



**PANDIT DEENDAYAL
PETROLEUM UNIVERSITY**



NEWSLETTER
October 2019



School of Technology *Department of Mechanical Engineering*

FACULTY ZONE

- ⇒ Publications
- ⇒ Conference/Workshop Attended
- ⇒ Professional Activities
- ⇒ Administrative Assignments
- ⇒ Recognition
- ⇒ Events/Workshop Organized
- ⇒ Guest Lectures

STAFF ZONE

- ⇒ Training/ Installation of Major Equipment
- ⇒ Lab Visit

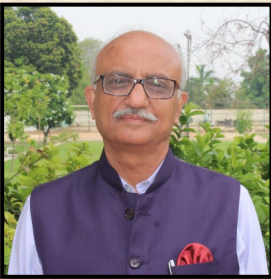
STUDENT ZONE

- ⇒ Industrial Visit
- ⇒ Recognition

Editorial Team

Faculty Coordinator: Dr. Pankaj Sahlot

Staff Coordinator: Mrs. Pooja Nimavat



DIRECTOR'S DESK...

Prof. Sunil Khanna

Dear Colleagues and Students:

Industry 4.0 (the fourth Industrial Revolution) encapsulates the future development trends to achieve more intelligent manufacturing. As we @ PDPU embark on this journey to towards Industry 4.0, I am Happy to Introduce the next issue of the Newsletter which not only share with all its readers the latest news and developments in the Department of Mechanical Engineering but would also be sensitizing all of us on the latest trends and developments in the Fourth Industrial Revolution.

The limitless power of technology to do good and the conviction of my faculty colleagues and students that the golden age is ahead of us - and not behind us – brings about the best in all of us which is reflected in their achievements.

Compliments to the editorial team for their passion for perfection and unbound creativity which makes me always look forward to the next edition of the Newsletter.

HEAD OF THE DEPARTMENT'S DESK ...



Prof. Vishvesh Badheka

It gives me immense pleasure to share Newsletter of the Mechanical Engineering Department, October 2019. Mechanical Engineering Department. is the most happening Department 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.



FACULTY

PUBLICATIONS

JOURNALS

Dr Vivek V Patel, Dr Vivek Kumar, Dr Vivek K Patel, Dr Anurag Mudgal and Mr Vipin Das published the following journals during the month of October 2019

- ◆ Su, Y., LI, W., **Patel, V.**, Vairis, A. & Wang, F. “Formability of an AA5083 aluminum alloy T-joint using SSFSW on both corners”, *Materials and Manufacturing Processes*,1-8(2019).
- ◆ Mehta, K. K., Mehta, N. & **Patel, V.** “Effect of Operational Parameters on the Thermal Performance of Flat Plate Oscillating Heat Pipe”, *Journal of Heat Transfer*, 141. (2019).
- ◆ **Kumar, Vivek**, and Satish C. Sharma. "Effect of geometric shape of micro-grooves on the performance of textured hybrid thrust pad bearing.", *Journal of the Brazilian Society of Mechanical Sciences and Engineering* 41, no. 11 : 508 (2019).
- ◆ **Kumar, Vivek**, Satish C. Sharma, and Kuldeep Narwat. "Influence of micro-groove attributes on frictional power loss and load-carrying capacity of hybrid thrust bearing.", *Industrial Lubrication and Tribology* . (2019).
- ◆ K Mansuriya, **VK Patel**, BD Raja, **A Mudgal**. “Assessment of liquid desiccant dehumidification aided vapor-compression refrigeration system based on thermo-economic approach”, *Applied Thermal Engineering* 164, 114542. (2020).
- ◆ Muhammed Sanoop A. V., Shifa K., **Vipindas K**, ”Comparative Study of Lipid Profile in Patients with Chronic Kidney Disease on Haemodialysis / Conservative Management with Control Population,” *American Journal of Biochemistry*, 9(2), pp. 17 – 20 (2019)



FACULTY

PUBLICATIONS

BOOK

- ◆ *Mr Rakesh Chaudhari and Dr Jay Vora* published the following Book Chapter during the month of October 2019 :

Rathi, Piyush, Rutvik Ghiya, Hem Shah, Pratyush Srivastava, Shalin Patel, ***Rakesh Chaudhari, and Jay Vora***, "Multi-response Optimization of Ni55. 8Ti Shape Memory Alloy Using Taguchi–Grey Relational Analysis Approach." In Recent Advances in Mechanical Infrastructure, pp. 13-23. Springer, Singapore, (2020)

FACULTY

CONFERENCE/WORKSHOP ATTENDED

Dr Rajesh Patel attended the following conference and workshop during the month of October 2019

⇒ 2nd National Conference Series on University 4.0 – The Future of Higher Education Student Employability and its impact of NAAC Ranking on 11th October 2019 at Hotel Sahara Star, Vile-Parle (E), Mumbai. The event was organized by The India Education Forum (IEF).

