



**K. J. Somaiya College of Engineering  
Vidyavihar, Mumbai – 400 077**

# **Mechanical Department**

***News Letter***

**July–December 2017**

## Departmental activities

- Dr. R. R. Lekurwale organized 3 days workshop on Medical Device Hackathon (MEDHA-2017) during 14-16 July, 2017 conducted by IIT, Bombay.
- Prof. Sangeeta Bansode arranged a guest lecture on Arduino programming in robotics application on 18 Nov 2017 by second year PG student Asif Shekh to UG students

## Faculty Development Activities

- Dr. S. Bhusnoor given two guest lectures one at pune and one in our college in AICTE STTP.(details)
- Dr. N.R. Gilke and Dr. R.R. Lekurwale attended 2 days programme on “Industrial Internet of Things (IIoT) – Indian Context” organized by R.V. College of Engineering, Bengaluru – 59 Sponserd By AICTE New Delhi during 11-12 November 2017.
- Dr. N.R. Gilke and Dr. R.R. Lekurwale attended an academic Audit For Effective Curriculum Implementation and Evaluation organized by NITTTTR Bhopal Extention Center Pune during 18-22 Dec, 2017
- Prof. Shilpa Bhambure, Rajesh Pansare, Priyanka Patil and Harshalata Rewaskar have attended a work shop on MEDHA-2017, medical device hackathon arranged by IIT, Bombay at KJSCE during 14-16 July-2017
- Prof. Shivangi Thakkar completed Eight weeks online course on “Sustainability through Green Manufacturing Systems: An Applied

Approach”, from 21 August 2017-13 October 2017, Exam on 22nd October 2017 conducted by NPTEL with IIT Kanpur.

- Prof. Vilas Dhore completed an online course offered by NPTEL on Nature & Properties of Materials during 24 July 2017- 15 September 2017
- Prof. Shilpa Bhambure attended 3D printing workshop at IIT, Bombay held during 21-22 August 2017.
- Prof. Shilpa Bhambure and Rajesh Pansare have attended Medical Device Innovation Camp during 13th- 17th September 2017 at COEP organised by IIT Bombay, COEP Pune & VNIT Nagpur
- Prof. Sandeep Chopade attended ISTE approved STTP on Sensor technology organized by KJSCE.during 4Dec – 9 Dec- 2017
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## Paper Publication/ Presentation by faculty

- Dr. S. S. Bhusnoor published one research paper in international conference at London titled “
- Sagar Dnyandeo Talele and Dr. Ramesh Lekurwale, published a paper on “Different Actuation Mechanisms For End Effectors Of A Laparoscopic Surgery Instrument”, in 59<sup>th</sup> National Convention Of Indian Institution Of Industrial Engineering, Jawaharlal Nehru Engineering College, Aurangabad.on 14th September, 2017.
- Sachin Shinde, Dr. Ramesh Lekurwale, published a paper on “Parametric Mathematical Modelling and Aspect Ratio Optimization of Eccentric Spiral Profile Flexural Bearing through Finite Element Analysis Studies”, in International Conference On

- Advances In Thermal System, Materials And Design Engineering (ATSMDE) 2017. VJTI Mumbai, 21-22 Dec, 2017. (Publication in Elsevier Proceedings is in progress)
- Prof. V. S. Narawane presented a paper titled “Cloud Based Manufacturing Systems- Issues, Challenges and Applications” at 18th Asia Pacific Industrial Engineering and Management System (APIEMS) International Conference at Hyatt Regency, Yogyakarta, Indonesia held during 3-6 December, 2017.
  - Prof. V. S. Narawane presented a paper titled “CloudIoT: Applications, Issues and Challenges” at International Conference On Manufacturing and Industrial Engineering (ICMIE-2017) held at SVNIT, Surat during 21-23 Dec 2017
  - Prof. Sangeeta Bansode presented a paper on “Optimized design of feeding system for complex steel (CF8) investment casting to improve quality and productivity ” in International Conference On Advances in Thermal System, Materials and Design Engineering (ATSMDE – 2017) held at VJTI, Mumbai during 21st – 22nd December 2017
  - Prof. Vilas Dhore presented paper titled “Experimental Analysis and Power Law Model of Multi-wall Carbon Nanotubes Yield on Fe-Co- Ni Ternary Metal Catalyst” in International Conference On Advances in Thermal System, Materials and Design Engineering (ATSMDE – 2017) during 21st – 22nd December 2017
  - A.G. Bhave and Sagar V. Wani published a paper on 'Optimisation of solar water heating system design using production functions'; Invertis Journal of Renewable Energy; v. 7, no. 4 Oct.- Dec. 2017.
  - Prof. Ramola Sinha presented a paper on “Mathematical Modeling of Heat Losses from Cylindrical Cavity Receiver in Solar Parabolic Dish” in International Conference on Advances in Energy Research (ICAER-2017), IIT Bombay in 12-14 dec, 2017
  - Prof. Ramola Sinha presented a paper on Numerical Investigation of Total heat loss from Cylindrical Solar Cavity Receiver under Wind Conditions in International Conference on Advances in Energy Research (ICAER-2017), IIT Bombay in 12-14 dec, 2017
  - Prof. Ramola Sinha presented a paper on HEAT LOSS FROM CYLINDRICAL CAVITY RECEIVER IN SOLAR PARABOLIC DISH SYSTEM: A REVIEW in Heat and Mass Transfer Conference (IHMT-ASTFE-2017), BITS Pilani, Hyderabad, India. 27<sup>th</sup> -30<sup>th</sup> December 2017
  - Prof. Ramola Sinha presented a paper on Effect of Boundary Condition on Heat Losses from Solar Cavity Receiver in International Conference on Advances in Thermal System, Material and design, VJTI, Mumbai during 21-22 Dec, 2017.
  - Dhairya K. Mehta, Nikhil R. Karadge (LY Mechanical) presented a paper on “A Mathematical Model to Solve the problem of Dynamic Cell Formation and Plant Layout considering Machine Reliability” at

