



# PDEU

PANDIT DEENDAYAL ENERGY UNIVERSITY

Formerly Pandit Deendayal Petroleum University (PDPU)

# SOT

SCHOOL OF  
TECHNOLOGY

## NEWSLETTER

February  
2021



# SCHOOL OF TECHNOLOGY

## DEPARTMENT OF MECHANICAL ENGINEERING

### FACULTY ZONE

- > Publications - Journals
- > Patent Filed
- > Webinars Attended
- > Administrative Assignments

### FACULTY ZONE

- > Event/Webinar Organized
- > Webinars Delivered
- > Recognition
- > Professional Activities
- > Professional Visits

### STAFF ZONE

- > Workshop/Conference Attended
- > Training or Installation of Major Equipment

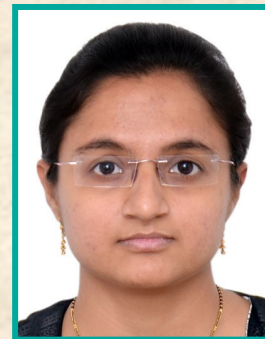
### STUDENT ZONE

- > Publication
- > Patent
- > Webinars Attended

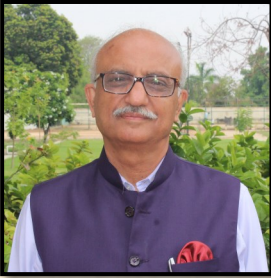
## Editorial Team



**Dr. Pankaj Sahlot**  
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, February 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.



## FACULTY

## PUBLICATIONS

### JOURNALS

Department of Mechanical Engineering published the following Journal Papers during the month of February 2021:

- ⇒ **K. Anirudh**, S. Dhinakaran, “Numerical analysis of the performance improvement of a flat-plate solar collector using conjugated porous blocks”, Renewable Energy, 2021 (In Press)  
<https://doi.org/10.1016/j.renene.2021.02.145>
- ⇒ Jacob John , S. P. Shanmuganatan , **M. B. Kiran** , V. S. Senthil Kumar & R.Krishnamurthy “Materials and Manufacturing Processes”, Friction stir processing combined with incremental forming effect on AA2014-T6,  
<https://doi.org/10.1080/10426914.2021.1885696>
- ⇒ Krantikumar Kshaurad , **M.B. Kiran** , S.P. Shanmuganatan, (Article in Press), “Minimum zone tolerance algorithm to detect roundness error for machined rods using vision system”, Materials Today Proceedings.



## PATENT FILED

**Dr M B Kiran** filed a Design Patent titled “Vision Inspection Fixture” dated 25th February 2021.



## FACULTY

## WEBINARS ATTENDED

*Dr. Vishvesh Badheka* attended webinar on “Laser-Arc Hybrid Welding of High Performance Material” by Dr G. Padmanabham, Director, ARCI, Hyderabad organised by IIW Hyderabad Branch dated 27th February 2021 (4:00 PM to 5:30 PM).



## ADMINISTRATIVE ASSIGNMENTS

*Department of Mechanical Engineering* took up the following Administrative Assignments during the month of February 2021:

- ⇒ Conducted Online Departmental BoS meeting held on 22nd February 2021. The meeting was attended by Prof Vishvesh Badheka (Chairman), Internal Members : Dr Jatin Patel, Dr Simran Singh, Dr RaviKant, Dr. Krunal Mehta and External Members : Prof H K Raval, Professor, SVNIT, Mr. Anand Savalia, Director, Kavyam Energy Pvt. Ltd, Rajkot, Mr. Anand Mishra, Plant Quality & Launch Head, SVAP, Ford India, Ahmedabad, Prof. D.S. Sharma, Professor, Head of the Department, MS University, Vadodara.
- ⇒ Conducted Comprehensive Project (CP) Review during 1st to 7th February 2021 and Non - CP Review during 1st - 5th February 2021.
- ⇒ Attended various meeting on Outcome Based Education (OBE) Posters held on 5th, 12th, 16th and 22nd February 2021.

# FACULTY

## EVENTS /WEBINARS ORGANIZED

**Dr Anurag Mudgal** organized the webinar entitled “Low-Cost Renewable Energy Driven (LC-RED) Wastewater Treatment Options” on 20th February 2021.