⇒ Data Collation for Gujarat State Institutional Rating Framework (GSIRF) at Knowledge Consortium Of Gujarat (KCG) on 15th October 2019.



2nd National Conference Series on University 4.0



Workshop on NIRF India Rankings

⇒ Two days National Level Workshop on “Quality Enhancement Measures in Higher, Technical, Professional and Management Educational Institutions with Special Focus on NIRF Rankings” at U.G.C. Mini Auditorium, JNT University Hyderabad, Kukatpally, on 18th - 19th October 2019.

⇒ "QS India Summit 2019" focusing on empowering leaders in higher education. The summit was organized by QS, UK and is co-hosted with University of Auckland from 20th - 22nd October 2019 at the Cidade de Goa Resort.



QS India Summit



FACULTY

PROFESSIONAL ACTIVITIES

- ◆ **Dr Vishvesh Badheka and Dr Abhishek Kumar** along with M. Tech (Manufacturing) students under IIW-PDPU Student Chapter Activities visited various manufacturing facilities of Sahajanand Laser Technology Ltd, Gandhinagar on 1st October 2019.



Visit at Sahajanand Laser Technology Ltd,

- ◆ **Dr Vishvesh Badheka** conducted Under Graduate (UG) project viva at Metallurgical Engineering Dept, Government Engineering College, Gandhinagar on 21st October 2019.
- ◆ **Dr Vishvesh Badheka** visited Sahajanand Laser Technology Ltd, Gandhinagar on 21st and 25th October 2019 regarding ongoing collaborative work.
- ◆ **Dr Vivek V Patel** was appointed as an External Examiner at Government Engineering College, Gandhinagar during 22nd - 23rd October 2019.
- ◆ **Dr Vivek K Patel** conducted 8th Doctoral Committee Meeting for his student Mr Nikhil Chotai in presence of External member Prof. B.R. Ramani on 18th October 2019
- ◆ **Dr. Pankaj Sahlot** had been invited as a chief Guest for a 3 Days (3rd-5th October 2019) TEQIP-III sponsored workshop on Advanced Materials for Engineering Applications at THDC Institute of Hydropower Engineering and Technology, Tehri, Uttarakhand.



Chief Guest at THDC



FACULTY

PROFESSIONAL ACTIVITIES

- ◆ **Dr Vishvesh Badheka** arranged the Ultrasonic welding machine training for few students at Roptelsonic on 19th October 2019 under IIW-PDPU Student Chapter Activities
- ◆ **Dr Vishvesh Badheka** arranged the following visits by the Professionals to Research Lab during the month of October 2019 :
 - ⇒ Mr Dharmesh Mahant, Vice President, Kalpataru Power Transmission Ltd, Gandhinagar visited for technical discussion on 4th October 2019.
 - ⇒ M.Tech students of Babaria Institute of Technology (BIT), Vadodara visited Welding Research Lab for his PG dissertation on 4th October 2019.
 - ⇒ B. Tech students and faculty of Gokul University visited Welding Research Lab for UG dissertation on 15th -16th October 2019.
 - ⇒ Mr Chetan Patel, Faculty, Govt. Polytechnic, Vadnagar visited for technical interaction followed by lab visit on 18th October 2019.
 - ⇒ Mr Drupad Patel, Technical Manager, TechnoSparc, visited FSW (Friction Stir Welding) facility on 18th October 2019.
 - ⇒ Mr Arun Zala, PhD Scholar, Institute of Plasma Research (IPR) visited for technical interaction on 24th October 2019.
 - ⇒ Mr Bhushan Nikam, Application Engineer, KUTMASTER, Aurangabad visited on 23rd October 2019 and demonstrated various products and it's application to M.Tech manufacturing students.



