PDEU

PANDIT DEENDAYAL ENERGY UNIVERSITY

Formerly Pandit Deendayal Petroleum University (PDPU)

SOT

SCHOOL OF TECHNOLOGY

NEWSLETTER

November - December 2021

SCHOOL OF TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

FACULTY ZONE

- Advances in Mechanical Engineering
- Publications - Journals, Conference Papers & Book Chapters
- Research Project
- Patent

FACULTY ZONE

- Expert Talk Delivered
- Events Attended
- Recognition
- Administrative Assignments
- Events Organized
- Professional Activities
- Major Equipment

FACULTY ZONE

- Visits
- DC

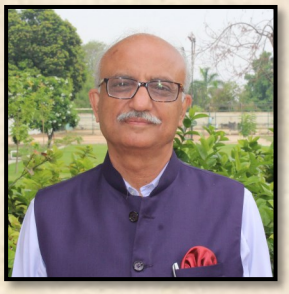
STUDENT ZONE

- Students Chapter Activities

Editorial Team

Dr. Anirudh Kulkarni
Faculty Coordinator

Mrs. Pooja Nimavat
Staff Coordinator



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 @ PDEU (formerly PDPU) embark on this journey 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, November & December 2021. 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.

ADVANCES IN MECHANICAL ENGINEERING

TOOL CONDITION MONITORING USING VIBRATION SIGNALS AND ACOUSTIC SIGNALS

Dr. Vinay Vakharia

The growing requirement for process automation in manufacturing has drawn a large number of researchers to the topic of real-time monitoring of machining operations. As a result, substantial research is being conducted globally in the field of online tool condition monitoring systems (TCMS). Tool wear is the most detrimental aspect of machining processes because it severely affects tool life, which is critical in metal cutting since it has a direct effect on the surface quality and dimensional accuracy of the machined surface, as well as the economics of machining operations. As a result, techniques for detecting cutting tool wear are critical for maximising the efficiency of cutting tools. Damage to the machine tool, downtime, and discarded components may all be prevented with an efficient monitoring system

Typically, an advanced TCMS is composed of sensors, signal conditioners/amplifiers, and a monitoring system. Sensors are critical components and should be positioned as near to the goal area (close to the tool tip) as feasible. Following that, signal processing is used to extract valuable information from the signals received from the sensors.

Any indirect TCMS, in general, consists of four steps: (i) data collection in the form of signals from sensors such as cutting force, vibration, temperature, acoustic emission, and/or motor current, (ii) signal processing and feature extraction from the signals, (iii) tool wear classification or estimation using pattern recognition, fuzzy logic, neural networks, or regression analysis, and (iv) development of decision-making techniques to control the machining process based on sensor data. Fig. 1 and 2 represent a block diagram showing the methodology used for automated TCMS.

Figure 1: Block Diagram of TCMS

ADVANCES IN MECHANICAL ENGINEERING

TOOL CONDITION MONITORING USING VIBRATION SIGNALS AND ACOUSTIC SIGNALS

Dr. Vinay Vakharia

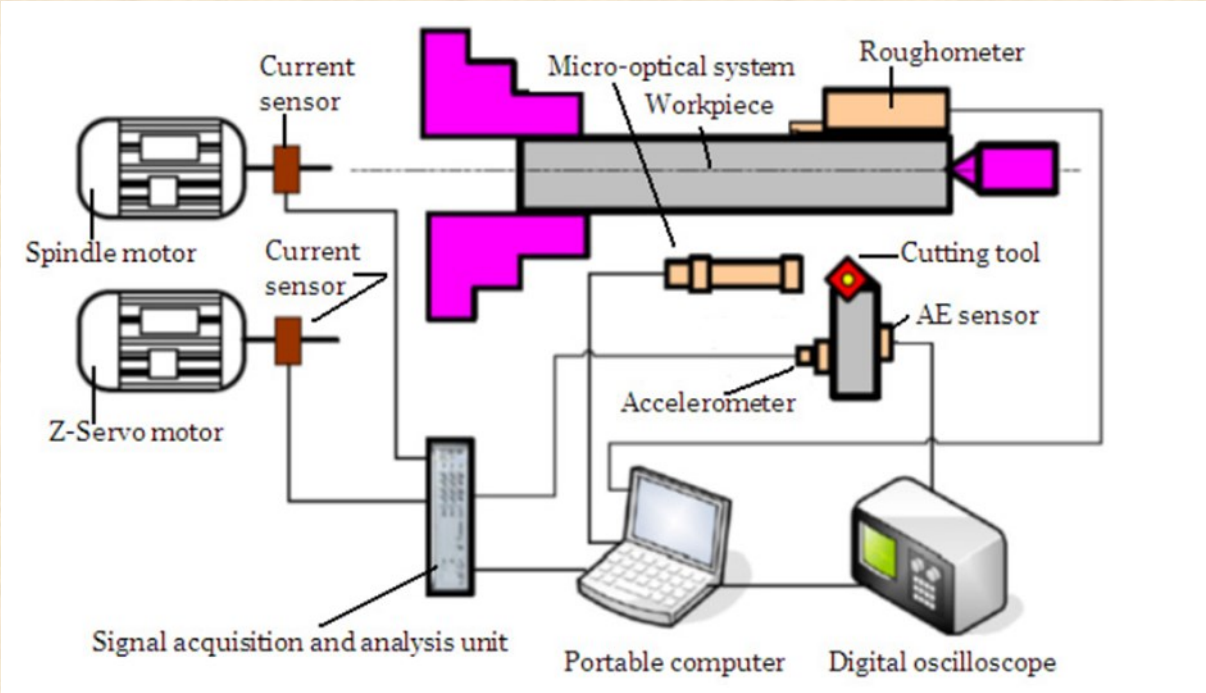


Figure 2: Schematic of tool condition monitoring system.

