

**DEPARTMENT OF
MECHANICAL ENGINEERING
NEWSLETTER**

Volume # 6

APRIL 2019



**FROM THE DIRECTOR'S
DESK...**

Dear Reader,

I am delighted to introduce this sixth edition of the Mechanical Department Newsletter. We intend to maintain this regular publication and to use it to keep you in touch with news and developments related to the Department of Mechanical Engineering, School of Technology (SOT).

I take this opportunity to congratulate the editorial team for bringing out this newsletter, which in itself is an achievement considering the effort and time required. May all our students, staff and faculty soar high in uncharted skies and bring glory to the world and their profession with the wings of education.

**FACULTY
ZONE**

- Publications
- Workshops/Conferences
- Administrative Assignments
- Events
- Guest Lectures
- Industry Connect
- Social Activities



**FROM THE HEAD OF
THE DEPARTMENT'S
DESK**

It gives me immense pleasure to share newsletter of the Mechanical Engineering dept., April 2019. Mechanical Engineering Dept. is the most happening dept. of the School Of Technology. Newsletter gives an overview of the activities carried out by students, staff and faculties during the month. You may please share your feedback, comments & suggestions to the coordinators

STAFF ZONE

- Conferences
- Major Equipment
- Social Activities

**STUDENT
ZONE**

- Publications
- Workshops
- Awards
- Higher Studies Opportunity



FACULTY

PUBLICATIONS

JOURNALS

- ❖ Mr Rakesh Chaudhari published the following Journal during April 2019

Chaudhari Rakesh; Vora, J.J.; Mani Prabu, S.S.; Palani, I.A.; Patel, V.K.; Parikh, D.M.; de Lacalle, L.N.L. Multi-Response Optimization of WEDM Process Parameters for Machining of Superelastic Nitinol Shape-Memory Alloy Using a Heat-Transfer Search Algorithm. *Materials* 2019, 12, 1277. <https://doi.org/10.3390/ma12081277>

CONFERENCE PAPERS

- ❖ Mr Rakesh Chaudhari & Dr Vishvesh Badheka published the following conference paper during April 2019
Piyush Rathi, Rutvik Ghiya, Hem Shah, Pratyush Srivastava, Shalin Patel, Rakesh Chaudhari, Jay Vora, " Multi-response optimization of Ni55.8Ti shape memory alloy using Taguchi-grey relational analysis approach", International conference on Recent advances in Mechanical Infrastructure (ICRAM-2019), at IITRAM on 20th April 2019.
- ❖ Shival Patel, Kishan Fuse, Khushboo Gangvekar and Vishvesh Badheka, 'Multi-Response Optimization of dissimilar Al-Ti alloy FSW Using Taguchi - Grey Relational Analysis' 10th International Conference on Material and Manufacturing Technology (ICMMT 2019) in Kuala Lumpur, Malaysia during April 26-28, 2019. (SRP project No ORSP/R & D/SRP/2017/SPKF)

FACULTY

WORKSHOPS/CONFERENCES

❖ Dr Vishvesh Badheka attended Indian Stainless Steel Development Association and Nickel Institute organized jointly with IIW " Knowledge sharing session on STAINLESS STEEL" on 19th April 19 at Vadodara

❖ Dr. Pavan Kumar G & Dr Kush Mehta attended the 9th International Conference on Key Engineering Materials (ICKEM 2019), Oxford, United Kingdom 29-April 1, 2019.

❖ Mr Rakesh Chaudhari attended International conference on Recent advances in Mechanical Infrastrucure (ICRAM-2019), 20-21 April 2019, IITRAM, Ahmedabad

❖ Dr Kush Mehta presented his research work on On FSW keyhole removal to improve volume defect using pin less tool at the 9th International Conference on Key Engineering Materials (ICKEM 2019), Oxford, United Kingdom 29-April 1, 2019



Dr. Pavan& Dr Kush at the 9th ICKEM 2019, Oxford, United Kingdom



Mr Rakesh at(ICRAM-2019, IITRAM, Ahmedabad,



Dr. Kush Mehta presenting his research work at University of Oxford

FACULTY

ADMINISTRATIVE ASSIGNMENTS

- ❖ Mechanical Engineering Dept submitted successfully NBA documents on portal on 11th April 19
- ❖ Major project and CP review –II on 29th and 30th April 19
- ❖ Dr Vishvesh Badheka attended TECH TALK on 12th April & 25th April 19
- ❖ Dr Vishvesh Badheka attended DPC at Mechanical Engineering Dept, Nirma University on 26th April 19.
- ❖ Dr. Pankaj Sahlot visited Burdwan team for admission campaign with his team (Dr. Manoj Pandey and student Mr.Aanchit Nayak) from 25th March to 7th April 2019.
- ❖ PDCU admission campaigning 2019 is successfully carried out at Udaipur during 19 April to 3 May 2019 by Dr. Kush Mehta (from Department of Mechanical Engineering) and Mrs. Mittal Shah (from Admin SOT) (Report 2)
- ❖ Dr Vishvesh Badheka attended SOT-SPT Alumni meeting on 13th April 19 interacted with Alumni of Mechanical Engineering students