Visit by MD, TCR-Advanced Engineering Pvt Ltd

- ⇒ Mr Paresh Haribhakti, Managing Director, TCR-Advanced Engineering Pvt Ltd, Baroda visited Welding Research Lab followed by interaction with M.Tech Manufacturing students on Importance of metallurgy on 22nd October 2019.



FACULTY

ADMINISTRATIVE ASSIGNMENTS

- ◆ The Vision Presentation was done by the newly joined faculties **Prof. Ramesh Guduru**, **Mr Vipin Das**, **Mr Ravi Kant**, **Mr Satbhai Ojas** and **Dr Vivek V Patel** on 4th October 2019.



Vision Presentation by Newly Joined Faculties

- ◆ Faculty seminar was delivered by **Prof. Surendra Singh Kachhwaha** on 14th October 2019



Faculty Seminar by Prof S S Kachhwaha



FACULTY

ADMINISTRATIVE ASSIGNMENTS

- ◆ Department conducted Meetings with B. Tech students I year on 14th October 2019, II year on 16th October 2019, III and IV year on 22nd October 2019 along with faculty advisor to understand academic progress and issues.



UG Students Interaction Meeting

- ◆ Student Research Project – Office of the Research & Sponsored Programs (SRP-ORSP) project proposal presentations was held on 15th-16th October 2019
- ◆ Department conducted PhD scholars meeting on 18th October 2019.



PhD Scholars Interaction Meeting

- ◆ Few faculty members participated in a meeting conducted by Director SOT on “Academic Architecture” held on 23rd October 2019.



FACULTY

RECOGNITION

Prof. Vishvesh Badheka and Mr. Krunal Mehta represented the vehicle handover ceremony held on 11th October 2019 at Ford Motors, Sanand wherein a Vehicle (Ford Figo, Deep Impact Blue) was principally handed over free of cost by Ford Motors to PDP. The vehicle will be used for technical demonstrations to our students. (Report 1)



FACULTY

EVENTS/WORKSHOP ORGANIZED

- ◆ **Dr Ajay Kumar** organized the Students Solar Ambassador Workshop 2019 where 225 students participated and got hands-on training to assemble Solar Study Lamps at PDPU on 2nd October 2019. (Report 2)



Students Solar Ambassador Workshop 2019

- ◆ **Dr Vishvesh Badheka** arranged an Expert Talk on Latest research and applications of Electron Beam Welding delivered by **Dr. J Krishnan**, Ex-Scientist, BARC, Mumbai, on 10th October 2019 under IIW-PDPU Student Chapter Activities.



Dr J Krishnan, Ex-Scientist, BARC, Mumbai



FACULTY

EVENTS/WORKSHOP ORGANIZED

- ◆ *Dr Vishvesh Badheka* arranged an expert talk on ‘Overview on powder based additive manufacturing processes’ delivered by Dr Antonello Astarita, University of Naple ‘Federico-II’, Italy, on 11th October 2019 under IIW-PDPU Student Chapter Activities.



Dr Antonello Astarita, University of Naple ‘Federico-II’, Italy



FACULTY

GUEST LECTURES—OUTSIDE PDPU

- ◆ **Prof. S S Kachhwaha** delivered an invited talk titled “Renewable Energy Assisted Cooling Solutions ” on 18th October 2019 in GTU sponsored and ISTE approved One Week Faculty Development Programme (FDP) on “Advances in Heating, Ventilation, Air-Conditioning and Refrigeration (HVAC & R) organized by Department of Mechanical Engineering, L. D. College of Engineering, Ahmedabad from 14th -19th October 2019.
- ◆ **Dr Vishvesh Badheka** delivered following invited talks under GIAN program (Advanced Welding Processes for Titanium & Aluminium Alloys) at L D college of Engineering, during 07th –11th October 2019 :
 1. Basics of Arc Welding Processes
 2. Metal Core Arc Welding and Narrow Gap Welding
 3. Variants of FSW
 4. Solid State Cladding – Friction surfacing.



Expert talk at LDCE under GIAN



Expert talk at THDC-IHET

- ◆ **Dr. Pankaj Sahlot** delivered an expert talk on “Recent Research Progresses on Friction Stir welding of Advanced Materials” at 3 Days TEQIP-III sponsored workshop on Advanced Materials for Engineering Applications at THDC-IHET, Uttrakhand. Talk was focused on both "Experimental and Numerical studies".