Reference :

http://ti.arc.nasa.gov/project/prognostic-data-repository

https://link.springer.com/article/10.1007/s41872-018-0057-5

ADVANCES IN MECHANICAL ENGINEERING

FEASIBILITY AND PARAMETRIC STUDY OF A THERMAL- ENERGY DRIVEN REVERSE OSMOSIS SYSTEM FOR BRACKISH AND WATER CONTAMINATION AREAS IN INDIA

Dr. Anurag Mudgal

Ground water quality is a big concern in many countries including India. Rapid urbanization and industrialization at one end has increased contamination level because of waste disposal and population growth at the other end require large amount of fresh water supply. Treatment of brackish ground water is the solution for inland areas which are away from coasts and lack fresh water sources. In spite of the use of high- grade electric energy, reverse osmosis (RO) is the choice in most cases for its clean and trouble free operation. The challenge with this process is increasing electricity cost and rejection of brine. We have modelled a new system which is capable to run RO module using low- grade thermal energy instead. A steam source drives a cylinder piston arrangement and this kinetic energy is transferred to another cylinder piston through a linkage mechanism. This energy finally is used to pressurize the saline water towards RO membrane. The mechanical advantage gained by the crank mechanism is utilized to work against osmotic pressure of saline water. The linkage mechanism is so designed that net drive remains almost steady irrespective of continuously increasing osmotic pressure during compression of saline water. Mechanical advantage leads the process to deliver a high recovery ratio and rejection proportion is only about 30%. Steam may be generated from a biomass boiler as available in rural areas of India. Modeling suggests that the specific steam consumption is small and gain output ratio reaches up to 100. This amount of steam may also be generated using parabolic solar trough collector or evacuated solar panels. A wide range of steam driven RO mechanisms may be designed as per the requirement and availability of steam pressure. The results found so far are encouraging and indicates product water cost to be around INR 100 per m3 by use of small design. Such designs may give a wide range of units capable of producing from few m3 to hundreds of m3 per day. The recovery ratio is found above 0.7, irrespective of size of unit due to its kinematic design. A demonstration unit is at PDEU. The main features of this thermal- energy driven RO module are low running cost, high recovery ratio and gain output ratio.

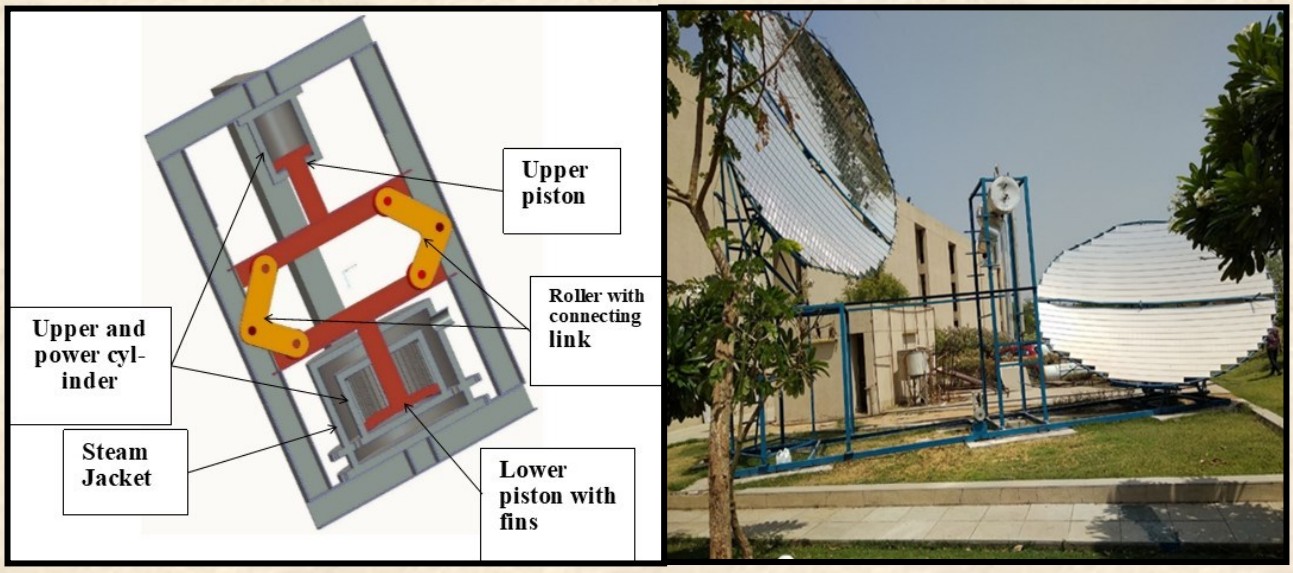
ADVANCES IN MECHANICAL ENGINEERING

FEASIBILITY AND PARAMETRIC STUDY OF A THERMAL- ENERGY DRIVEN REVERSE OSMOSIS SYSTEM FOR BRACKISH AND WATER CONTAMINATION AREAS IN INDIA

Dr. Anurag Mudgal

A steam-driven system has been designed and developed in which a power piston actuates a water piston via a coupling mechanism, pressurizing saline water through a RO membrane in batches, and achieving high recovery of freshwater. The steam may be generated by solar panels, biomass boilers, or as an industrial byproduct. The mechanism must provide the requisite mechanical advantage to couple the two pistons. A novel mechanism has been designed for low cost, and a steam-jacketed arrangement has been designed for isothermal expansion and improved thermodynamic efficiency.

The results indicate feasibility and applicability of the proposed steam driven system as a solution to variety of contaminated water throughout the country. This work was done under a DST project (DST/TM/WTI/2K15/219) Solar Powered High Recovery Desalination (SPHRD) to provide clean water.



