVE (Wing of Aerial Vehicle Engineers), the official aero-modelling team of SPCE. Formed in 2017, the team competed in SAE-ISS Aero Design Challenge in July 2018. In their debut performance, the team secured an overall All India Rank 12, in the Regular Class Aircraft (RCA) category.

This rank is particularly commendable for a first-time performance. This has been possible due to the continuous and diligent efforts by the students and the tutelage of Mr. Sohrab Mistri, the team's pilot and mentor. The team was guided by our faculty Dr. R. S. Maurya and Dr. Nilesh Raykar.

The team successfully conducted a two-day long workshop on drone making on January 26-27th 2019. The workshop was conducted in collaboration with Avian Aerospace, a UAV development start-up from Bangalore. In March 2019, two teams from SPCE WAVE competed at the National Aeromodelling Challenge held by Boeing, at IIT Kanpur.

This year in July, SPCE WAVE will be competing in two categories is SAE-ISS Aero Design Challenge 2019: Regular Class Aircraft (RCA) and Micro Class Aircraft (MCA).

The competition will be held in July 2019. The team hopes to continue their endeavour to promote the love of aero-modelling and UAVs in SPCE.

FACULTY

electrical



mechanical



civil



first year



ELECTRICAL



1st



2nd

3rd



4th



MECHANICAL



1st



2nd

3rd



4th



CIVIL



1st



2nd

3rd



4th





MAGAZINE COMMITTEE

2018 - 19



ASHWINI BIDWAI
MAGAZINE SECRETARY



SOURISH GAVALI
MAGAZINE SECRETARY



MANAV KAUL
ENGLISH EDITOR



RIYA METE
CREATIVE HEAD



AARUSHI DAVE
ENGLISH EDITOR



AMAN KUNDRA
GRAPHIC DESIGNER



SARANG CHAUDHAR
GRAPHIC DESIGNER



AKASH BANGAR
GRAPHIC DESIGNER



MANISH SAINANI
HINDI EDITOR



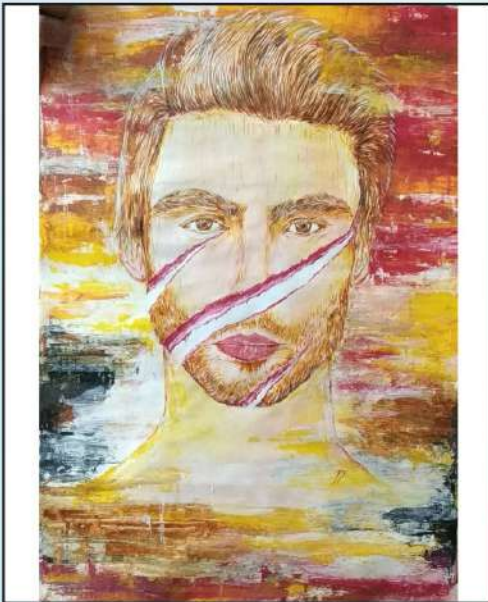
PIYUSH WAMAN
ASSISTANT EDITOR



Nazneen Ansari
S.Y.Electrical



Prashil Wankhede
S.Y.Electrical



Deepak Pugoankar
T.Y.Electrical



Deepak Pugoankar
T.Y.Electrical



Aman Kundra
S.Y.Electrical



Prashil Wankhede
S.Y.Electrical