SVNIT, Surat under the guidance of  
Prof. V. S. Narawane

### Third Year

No.	Name of Student	GPA
1	ABDUL RAUF ABDUL HAMID BASHIRUNNISA	9.8
2	QAZI FARHAN HUSSAIN ILYAS HUSSAIN SALMA	9.68
3	CHANCHAD NEEL VALJIBHAI HANSA	9.56
4	SOKHI AMRITPAL SINGH TIRLOCHAN SINGH SEEMA KAUR	9.36

**Proposals submitted by  
faculty**

### Student's Academics Jan-April- 2015 Toppers

#### Second Year

No.	Name of Student	GPA
1	VICHARE TUSHAR DILIP DIPALI	9.66
2	DIGHE SWAPNIL SANJAY ROHINEE	9.45
3	GURAV BHIMASHANKAR RAJSHEKHAR NAGUBAI	9.32
4	AGRAWAL SHUBHAM SANJAY MALTI	9.3
5	MORE VEDANSH EKNATH PRATIBHA	9.18

Dr R R Lekurwale	MODERNISATION AND REMOVAL OF OBSOLESCENCE	<b>Rs.19,88235</b>  AICTE
	Development of Abrasive Air Jet Machine for profile cutting of glass using Sea sand as As abrasive	52,000  MU
5	DUPKE PUSHPA DILIP VAIJANTA	9.36

#### Final Year

No.	Name of Student	Marks
1	SHENOY VIVEK VENKATESH VIDYA	9.84
2	BHAT JAYESH PRAFULLA POORNIMA	9.76
3	NERURKAR OMKAR VIKAS VRINDA	9.72

4	SHAIKH ASIF ASLAM MUMTAZ	9.68
5	MISRA ARUSHI OMPRAKASH SHASHI MISRA	9.64

- Dr. Ramesh Lekurwale and Dr. S. R. Nikam has joined as an associate professors
- Mr. Abhijeet Karmarkar and Mrs. Anushri Joshi have joined as an assistant professors

## Placement

Departmental Placement record :

SR. NO.	NAME OF COMPANY	CTC IN LAKHS/ANNUM	NO. OF STUDENTS SELECTED
1			
1	CapGemini	3.15	2
2	Accenture	3.5	18
3	Vphrase	3.3	2
4	Godrej and Boyce	5.5	12
5	IFB	4.5	6
6	Performix Convonix	3.2	1
7	Voltas	3.5	4
8	Cartesian Consulting	5.0	2
9	ZS Associates	6.53	3
10			

## Congratulations.....

- Dr. Luckman Mohmood has joined as a professor

## Student's Projects

### MESA

REPORT OF MESA EVENTS IN ABHIYANTRIKI 2017.

Abhiyantriki took place on 6<sup>th</sup> and 7<sup>th</sup> October. MESA council being a technical council had to present some events, which were technical as well as fun. After lots of discussion among council members, MESA presented three events viz. CAR-O-BAAR, BRING IT DOWN, TRAGIC TRAJECTORY. MESA had been successful in getting a 25k sponsorship for Abhiyantriki 2017 and hence funded their own events.