Solar **P**owered **D**riven **H**igh **R**ecovery **D**esalination (**SPHRD**) System

FACULTY PUBLICATIONS

JOURNAL

The following Journal Papers were published during the month of November 2021:

⇒ ***Fuse Kishan***, Arrown Dalsaniya, Dhananj Modi, ***Jay Vora***, Danil Y. Pimenov, Khaled Giasin, ***Parth Prajapati, Rakesh Chaudhari***, and Szymon Wojciechowski, "Integration of Fuzzy AHP and Fuzzy TOPSIS Methods for Wire Electric Discharge Machining of Titanium (Ti6Al4V) Alloy Using RSM", Materials 14, no. 23: 7408. (IF~3.623) (2021) https://doi.org/10.3390/ma14237408

⇒ ***Fuse Kishan, Rakesh Chaudhari, Jay Vora, Vivek K. Patel***, Luis Norberto Lopez de Lacalle, "Multi-Response Optimization of Abrasive Waterjet Machining of Ti6Al4V Using Integrated Approach of Utilized Heat Transfer Search Algorithm and RSM", Materials 14, no. 24: 7746. (IF~3.623) (2021):
https://doi.org/10.3390/ma14247746

⇒ Shivanna D M, ***Kiran M.B.,*** Venkatesh G.S., Kavitha S D, "Process Capability Assessment Using Vision System", International Journal of Modern Manufacturing Technologies, ISSN 2067–3604,Vol.XIII,No.2/2021
https://doi.org/ 10.54684/ijmmt.2021.13.2.96

⇒ P Akhenia, K Bhavsar, J Panchal, ***V Vakharia***, "Fault severity classification of ball bearing using SinGAN and deep convolutional neural network", Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 09544062211043132, SAGE Publications, December (2021) https://doi.org/10.1177/09544062211043132

⇒ Harshad kumar Jadav, ***Vishvesh Badheka***, Gautam Upadhyay & Kush Mehta, "Dissimilar welding of magnesium alloy to aluminium alloy: a review", Advances in Materials and Processing Technologies, (2021)
https://doi.org/10.1080/2374068X.2021.2016564

⇒ Sarvjot Singh, ***Vishvesh J. Badheka*** & Vijay S. Gadakh, "Assisted cooling approach for FSW of pure copper", Welding International (2021)
https://doi.org/10.1080/09507116.2021.2007739

FACULTY PUBLICATIONS

CONFERENCE PAPERS

Dr. Ravi Kant presented paper titled " Optimal perturbation control in plane Poiseuille flow using stability modifier" at 48th National Conference On Fluid Mechanics And Fluid Power (FMFP 2021) during 27th - 29th December 2021 organized by Birla Institute of Technology & Science, BITS Pilani.

Dr. M. B Kiran published the following conference papers as Proceedings of the International Conference on Industrial Engineering and Operations Management during December 2021:

⇒ Industry 4.0 significance and its applications, pp. 2988–2998.

⇒ Significance of intruder detection techniques in the context of industry 4.0, pp. 2977–2987.

BOOK CHAPTERS

Dr. M. B. Kiran published the following Book Chapters in the book - Recent Advances in Mechanical Infrastructure, ISBN978-981-16-7659-8:

⇒ Enhancing Productivity of Manufacturing Company Using Value Stream Mapping - (Chapter 35).

⇒ Design and Development of a Novel technique for the maintenance of a Gas Turbine-A Case Study - (Chapter 7).

Dr. Vishvesh Badheka published the following Book Chapters in the book "Hussain C.M., Di Sia P. (eds) Handbook of Smart Materials, Technologies, and Devices", Springer, Cham (18 December 2021):

⇒ Gadakh V.S., ***Badheka V.J.***, "Sustainability of Fusion and Solid-State Welding Process in the Era of Industry 4.0" (2022) https://doi.org/10.1007/978-3-030-58675-1_113-1.

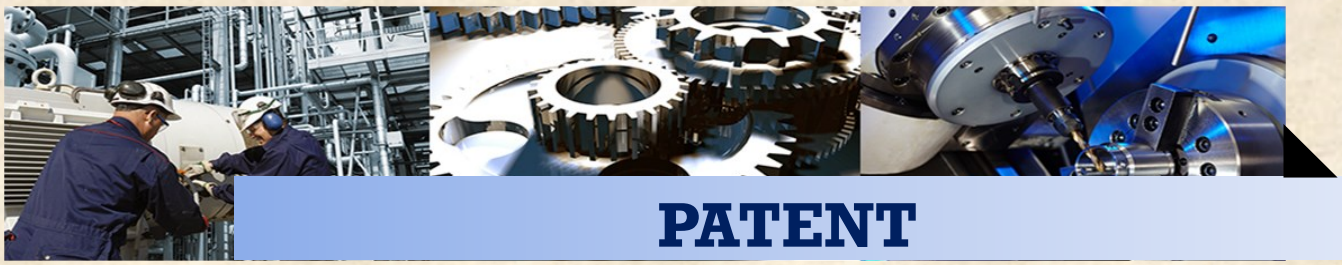
⇒ ***Badheka V.J.***, Gadakh V.S., Shinde V.B., Bhati G., "GTAW Application for Additive Manufacturing and Cladding of Steel Alloys" (2022) https://doi.org/10.1007/978-3-030-58675-1_109-1.

FACULTY

RESEARCH PROJECT

Dr. Pavan Kumar G received the research project funding sanctioned by BRNS titled "3D Printing of organic-inorganic composite scintillation detectors" worth Rs. 28,50,600/- for a duration of 3 years beginning from the financial year 2021-22 dated 12th November 2021.

Dr. M.B. Kiran (Project Investigator) and ***Dr. Vishvesh Badheka*** (Co-Project Investigator) submitted a Research proposal titled "Inspection of Friction Stir Welded Joints" to Science Engineering Research Board (SERB) on14th December 2021.



PATENT

Dr. M.B. Kiran submitted a prototype of published patent, titled Drill Jig, to ORSP office on 15th November 2021.

Dr. Vinay Vakharia submitted the following design patents on 20th November 2021 and acknowledgement received on 3rd December 2021 authored by.

⇒ Venish Suthar, Milind Shah, RajdeepSinh Zala, Shrawan Srivastava, ***Dr. Vinay Vakharia,*** titled "Grooved Clutcher", registered vide no.: 354219-001.