Alumni meeting (SoT students)



Alumni meeting (SPT students)



FACULTY

EVENTS ORGANIZED

- ❖ Mechanical and Industrial Engineering Department jointly conducted 'Executive Certificate Course on Lean Six Sigma Green & Black belt' by Henry Harvin Education 25-30th April 2019
- ❖ Dr Jay Vora organized the event Inauguration of Indian society of Non-destructive testing (ISNT) PDPU student chapter on 11th April 2019.
(Report 1).

FACULTY



GUEST LECTURES

DELIVERED

- ❖ Dr Vishvesh Badheka delivered half day workshop on 'Friction Stir Welding & its variants' on 5th April 2019 at BIT, Vadodara



FSW workshop at BIT, Vadodara



- ❖ Dr Jay Vora chaired a session at International Conference on Recent advances in mechanical infrastructure (ICRAM) held at IITRAM.

Dr Jay as session chair at ICRAM

ARRANGED

- ❖ Dr Rajesh Patel arranged the following Expert Talks on :
 "Finite Volume Method in CFD" by Dr. Ajitkumar Parwani, Asst. Professor, IITRAM for M. Tech. (Thermal) on April 26, 2019.
 "CFD analysis of Centrifugal Pump using ANSYS Fluent" by Mr. Pratik Patel; MD BeLife Corporation, Ahmadabad for M. Tech. (Thermal) on May 02, 2019



Expert Talk by Dr Ajitkumar, IITRAM

FACULTY

INDUSTRY CONNECT - OUTSIDE

- ❖ Dr Vishvesh Badheka visited following industries with the said motive/ outcome during April 2019:
 - Chauhan Engineering (EWAC Alloys), Vadodara on 5th April 2019, explored possibility of summer training/projects, also collected samples for failure investigation-gear wheel.
 - MARS Automation, Vadodara on 5th April 2019 regarding ongoing SPM modification also explored possibility summer training in the area of welding automation.
 - Space Application Centre, ISRO, A'bad on 22nd April 19, followed research lab visit and interaction with CP student and her mentor Mr Jigesh Patel. Interacted with RESPOND coordinator other SAC officials explored the possibility of collaborative M.Tech dissertation for design students



Chauhan Engineering (EWAC Alloys),
Vadodara



MARS Automation, Vadodara



Vulcan Engineering, Anand

- Vulcan Engineering, Anand, on 6th April (Sat) & 18th April regarding ongoing collaborative project on Friction Welding under BRNS, conducted experiments on Al-SS & Cu-SS pipe configurations of various sizes from 2,3 & 4 inch sizes



Neoseal, Savli, Baroda

- Neoseal, Savli, Baroda on 19th April 19 visited site and interacted with CP student

- Arvind Mill, A'bad on 22nd April 19 visited plant and weaving facility followed by interaction with CP student and his mentor Mr Vijay Kane, Head-Engineering service, also interacted Alumini of mechanical engineering at Arvind Mill



Arvind Mill, A'bad on 22nd April 19

- Kalapatru Power Transmission Ltd, Gandhinagar on 22nd April 19 followed by interaction with CP students and his mentors

- Roptelesonic (RTUL) on 27th April (sat) regarding inspection of Ultrasonic welding machine



Roptelesonic (RTUL) on 27th April

- Sahajnand Laser Technology Ltd on 27th April regarding ongoing collaborative project



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INDUSTRY CONNECT – AT PDCU

- IITRAM M.Tech scholars visited for conducting FSW experiments on 3rd April 19
- Mr Ashish Yadav, Scientist, ITER INDIA, visited on 8th April 19 explored possibility of wear testing of laser claded samples on wear testing facility available at PDCU.
- Dr Bhavesh Mevada, Principal, Parul University, visited Welding Research Lab for exploring possibility of collaborative work.
- IITRAM PhD scholar and GEC UG students visited on 16th April 19.
- Attended meeting at INTERNATIONAL AUTOMOBILE CENTRE OF EXCELLENCE (IACE) office on 12th April 19



STAFF



CONFERENCE ATTENDED

- ❖ Mr Ramkrushna Panchal attended Autocad 2020 launching and discussion of new tools added in version 2020.



TRAINING/ INSTALLATION OF MAJOR EQUIPMENT

- ❖ Mr Alpeshsinh Rajput received training to set the schedule and retrieve data of the weather parameters as per requirement for Automatic Weather Station installed in Non Conventional Energy Sources Laboratory of mechanical engineering department on the terrace of E- Block under the guidance of Dr. Jatin Patel.