Let's see what these events were:-

#### ➤ CAR-O-BAAR

Car-O-Baar was the biggest MESA event of Abhiyantriki 2017 with prizes worth 19k given out. The Winner won prizes worth 12k (10k cash + 2k Vouchers) and the runner up won 7k (5k Cash + 2k Vouchers). The event had become a MESA favourite considering it had been

repeated for last two year. Teams with four members from Car Teams of different colleges had participated in this event. It was divided into two rounds. First was the quiz round in which the 2 participants had to take part in a written quiz and the rest two in a Oral Quiz. After that came the Business Plan Presentation round which was the most important round and was judged by Dr. Suhas Zambre, Mr. Ripal Doshi and Mr. Arbaz Reza, three individuals respected in their fields. They judged the BPP round and asked questions to the participants on which they were given points. The points were totalled in the end and the winners were announced.



### BRING IT DOWN

Bring It Down was a technical with fun event hosted by MESA. It took place on the second day of Abhyantriki with prizes worth 7k. In this event the participant had to built a

catapult from the provided set of materials to knockdown a structure made up of plastic cups set at different distances. Depending on the Catapult's performance, the participants were graded. This even was enjoyed by a lot of people.



### ➤ TRAGIC TRAJECTORY.

This was a fun plus technical type of event arranged by MESA in abhyantriki, it was the most successful event attracting about 200 participants.

It was a fun-tech event in which a team of 3 players were supposed to aim the ball across a wall on the opponent in such a way that the ball hits the opponent to eliminate him/her. The game was hence a test of knowledge of trajectory and analyzing skills. The team which eliminated all the players of the opposite team was declared as the winner team. The registration amount for both the teams

was Rs. 30 each and the winner team got double the registration amount. It was a no profit event.

The event took place on the second floor of B-Building in the open lobby on the second day of Abhiyantriki i.e on 7<sup>th</sup> October 2017.



The winners of the events are as:-

EVENTS	WINNERS	NAME
CAR-O-BAAR	1 <sup>st</sup>	Orion Racing.
	2 <sup>nd</sup>	Redshift Racing
BRING IT DOWN	1 <sup>st</sup>	Adnan Durgesh
	2 <sup>nd</sup>	Adil

That wraps up MESA events of Abhiyantriki 2017 we aim to come up with such engaging events in that future.

We express our gratitude to Principal Ma'am, HOD sir, MESA faculty incharges, Student Council members who all worked hard for Abhiyantriki 2017 and helped MESA make their events a success in it.

## ROBOCON

**R & D period** (before announcement of theme for ABU Robocon 2018)

**May:** The team conducted a three day robotics workshop wherein basics of robotics were taught. Robocon 2014 theme "A salute to parenthood" was taken as a task and the team designed the parent bot and child bot according to the theme

**June-August:**

- 1) Team designed and experimented with various sub-assemblies normally required in all Robocon competitions.
- 2) The team conducted an interview session for SE students to be a part of the team. 45 students from different branches applied to be a part of the team. 27 students were selected for the team

September-to date:

Team is working on the competition theme announced on August 27, 2017.

TKR organized a workshop on Matlab conducted by Mathworks in A315 on December 23, 2017.

Students from various Robocon teams from Colleges all over Maharashtra participated in this workshop.

The working group consists of 14 students from Mechanical, 8 students from EXTC, 8 students from Electronics and 1 student from IT.

## ORION

Team Orion report (July – December 2017)

- The team participated in the XIII Edition of the Formula SAE Italy held on July 19 - 23,2017 at the Riccardo Paoletti Circuit in Varano de' Melegari (Parma).
- Cleared Technical Inspection at the Formula Student Italy and participated in all the static and dynamic events.
- The team participated in Formula Student Germany held in Hockenheim, Germany from 8th - 13th Aug 2017
- Cleared all the technical inspection tests at Formula Student Germany including Tilt test, Noise test and Brake test.
- Participated in the static events such as Business Plan Presentation, Cost and Manufacturing event and Design event.
- Participated in all dynamic events such as Acceleration, Wet pad, Autocross and Endurance.
- Secured a 3rd place overall in Cost and Manufacturing event at Formula Student Germany.
- In September 2017, the team was reformed with TE and BE students as team members, Parth Mehta was elected as the new team captain and Abhishek Rawat was elected as the new Technical Coordinator for the team.
- From September, the team started preparations for Formula Bharat 2018 to be held in Coimbatore, Tamil Nadu on January 24-28, 2018.
- The team also started with the design and fabrication process of the 2018 car which shall compete in the Formula Student 2018 competition.
- In December, the team registered for Formula Student East to be held on July 18 – 22, 2018 at Hungary.