Webinar had about 150 participants from 04 countries and 16 states. This includes representation from Academia including several IITs and NIITs, industry, NGO, civil society, and policy makers from Government bodies. Focus of the webinar was to explore low cost- waste water treatment options for welfare of the society. Treatment of Domestic waste water, Industrial effluent and saline ground water was covered in the webinar.

It has been successful in providing a virtual engagement and infotainment platform for participants towards the water scarcity & low cost water treatment technologies.

**Webinar on**

**Low-Cost Renewable Energy Driven (LC-RED) Wastewater Treatment Options**

20-Feb-2021, SATURDAY | 3:00 PM to 5:00 PM

Join us on Microsoft Teams

**REGISTER NOW**

Click Here To Register For The Webinar <<

**Chief Guests**

**Presidential address by**

**Address by**

**Prof. S. Sundar Manoharan**  
Director General  
Pandit Deendayal Energy University  
Gujarat

**Dr. Sanjai Kumar**  
Scientist  
Department of Science & Technology  
India

**Prof. Sunil Khanna**  
Director, School of Technology  
Pandit Deendayal Energy University  
Gujarat

**Keynote Speakers**

**Dr. Anurag Mudgal**  
Pandit Deendayal Energy University  
Gujarat

**Dr. R. K. Srivastava**  
G & P Unit University  
Uttarakhand

**Dr. Suphiya Khan**  
Banshodh University  
Rajasthan

**Dr. Dinesh Kumar**  
Central University of Gujarat  
Gujarat

**Organized By:**  
PANDIT DEENDAYAL ENERGY UNIVERSITY  
GUJARAT

**CONVENER**  
Milan Raninga (PDEU)  
milan.raniga@pdeu.ac.in  
9033669842

**WEBINAR COORDINATORS**  
Monika Chhimwal (GBPU)  
Eena Chakravarty (IIT)  
Kritika Sharma (CUG)

E-Certificate will be provided to all participants.  
No Registration Fee.

Visit  
<https://lc-red.wixsite.com/lcred>

**Dr. M. B Kiran** organized the following Alumni Connect webinars attended by Final Year students of B. Tech and M. Tech in the month of February 2021:

- ⇒ “A Case Study for becoming Successful Engineer” by Ms. Varsha Singh, B. Tech in Industrial Engineering 2017 batch, currently working with SAP Deloitte dated 25th February 2021.
- ⇒ “Industry Expectations From Fresh Engineers” by Mr. Bhaumik Ashar, B. Tech in Industrial Engineering 2019 batch, Assistant Manager, Cadila Healthcare Ltd. on 26th February 2021.
- ⇒ Industrial Revolution, IoT & Automation with some current projects of industry” by Mr. Jay Chaudhary, B. Tech in Industrial Engineering 2018 batch, currently working as Junior Industrial Engineer in Business Excellence Department & Industry 4.0 Team, Welspun India Limited dated 27th February 2021.

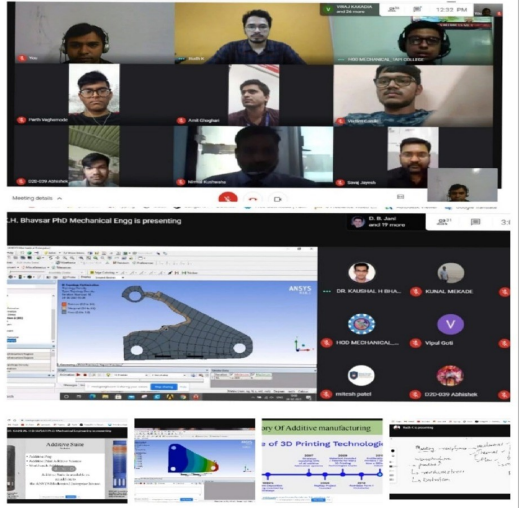


# FACULTY

## WEBINARS DELIVERED

*Dr Anirudh Kulkarni* delivered an expert lecture on 'Numerical Modelling of the Friction Stir Welding Process' in GUJCOST & DST, Government of Gujarat sponsored 3 days Online Workshop on “Finite Element Analysis using ANSYS”, organized by Tapi Diploma Engineering College, Surat on 24th February 2021.