It contains the Pyranometer, Air temperature sensor, Relative humidity sensor, Barometric pressure sensor, Wind speed sensor, Metro-logical Data-Logger with display & modem and one solar panel.



SOCIAL ACTIVITIES

Mr Ramkrushna Panchal planted Mango Tree in the Workshop Area.



STUDENTS WORKSHOPS ATTENDED

- ❖ Team Kaizen represented in the shell eco marathon, Asia. With efficiency of 123km/kWh, team KAIZEN was 12th in all Asia Pacific region and 3rd among the Indian teams.



TEAM KAIZEN at SHELL ECO MARATHON, ASIA

- ❖ Pratyush Srivastava presented paper on the "Machining of Nitinol (Shape Memory Alloy) using Wire-EDM process and analysis using GRA."
- ❖ Swati Srivastava attended Co-Operative Robots & Wind Turbine Blade prototyping(CRWT)-2019



CRWT 2019

STUDENTS AWARDS

- ❖ Krishna Bhuva attended sports fests in basketball girls category between 15th March to 10th April 2019 and won
 - 2nd place in IIT Bombay (AAVHAN 2019)
 - 3rd place in Bits Goa (SPREE 2019)
 - In UID's tournament
 - In Ahmedabad university tournament



HIGHER STUDIES OPPORTUNITY

- ❖ Poojan Vora got admission in University of Huston for Master of Science in Industrial Engineering with scholarship of 1000 USD (per year) and out-of-state tuition waiver.

REPORTS

REPORT 1: ISNT Inauguration Report

Event: Indian Society for Non-Destructive Testing PDPU Student Chapter Inauguration

Venue: E-005

Date : 11/04/2019

Time: 2 PM onwards

Chief Guest: Mr. Hemant Kumar, Vice President, Central Engg. Services, Reliance Industries Ltd., Jamnagar.

ISNT Team: Mr. Deepak Parikh, Chairman ISNT -Ahmedabad Chapter
Mr. Chetan Shah, Hertz testing and Training center
Mr. G.K. Dey, Vice Chairman ISNT - Ahmedabad Chapter
Mr. S.D. Tiwari, - Independent Consultant - NDT Level -3
Mr. Gautam Patel, Independent Consultant - NDT Level -3
Mr. Jayesh Prajapati. Independent Consultant - NDT Level -3

No. of Attendees: Approximately 50 (including students, faculties and Director-SOT)



Mr. Hemant Kumar, Chief Guest,
Delivering his speech



Dr. Jay Vora handing over list of
student members and cheque to
Chairman of ISNT Ahmedabad
Chapter



Description: The inauguration ceremony of ISNT PDPU student chapter was successfully held on 11th April, 2019. All the guests were heartily welcomed with bouquet of flowers. Mr. Hemant Kumar was the chief guest of the ceremony. In his address to student members, he explained how NDT is beneficial in every possible industry today, and he also offered internship opportunities and student projects to be carried out at Reliance Industry, Jamnagar.

Then, Mr. Deepak Parikh congratulated all the student members of the PDPU chapter and emphasized on women participation in the chapter. Prof. T.P. Singh, motivated all the students to actively participate upcoming events, that are going to be organized by ISNT PDPU. Mr. Piyush Rathi, a student member, shared the projected events and initiatives to be held by the chapter. After this, Dr. Jay Vora handed over the list of members and cheque to Mr. Deepak Parikh. The ISNT team conferred the student chapter plaque to members of PDPU. As a gesture of gratitude, all the guests were given memento. This was followed by group photo of all the members of PDPU ISNT chapter along with ISNT team and PDPU members



Group Photo of all the members of PDPU ISNT chapter along with ISNT team and PDPU members.

REPORT 2: Admission team Visit to Udaipur: Report

Dr. Kush Mehta (Asst. Professor: Mechanical Dept.) with Mrs. Mittal Shah and Anjali Thakkar, visited Udaipur for admission campaigning. Exhibition in celebration mall for two days gave a scope for one to one interaction with more than 30 parents. During the visit, even relations with consultants were built.



The team interacted with approximately higher authorities of almost 20 schools and also conducted seminar for students to generate awareness and publicize PDPU





Top rated coaching institutes like Ascent, Aakash, Resonance, etc. were contacted and brochures were distributed amongst students and information of 30,000 student data was procured



Different modes of publicity were explored and quotations related to them were sent to the authorities of PDPU for future exploration.



Report of the work done with specifications were sent to the respective person in charge for reference. At last, a brief report of the entire journey of admission along with the suggestions and observations were submitted.