⇒ Venish Suthar, Milind Shah, RajdeepSinh Zala, Shrawan Srivastava, ***Dr. Vinay Vakharia***, titled " High Latency Fluid Transportation Frame", registered vide no.: 354220-001.

⇒ Venish Suthar, Milind Shah, RajdeepSinh Zala, Shrawan Srivastava, ***Dr. Vinay Vakharia***, titled ¨ Universal Support For Household Bucket Heaters", registered vide no.: 354221-001.

FACULTY

WEBINARS DELIVERED

Dr. Vishvesh Badheka delivered the following expert lectures during the month of November - December 2021:

⇒ "Role of IIW-INDIA in nation building: Strategies on activities of young professionals and students on 23rd November 2021 (5-6pm), organized by SVNIT, Surat Students Chapter.

⇒ The following topics under 95th Transition arrangement refresher course of Indian Institute of Welding on 9-10th December 2021:

- Laser and Electron Beam Welding processes
- Hybrid Welding processes & MIAB
- FW, FSW, UW, Diffusion, Explosive (Solid state) Welding Processes
- Resistance welding processes.

Dr. S S Kachhwaha delivered an online invited talk on "Biodiesel Production: Challenges Ahead?" on 23rd November 2021 in an online webinar organized by Government Engineering College Modasa, ATAL FDP on "Alternate fuels" during 22nd - 26th November 2021.

WEBINARS ATTENDED

Dr. Ravi Kant participated and completed successfully AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Lab on chip and affordable diagnostics (under 'Lab on chip' thrust) organized by IIT Kharagpur during 01st -5th November 2021.

Dr Vinay Vakharia attended a web based training on the topic "Agriculture applications through space based observations" organized by SAC-ISRO during 13th -15th December 2021.

Dr. M.B. Kiran attended 4th International Conference (IMEOM) on Industrial and Mechanical Engineering and Operations Management, held at Dhaka, Bangladesh from 26th - 27th December 2021.

FACULTY RECOGNITION

Dr. M.B. Kiran is selected as a member of technical committee for the 3rd International Conference on Machine Learning and Human-Computer Interaction, MLHMI, to be held in Singapore during 18th-20th March 2022.

Dr. Vivek K Patel is recognized as top 2% most influential scientists worldwide based on Scopus publications impact by Stanford University.

Indian Researchers in Stanford University's Top 2% Scientists List

The results of a recent research performed by academics from Stanford University published a comprehensive list that identified the Top 2% most Influential scientists worldwide based on the Scopus publications impact [1]. The report was prepared by Prof. John PA Loannidis of Stanford University and his team [2] and published by Elsevier. Total 3352 Indian researchers found a place in this list that represents the valuable impact of India on the global research platform. Most of the researchers in this list are from the leading universities like IISc, IITs, NITs, and IIITs, etc [3-8]. Figure 1 represents the top 2% most Influential Scientists with respect to the different universities from India (only the universities where the number of researchers is more than 20 are shown here).

Indian Researchers in Stanford University's Top 2% Most Influential Scientists List

Show 10 entries Search:

Name	Affiliation	World Rank	India Rank	Subject Rank (World)
Patel, Vivek K.	Pandit Deendayal Petroleum University	43979	417	367
Bera, Achinta	Pandit Deendayal Energy University	80312	831	1849
Mehta, Kush P.	Pandit Deendayal Petroleum University	174289	2089	2305
Jhaveri, Rutvij H.	Pandit Deendayal Petroleum University	349831	3127	3470

Showing 1 to 4 of 4 entries (filtered from 3,352 total entries) Previous Next

FACULTY

ADMINISTRATIVE ASSIGNMENTS

Dr. M.B. Kiran took up the following administrative assignments during the month of November 2021:

⇒ worked on Criteria 2 as a part of NBA 2.0 submission with team members : Prof. S.S Kachhwaha, Dr. Jatin Patel, and Dr. Pankaj Sahlot

⇒ attended CD Cell meeting on 10th November 2021 and presented the activities of the Mechanical Engineering Department towards placement of UG and PG students like conducted Industry Connect 2021, guest lectures and developed placement database.

⇒ interacted with the following companies with regard to the placement of B. Tech. and M. Tech students during the month of November and December 2021:

- Roop Telsonic Ultrasonix Limited.
- GMM Pfaudler Limited
- Hindustan Dorr - Oliver Limited
- Hitachi - Hirel
- IFB
- Phenix Creation Simplified
- ABB India Ltd Elecon India
- Add Value Consulting Inc.
- TATA Hitachi Alliance India
- Ball Aerocan India Private Limited
- Universal Medicap Ltd.
- Bureau Veritas (I) Pvt. Ltd.
- Control Plus Oil & Gas Solutions Pvt. Ltd.

FACULTY

ADMINISTRATIVE ASSIGNMENTS

Dr. Vishvesh Badheka took up the following administrative assignments during the month of November 2021:

⇒ Coordinated AMTC and workshop visit of delegation from the Embassy of the European Union to India on 19th November 2021.

⇒ Attended cash Prize Distribution event on 26th November to felicitate the meritorious students of School of Technology.

⇒ Department teaching load and visiting faculty assignment 7-8th December 2021.

⇒ Skill development program meeting with lab staff on 8th December 2021.