TRAINING/INSTALLATION OF MAJOR EQUIPMENT

- ◆ Heavy Duty Vertical Milling Machine was delivered under BRNS project on 10th October 2019 at Welding Research Lab.



Heavy Duty Vertical Milling Machine

- ◆ *Mr. Ashok Chavda and Mr. Jayesh Panchal* visited the laser exhibition titled, “LASER Cutting and Welding”, at Goregaon Mumbai held on 18th- 19th October 2019. (Report 3)



LAB VISIT

- ◆ The students and faculties from Rumi English Medium School, Himatnagar visited Mechanical Workshop on 1st October 2019 and were guided by *Mr Jayesh Panchal and Mr Ashok Chavda.*



School Visit at Workshop

STUDENTS INDUSTRIAL VISIT

- ◆ Students went for Industrial visit at MBH Pumps Ltd. on 16th October 2019 under the guidance of *Dr. Pawan Sharma, Dr. Biranchi Sahoo and Mr. Alpesh Rajput.*



- ◆ Students went for Industrial visit at MBH Pumps Ltd. on 17th October 2019 under the guidance of *Dr Simranjeet Singh, Mr Ravi Kant and Mr Mehul Bhalu.*



- ◆ Students visited Flowchem Industry on 20th October 2019 under the guidance of *Mr Vipin Das and Mr Umang Soni.*



STUDENTS INDUSTRY VISIT

- ◆ Students went for Industrial Visit at Flowchem on 18th October 2019 under guidance of ***Dr. Vivek Kumar and Mr. Trushar Prajapati***

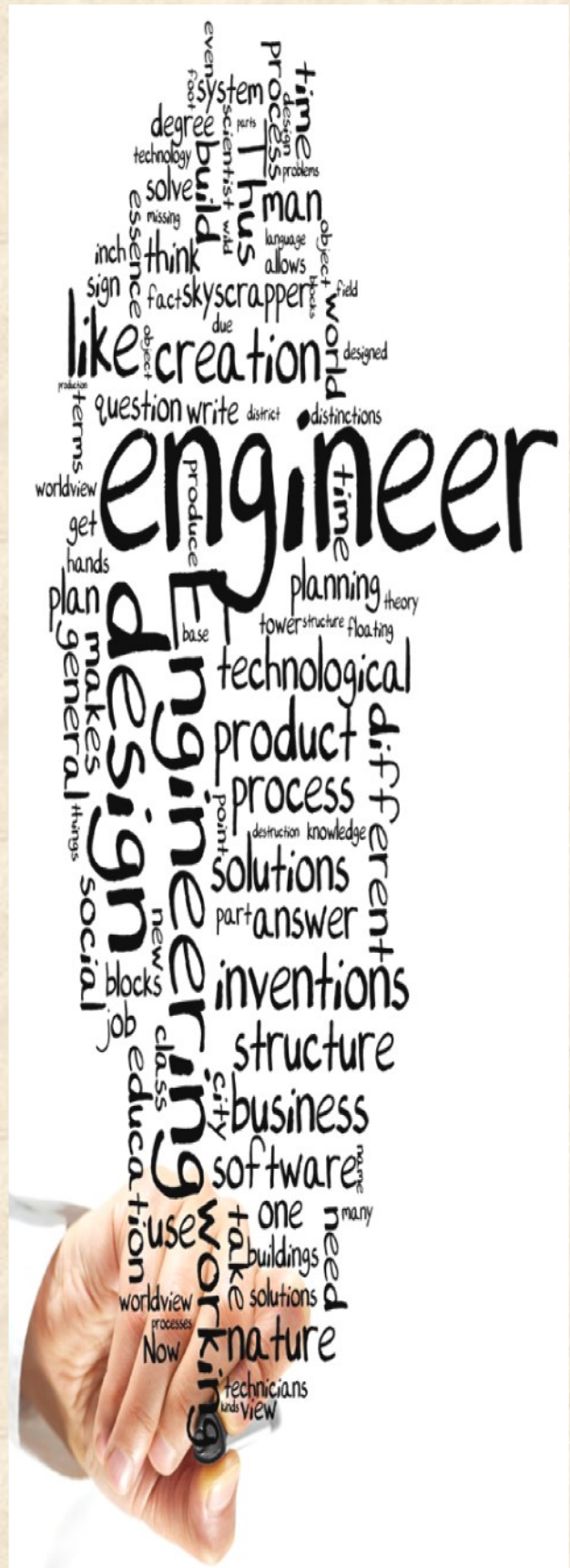


- ◆ Students went for Industrial Visit at Flowchem on 19th October 2019 under guidance of ***Dr. Ajay Kumar and Mr. Umang Soni***