- In January 2018, The team emerged as winners of the Formula Bharat 2018 competition, capturing the title of National Champions for the 3rd time.

## ONYX

Following is a brief account of the activities during the current academic session:

### **Workshops Organized:**

1. At Sardar Patel College of Engineering on the topic "**Aero-design**" in collaboration with SPCE WAVE (aero-design team of SPCE) on 9th and 10th September 2017.
2. At our college in collaboration with Riidl on the topic "**Basics of Aero-design**" (Level 1) on 22nd and 23rd September 2017. Participants included students from various (Jr and degree) colleges of the University of Mumbai.

These workshops were organized with a motive of briefing the participants about the basics of aerodynamics, flight performance, controls and stability in the simplest manner, so that even the common person can follow and learn the subject with just sheer passion for the field.

### **Airshow:**

Above events were followed by airshow on 23rd September at SVV cricket ground. Interviews for new entrants for the team were

conducted in the first week of October.

### **Exhibits:**

1. The team displayed model aircrafts and interacted with the crowd at Abhiyantriki 2017 on 6th and 7th October.
2. Also the team displayed and interacted with the Chief Minister of Maharashtra Mr. Devendra Fadnavis on 29th November 2017, during his visit to inaugurate the girl's hostel.
3. The team exhibited the project during MakerMela18 from 11th to 13th January 2018.

### **Participation:**

Team Onyx participated in the Boeing National Aeromodelling Competition held on 28th December, 2017 at IIT-Bombay. A total of 210 teams participated in the competition which was more than double participants than the event had in the past. The qualifier round was held on the first day wherein the plane was required to climb smoothly and glide for the maximum time. Our model airplane was in a very good flying condition and it flew well for its flight time and the pilots also had shown significant growth from the previous year. But unfortunately, we could not be in the top 30 teams to qualify to the next round.

### **Events Organized:**

The team organized an event **Multi Blade** during MakerMela18 in association with Drona Aviation, Interview Buddy and Astral Pipes on 12th and 13th January 2018. The event was a success and we got a great response from the

crowd of makermela18 with over 250 participants.

### **Future Plans:**

1. The team has started preparing for **SAE Aerodesign challenge 2018** going to be organized and conducted by SAE India Southern Section in the second Week of July 2018 at Anna University. The team has registered for two parts of the Competition **Regular** and **Micro class**. The Team has already begun manufacturing its models from 1st of February. The SAE ISS requires the team to participate in a workshop organized by them which is in the third week of February.
2. Team is again going to conduct a workshop in association with Riidl, the workshop would be held in the second weekend of February 2018.
3. The team has registered and started preparing for **Aerotrix Boeing National Aeromodelling Competition** which will be held on 15th-17th March, 2018 at IIT-Kanpur.

## **Departmental Responsibilities**

### **Portfolios 2017-18**

#### **Class Advisors:**

**FY:** Prof. Shilpa Bhambure

Prof. Rajesh Pansare

**SY:** Prof. Shilpa Bhambure

**TY:** Prof. C. B. Menon

**LY:** Prof. V. M. Khaparde

**MTech – CCR :** Prof. S. N.

Bansode

**M.Tech Energy –** Prof Ramola

Sinha

**Time Table Incharge:**

Prof. Atul Saraf,

Prof. Shivangi Thakkar

**Dept. Alumni Incharge:**

Prof. Prashant Yelpale,

Prof. Priyanka Patil

**Web Site Incharge:**

Prof. V. V. Bhosale

**Departmental News Letter:**

Prof. Prashant Jain,

Prof. Priyanka Patil

**Placement Coordinator:**

Prof. Ajay Gangrade

**Laboratory Coordinator:**

Prof. Ramola Sinha,

**R & D Coordinator:**

Prof. Abhishek Bhadauria

**Chief Proctor:** Prof. Prashant Jain

**B.E. Projects:** Prof V. M. Khaparde

**Faculty Activities:** Prof. R. B. Pansare

***A Word from the Newsletter Team***

*Reporting of departmental activities and events is the main objective of a newsletter. We hope you would appreciate this endeavor of ours and enrich us with your valuable feedback.*

***Editor***

*Dr. S. S. Bhusnoor, HOD*

***Executive Editors***

*Prof. Prashant Jain*

*Prof. Priyanka Patil*

***Department Office Address:***

*Department of Mechanical Engg.*

*Room No: 313, Main Building,*

*KJSCE Vidyavihar (E)*

*Mumbai – 400 077.*

*Email: [hodmech@somaiya.edu](mailto:hodmech@somaiya.edu)*

*Tel.No: (022) 66449475*

*Tel. No: (022) 66449476*