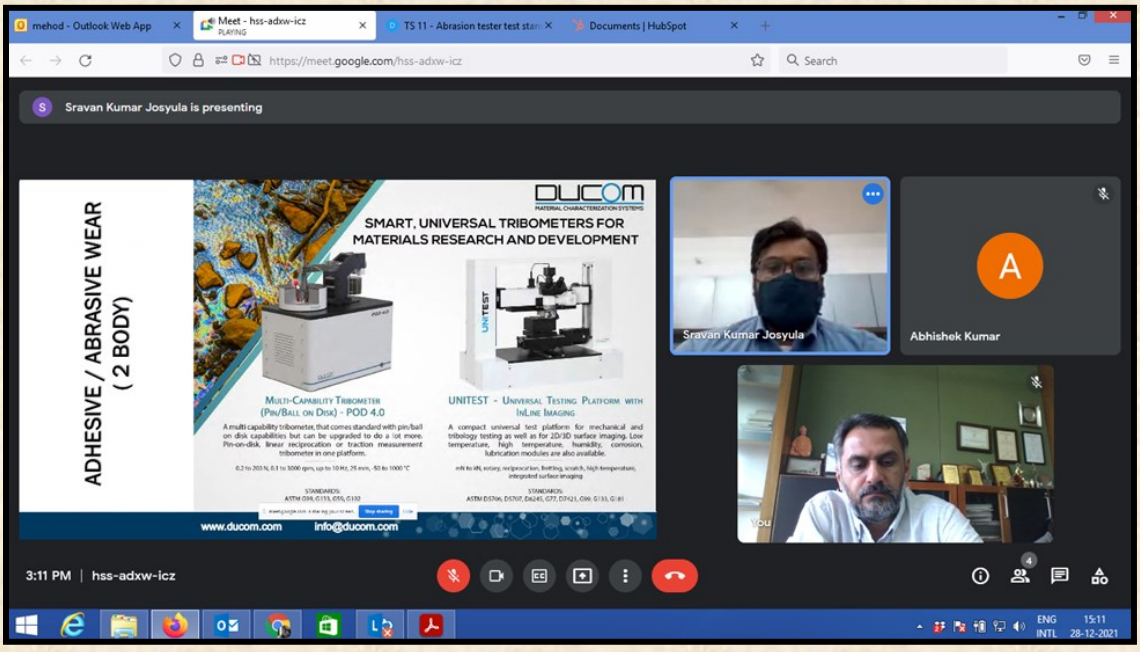
⇒ Shifting of Siemens Facilities 6-7th December 2021.

⇒ SoT roadmap meeting held on 15th December 2021.

⇒ University Faculty meeting on 22nd December 2021.

⇒ Meeting with IACE officials regarding B. Tech Automobile program followed by visit to workshop held on 27th December 2021.

⇒ Meeting on Technical specification of dry and slurry abrasion tester with Duecome system Bangalore held on 28th December 2021.



⇒ Centre of Excellence in Ceramic Materials held on 28-29th December 2021.

FACULTY EVENTS ORGANIZED

Dr. Krunal Mehta, on behalf of PDEU, in association with International Automobile Centre of Excellence (iACE), organized two Short-Term programs for Hands-On Exposure to various Automobile Engineering and allied technologies, for Sem-3 B. Tech. Automobile Engineering students. Following modules were covered:

Module-1: Paint Shop (9 hours) on 10th, 17th and 24th November 2021 (Wednesdays)

Module-2: Geometric Dimensioning and Tolerancing (4 hours) on 16th and 23rd November 2021 (Tuesdays)

The sessions were conducted at iACE, Gandhinagar. About 15 students participated in the event.

FACULTY

PROFESSIONAL ACTIVITIES

Dr. Vishvesh Badheka took up the following Professional Activities during the month of November 2021:

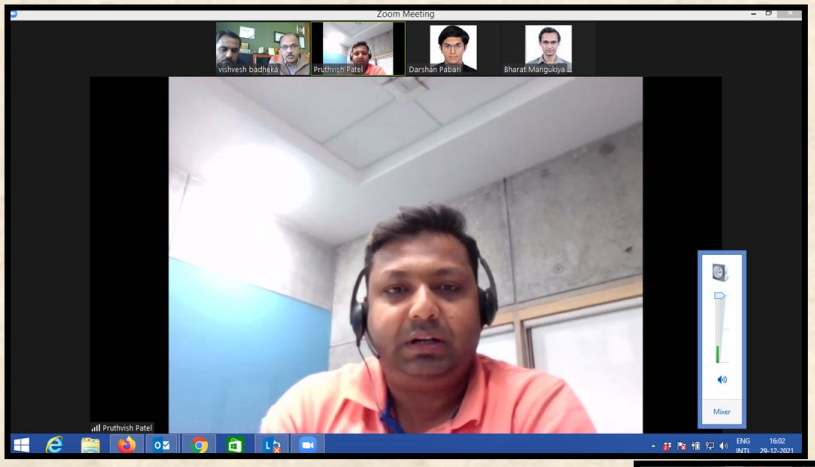
⇒ Interview with National Skills Network (NSN) on Scope for higher education and research in welding held on 16th December 2021.
The link to the video interview: https://youtu.be/hOwPlIEg_Ro

Web version (with excerpts from the video) : https://www.nationalskillsnetwork.in/scope-for-higher-education-and-research-in-welding/

E-magazine Skill Times from NSN - https://mailer.nationalskillsnetwork.com/b3o9s4

⇒ Attended 325th Council Meeting of IIW held on 18th December 2021 and presented outcome of best students chapter (Based on assessment of best performing students chapter assessment with core committee held on 15th December 2021)

⇒ IIW-IACE meeting regarding closure of the current MOU held on 27th December 2021.



⇒ Joint meeting with Xylem official on heat transfer calculation jointly attended with ***Dr. S S Kachhwaha*** on 29th December 2021.

⇒ Members of the department visited 15th ENGIMACH at Helipad Exhibition Centre, Gandhi agar on 2nd December 2021.

FACULTY

PROFESSIONAL ACTIVITIES

Dr. Vishvesh Badheka took up the following Professional Activities during the month of November 2021:

⇒ visited Sahajanand Laser Technology Ltd, Gandhinagar in response to an invitation for technical discussion as well as consultation on their product specific problems and how they can be mitigated using various technologies of welding. He was accompanied by Mr. Kshitij Acharya (21RME006) , PhD Scholar, PDEU.

⇒ Attended 6th Management Committee Meeting of IIW Baroda Branch for the Year 2021-22 on 20th November 2021.