STUDENTS RECOGNITION

Under IIW-PDPU student chapter, two M Tech Manufacturing students **Mr. Darshan A Solanki** with a consolidated score of 78% and **Mr. Jaynish H. Idhariya** with a consolidated score of 77% have successfully completed one 4 week NPTEL course on Welding of Advanced High Strength Steels for Automotive Application By Prof. Murugaiyan Amrithalingam (IIT Madras). They got Elite plus Silver type of certificate.



REPORT -1

Vehicle Handover Ceremony

Ford Motors, Sanand

October 11, 2019

A vehicle handover ceremony was held at Ford Motors, Sanand wherein Ford Motors handed over 16 vehicles to educational institutes pan-India for education purposes. Pandit Deendayal Petroleum University was also one of the recipient. Prof. Vishvesh Badheka, Head and Mr. Krunal Mehta, Faculty, Department of Mechanical Engineering, School of Technology, PDPU represented the University. Following were some key highlights:

- The Ford management addressed the representatives from various educational institutes on the occasion.
- A symbolic key-handover near the demo vehicles was done.
- Copies of Agreement documents were handed over to the representatives of the educational institute.
- Feedback was shared by various educational institutes.
- Details relating to logistics were shared and the car (Ford Figo, Deep Impact Blue) is expected to reach the college premises in a week's time.
- A networking session with high-tea then followed.

Following are some photographs of the event:



REPORT- 2

Student Solar Ambassador Workshop 2019

Mechanical Engineering Department organized the Student Solar Ambassador Workshop on October 2nd 2019 at PDPU Gandhinagar. Dr. Ajay Kumar coordinated the whole workshop. Dr. Sunil Khanna, Director SoT and Dr. Vishvesh Badheka, HoD Mechanical Engineering inaugurated the workshop in PDPU auditorium. The objective of the workshop was to sensitize students towards adverse effects of climate change and making them future propagators of renewable energy and ensuring energy sustainability. 15 PDPU faculties participated and gave educational and hands-on training on solar study lamp assembly to 225 registered students. PDPU created 225 Global Student Solar Ambassadors on October 2nd to celebrate the Gandhian principles of self-sufficiency and the International Day of Non-Violence towards Environment.











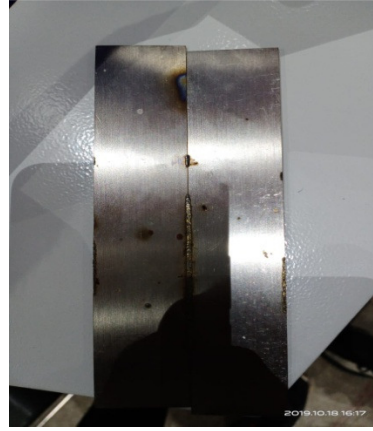


REPORT -3

LASER World of PHOTONICS INDIA

Mr. Ashok Chavda and Mr. Jayesh Panchal, Two persons visited the laser exhibition titled, “LASER Cutting and Welding”, at Goregaon Mumbai held on 18th and 19th October,2019. The exhibition was based on the applications and the recent innovative technologies of the various types of the LASERS. There were various stalls of the LASER machines all over the world, which demonstrated the various welding and cutting technologies such as laser welding, laser hybrid welding, laser surfacing, laser alloying, laser based friction welding, various solid state welding and joining processes. They have also performed the welding during the exhibition by doing hands on practice. They also came to know about the 3D printing metals. They have also visited Mumbai wood exhibition on the same date at same location nearby. Here are some glimpses of their visit.....





Glimpses of the Exhibition Visit

We are especially thanks to our Prof & Head Dr. Vishvesh J Badheka to give the permission for visiting the Global Trade show and also thank s PDCU to give us an opportunity for it.