REPORT 3: Burdwan Admission Campaign Team



Burdwan admission campaign team members (Dr. Manoj Pandey, Associate Professor
Dr. Pankaj Sahlot, Assistant Professor and Mr.Aanchit Nayak, Student)

Dr. Pankaj Sahlot visited Burdwan team for admission campaign with his team (Dr. Manoj Pandey and student Mr.Aanchit Nayak) from 25th March to 7th April 2019. We, based on our meetings, decided the following to be our primary goals:

To explore the city and know it in and out

To spread awareness about PDPU

To gather potentially strong leads for future endeavours in the city



Dr. Pankaj Sahlot with student Mr.Aanchit Nayak meeting with representative of
Big & Hot advertisement



Burdwan campaign team meeting with students and collecting potential leads for admission and Amity University Information Centre at Burdwan

REPORT 4: CRWT Workshop Report

Title: Theory and Practice: Co-Operative Robots & Wind Turbine Blade prototyping (CRWT 2019)

Date: 1st April-2nd April 2019.

No of participants: 30

The first day of the workshop was taken by Mr.Mayank, Robokits, Gandhinagar. As a part of this workshop, the participant will be given a brief on mathematical modeling of the robotic systems, hands on training on assembling and programming six degrees of freedom robots, working with sensors and other communication devices for the robots to communicate and at the end the participants are going to make a framework for completing a given task by the robots cooperating each other using the sensor information.

The following topics have been taught and practiced.

Venue of the workshop: DOM Lab, Second floor, E-Block.

The following are the objectives of the 2 day workshop:

1. Introduction to Robotics, Robots.
2. Learning of Arduino Software.
3. Hands on session of Arduino software and its working with the robot Kits.

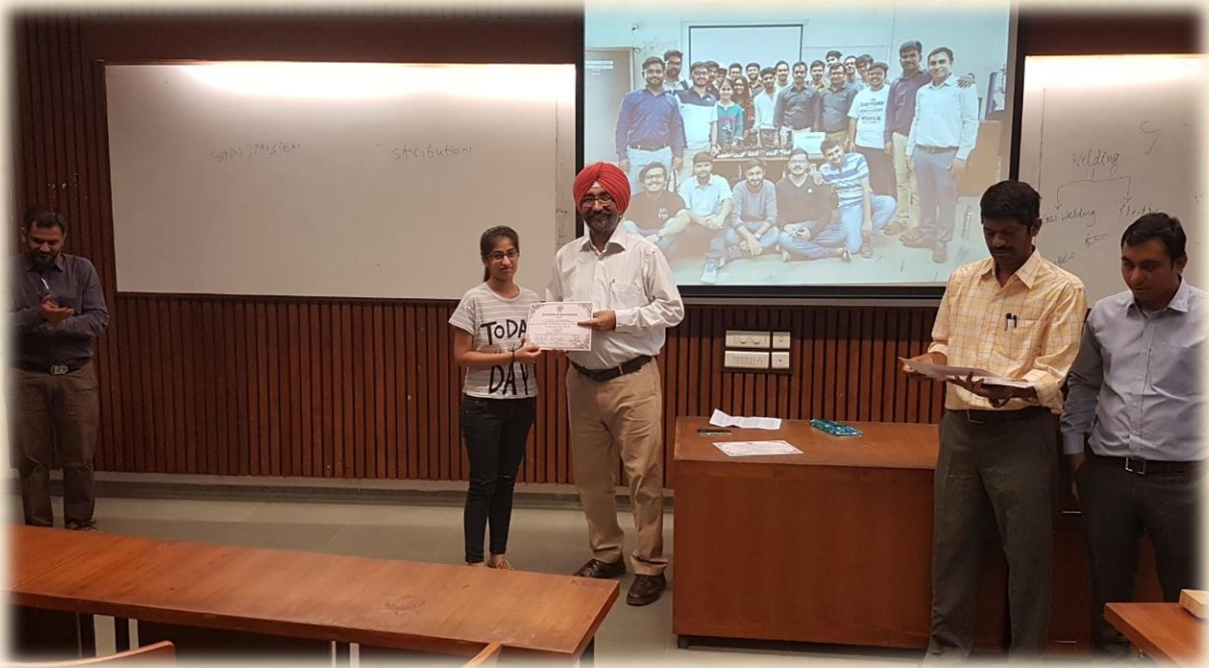
The second day of the workshop was taken by Dr. Naga Babu, Assistant Professor, Mechanical Engineering, PDPU. The second part of the workshop aims is to provide the exhaustive conception about the procedure of small scale wind turbine blade designing and hands on training in manufacturing of wind turbine blade with the local and low cost materials. The participant will have theoretical explanation of fundamentals of the wind turbines and blade designing followed by the hands-on exposure to the wooden blade designing.

Venue of the workshop: Workshop, D-Block.



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Newsletter Coordinators

Faculty Coordinator: Dr Pankaj Sahlot
Staff Coordinator: Mrs Pooja Nimavat