⇒ Interacted with Prof J Krishnan, L & T Chair professor, M.S. University Baroda on 25th November 2021.

⇒ Act as a Board of Paper Setters and Examiners in 2PE01: Materials Science and Physical Metallurgy, Exam of B. Tech.(Production Engineering) Third Semester and practical/viva exam conducted offline mode at BVM College of Engineering campus on 14th December 2021.

FACULTY

INSTALLATION OF MAJOR EQUIPMENT

The following major equipment were installed at Workshop on 24th December 2021 under the supervision of ***Dr. Vishvesh Badheka:***

3D PRINTER / ENDER-3
Cost: Rs. 11,499/-

Technical Specifications

- **Ender-3 FDM 3D Printer Properties**
- **Modeling Technology: FDM (Fused Deposition Modeling)**
- **Printing Size: 220x220x250mm**
- **Printing Speed: 180mm/s**
- **Filament: 1.75mm PLA, TPU, ABS**
- **Working Mode: Online or SD offline**
- **File Format: STL,OBJ,G-code**
- **Ender-3 FDM 3D Printer Hardware**
- **Machine Size: 440x440x465mm**
- **Net Weight: 8KG**
- **Power Supply: 100-265V 50-60HZ**
- **Output: 24V 15A 270W**
- **Ender-3 FDM 3D Printer Extruder Hardware**
- **Layer Thickness: 0.1-0.4mm**
- **Nozzle Diameter: 0.4mm**
- **Printing Accuracy: ±0.1mm**
- **Nozzle Temperature: 255°C**
- **Hotbed Temperature: 110°C**

3D PRINTER / MONO 4K
Cost: Rs. 21,997/-

Technical Specifications

- **Exposure screen: 6.23" monochrome**
- **Printing dimensions: 6.5 x 5.2 x 3.1 in. / 16.5 x 13.2 x 8 cm (HWD)**
- **Light transmittance: 7%**
- **Contrast ratio: 400:1**
- **Light source: Parallel matrix (LED x 15)**
- **Power density: 3,500 - 4,000 µw/cm²/23,905 - 27,320 lux**
- **Printing accuracy: 3,840 x 2,400 px (4K)**
- **Horizontal resolution: 35 µm**
- **Printing speed: ≤ 5 cm/hr. / 1.97 in./hr.**
- **Control panel: 2.8" TFT touch-control**
- **Data input: USB-A 2.0**
- **Power supply: 45W**
- **Software: Photon Workshop**
- **Machine dimensions: 15.1 x 8.9 x 8.7 in./38.3 x 22.7 x 22.2 cm (HWD)**
- **Machine weight: 9.4 lb./4.3 kg**

FACULTY

VISITS AT PDEU

Dr. Vishvesh Badheka coordinated the following visits during the month of November 2021:

⇒ IITRAM students visited Welding Research Lab and performed experiments during 11-12th November 2021.

⇒ Mr. Kapil B. Pipavat, Faculty, Government Polytechnic, Bhavnagar visited Welding Research Lab on 15th November 2021.

⇒ Mr Harshad Jadav, Faculty, Government Engineering College, Gandhinagar defended PhD Open Seminar on FSW of Dissimilar Metals Al to Mg on 20th November 2021. Experimental work was supported by Welding Research Lab.

⇒ Mr Naishadh Patel, Faculty, Government Polytechnic, Rajkot defended PhD viva on A-TIG Welding of Dissimilar Metals on 25th November 2021. Experimental work was supported by Welding Research Lab.

⇒ Dr. Amit Trivedi, Head, Production Engineering Department, BVM College of Engineering visited Engineering Metallurgy Lab on 22nd November 2021.

FACULTY

VISITS AT PDEU

Dr. Vishvesh Badheka coordinated the following visits during the month of November 2021:

⇒ Dr Arun Zala, Post-doctoral fellow, Institute for Plasma Research, Gandhinagar visited on 26th November 2021.

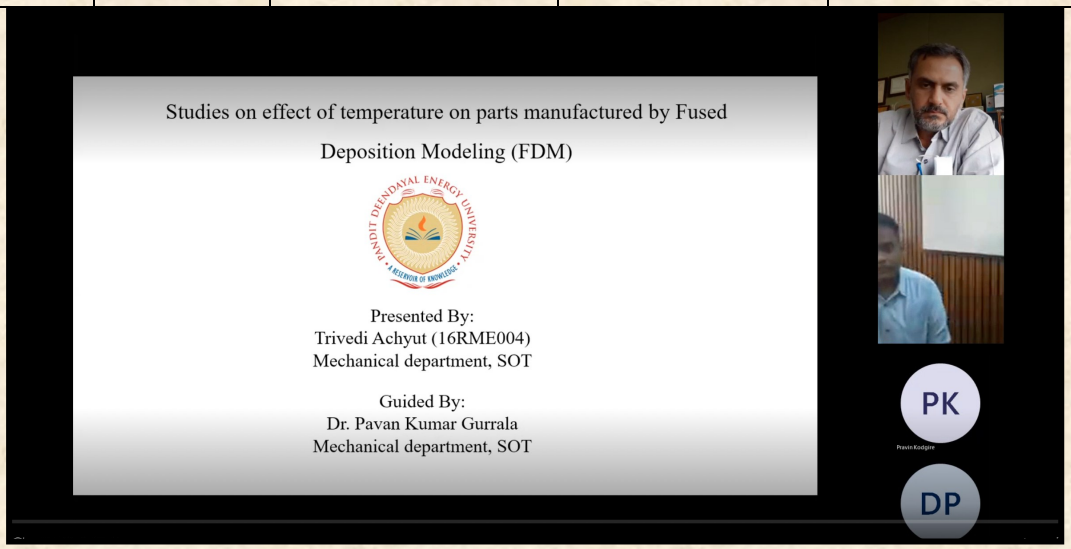
⇒ Mr Gautam Gohil, General Manager, INOXCVA and HR team visited Welding Research Lab followed by students interaction and expert talk on 27th November 2021.

⇒ Faculty and student of Parul University visited welding research and perform experiments during 8-9th and 23rd December 2021.

FACULTY

DC CONDUCTED

DC Review	Date	PhD Scholar	External Expert	Guide/Supervisor
8th DC	13th December 2021	Mr. Achyut Trivedi (16RME004)	Prof. K. M. Patel	Dr. Pavan Kumar G
Comprehensive Exam & 2nd DC	29th & 30th December 2021	Mr. Pravesh Chandra (20RME010)	Dr. Vijay Matawala, MSCET, Surat	Dr. Anurag Mudgal and Dr. Jatin Patel
Comprehensive Exam & 4th DC	29th & 30th December 2021	Mr. Dipak Ankoliya (20RME001)	Dr. Hiren D. Raval, CSMCRI Bhavna-gar	Dr. Anurag Mudgal
Comprehensive Exam & 4th DC	29th & 30th December 2021	Mr. Niyant Thakkar (19RME004)	Dr. Vijay Matawala, MSCET, Surat	Dr. Jatin Patel and Dr. Anurag Mudgal
Comprehensive Exam & 4th DC	29th to 31st December 2021	Mr. Dhaval Patel (20RME002)	Dr. Jaychandar Swaminathan, IIT Gandhinagar	Dr. Anurag Mudgal and Dr. Vivek K. Patel
Comprehensive Exam & 2nd DC	31st December 2021	Mr. Milan Raninga (21RME004)	Dr. Jaychandar Swaminathan, IIT Gandhinagar	Dr. Anurag Mudgal and Dr. Vivek K. Patel
7th DC	31st December 2021	Mr. Ravikumar Patel, (18RME006)	Dr. Rajeh N Patel, Nirma University	Dr. Garlapati Nagababu Prof. S.S. Kachhwaha ,



STUDENTS

CHAPTER ACTIVITIES

RECOGNITION

Students of (MTMM21) PDEU-IIW students' chapters participated IIW-Kolkata The Welding Quiz for Aspirant Welding Engineers, held on 11th December 2021. Six teams participated at national level, PDEU team won the quiz competition.

EVENTS ORGANISED

The following events were organized by IIW-PDEU Student Chapter during the month of December 2021:

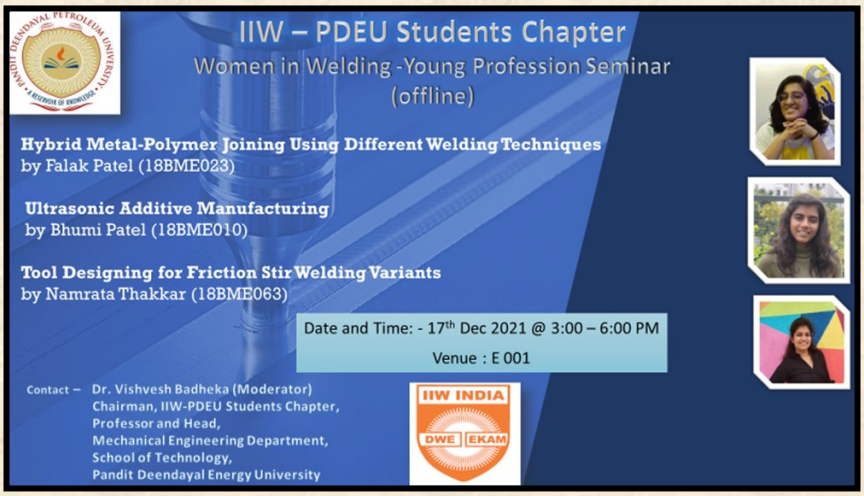
⇒ Quiz Competition on Welding Processes and Metallurgy attended by 15 members on 3rd December 2021.

STUDENTS CHAPTER ACTIVITIES

The following events were organized by IIW-PDEU Student Chapter during the month of December 2021:

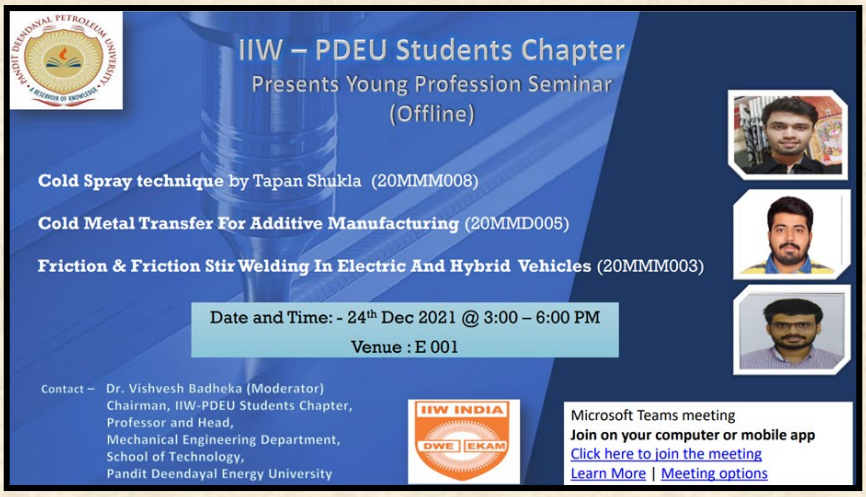
⇒ Women in Welding -Young Profession Seminar (offline) held on 17th December 2021 (3-5pm) attended by 40 + students on the topics:

- Hybrid Metal-Polymer Joining Using Different Welding Techniques by Falak Patel (18BME023),
- Ultrasonic Additive Manufacturing by Bhumi Patel (18BME010),
- Tool Designing for Friction Stir Welding Variants by Namrata Thakkar (18BME063)



⇒ Young Profession Seminar (Offline) held on 24th December 2021 (3-5pm) attended by 50+ students on the topics:

- Cold Spray technique by Tapan Shukla (20MMM008),
- Cold Metal Transfer for Additive manufacturing (20MMD005),
- Friction & Friction Stir Welding in Electric and Hybrid Vehicles (20MMM003)



STUDENTS CHAPTER ACTIVITIES

The following events were organized by IIW-PDEU Student Chapter during the month of December 2021:

⇒ Skill Development Program included 5 Skills conducted in three slots attended by 131 students (B. Tech 2nd, 3rd and 4th year and M. Tech PhD) out of which 21 students were benefitted with 2 skills. The slot-wise bifurcation is as under :

Skill Development Program	Slot 1: 13-17th December 2021	Slot 2: 20-24th December 2021	Slot 3: 27-31st December 2021	Total
3D Printing	16	20	19	55
CNC Machining	13	10	11	34
Conventional Machining	04	06	03	13
Non-Conventional Machining	05	15	03	23
Arc Welding	01	01	04	06

The detailed skills imparted during the Skill Development Program were as under:

Conventional Machining
@ Lathe machine
@ Milling Machine
@ Shaper machine
@ Drilling Machine

CNC Machining
@ CNC Milling
@ CNC Turning

Non-Conventional Machining
@ Wire Cut EDM
@ Spark EDM

Arc Welding
@ Shielded Metal Arc Welding (SMAW),
@ Gas Tungsten arc Welding (GTAW)
@ Gas Metal Arc Welding (GMAW)

3D Printing

The skill training was provided by **Mr Jayesh Panchal, Mr Ashok Chavada, Mr Arvind Makwana, Mr Mehul Bhalu, Mr Vatsal Vaghasia, Mr Abrarkhan Pathan.**

The event was supported by **Mr Piyush Chaudhari, Mr Alpesh Rajput, Mr Umang Soni, and Mr Tushar Prajapati, Mr Kshitij Acharya, Mrs Pooja Nimavat** which made this event a great success.

STUDENTS
CHAPTER ACTIVITIES

SDP I : 13-17th December 2021
for more pictures, click here

SDP II : 20-24th December 2021
for more pictures, click here

STUDENTS
CHAPTER ACTIVITIES

SDP III : 27-31st December 2021
for more pictures, click here

SDP Team with Director SoT Sir

STUDENTS
CHAPTER ACTIVITIES


DG Sir's Visit and Interaction during SDP

DoAA Sir's Visit and Certification during SDP

D SoT Sir's Visit and Interaction during SDP

PDEU PANDIT DEENDAYAL ENERGY UNIVERSITY

Formerly Pandit Deendayal Petroleum University

Department of Mechanical Engineering

Skill Development Programme

organized by IIW-PDEU Chapter

SOT SCHOOL OF TECHNOLOGY

Non-Conventional Machining
- Wire Cut EDM
- Spark EDM

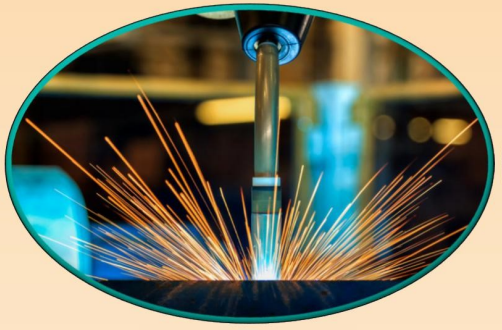
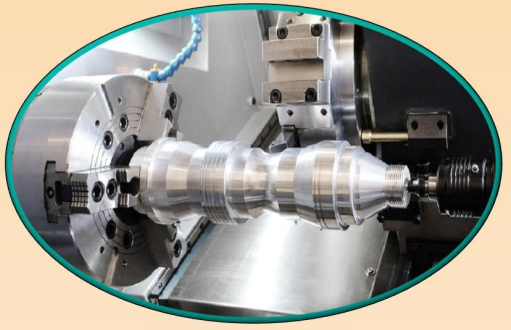
Arc Welding
- Shielded Metal Arc Welding (SMAW),
- Gas Tungsten arc Welding (GTAW)
- Gas Metal Arc Welding (GMAW)

CNC Machining
- CNC Milling
- CNC Turning

Conventional Machining
- Lathe machine
- Milling Machine
- Shaper machine
- Drilling Machine

3D Printing



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Slot 1: 13-17th December 2021
Slot 2: 20-24th December 2021
Slot 3: 27-31st December 2021
(09.30 am to 05.30 pm)

Certificates for Participants

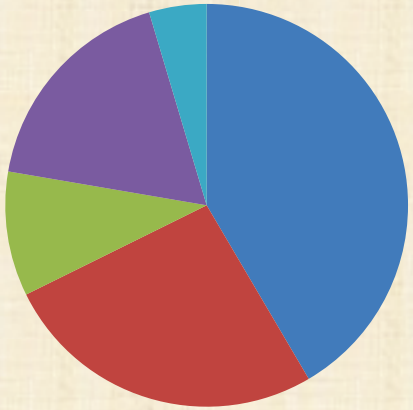
Click here to register :

https://forms.gle/BT3kNjhTwUA2SRKG7

For more information contact the above trainers or Coordinator : Dr. Vishvesh Badheka, HoD & Professor
Mo No. 9824025256 , Email : Vishvesh.Badheka@spt.pdpu.ac.in

SDP

SKILL /Number of students	SDP - I	SDP - II	SDP - III	Total
3D Printing	16	20	19	55
CNC Machining	13	10	11	34
Conventional Machining	04	06	03	13
Non-Conventional Machining	05	15	03	23
Arc Welding	01	01	04	06



Total Number of Students : 131

- 3D Printing
- CNC Machining
- Conventional Machining
- Non-Conventional Machining
- Arc Welding

SDP

Number of students	SDP - I	SDP - II	SDP - III	Total
2018 Bachelor Engineering	10	10	00	20
2019 Bachelor Engineering	17	27	24	68
2020 Bachelor Engineering	11	14	16	41
Others (M.Tech/P.hd)	01	01	00	02