TAPI DIPLOMA ENGINEERING COLLEGE, SURAT  
DEPARTMENT OF MECHANICAL ENGINEERING (NBA ACCREDITED)  
GUJCOST & DST, GOVT. OF GUJARAT SPONSORED  
3 DAYS ONLINE WORKSHOP ON  
“FINITE ELEMENT ANALYSIS USING ANSYS”  
DATE: 24/02/2021



DAY: 3 (I) 1<sup>st</sup> Session: Analysis of Friction Stir Welding delivered by Dr. Anirudh Kulkarni (PDEU, Gandhinagar)  
(II) 2<sup>nd</sup> Session: FEA for Additive Manufactured Products delivered by Dr. Kaushal Bhavsar (LDRP-ITR, Gandhinagar)



Pandit Deendayal Energy University,  
(Formerly PDPU)  
Gandhinagar, Gujarat, India.

**SOT**  
SCHOOL OF TECHNOLOGY

*Cordially invites you*  
to  
*attend a 3-Day*  
ONLINE WORKSHOP  
On  
**ADVANCED NUMERICAL TECHNIQUES  
IN SCIENCE AND ENGINEERING  
(ANTSE) - 2021**  
(FEB 26-28, 2021)  
Organizing-Team  
ANTSE2021  
Department of Mathematics  
School of Technology, PDEU, Gandhinagar

*Dr. Ravi Kant* delivered lectures on “Overview and Application of Finite Volume Method” during 3-Day Online Workshop on Advanced Numerical Techniques in Science and Engineering (ANTSE-2021) (February 26 -28, 2021) organized by Department of Mathematics, School of Technology, PDEU (Formerly PDPU) Gandhinagar dated 27th to 28th February 2021.

<https://sites.google.com/view/antse2021/home/resource-persons?authuser=0>



## FACULTY

## WEBINARS DELIVERED

*Dr. Vishvesh Badheka* delivered the following invited lectures during February 2021:

- ⇒ “Conventional Arc Welding Processes and its Applications” and “Special and Advanced Welding Processes”, organized by Metallurgy Department, Government Engineering College, Gandhinagar under AICTE-GTU One Week Online FDP on "Metallurgy for All" dated 4th February 2021
- ⇒ “Solid State Additive Manufacturing Processes” & “Friction Stir Processing for Surface Composite and Super Plasticity” under TEQIP-III Sponsored Short Term Training Program on Advances in Materials & Design (AMD-2021) organized by Mechanical Engineering Department, SVNIT, Surat during 8th to 9th February 2021.
- ⇒ “EBW, Laser, Hybrid & Solid State Welding Processes’ (Lesson-8) & “Resistance, Friction & FSW (Lesson-9)” under 93rd Transition arrangement refresher course of Indian Institute of Welding during 25th to 26th February 2021.



## RECOGNITION



*Dr. Manjeet Keshav* joined Department of Mechanical Engineering, PDEU since 1st December 2020 has defended his PhD thesis titled as "Optimal Design of Magnetorheological Damper" from IIT Madras under the supervision of Prof. C. Sujatha. His viva voce was chaired by Prof. Seshadri Sekhar (HoD, Mechanical Department., IIT-M) and the thesis was examined by Prof. D. K. Maiti (HoD, Aero. Department., IIT-KGP) as external member on 5th February 2021 .



# FACULTY

## PROFESSIONAL ACTIVITIES

**Dr M.B. Kiran** was invited to become a Ph.D. thesis reviewer submitted by the student in the area of “Spheroidisation treatment on medium carbon steels and machinability study” by Manipal Institute of Technology, MAHE, Manipal, Karnataka.

**Dr. Vishvesh Badheka** conducted full day hands on training session under Manufacturing Processes Lab-I for the first year 20MTMM (Manufacturing) students at Welding Research Lab on 5th February 2021. Session was conducted with the support of Workshop Lab Staff.

Students also appeared for on campus viva and quiz of the course on 19th February 2021.







# FACULTY

## PROFESSIONAL VISITS

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

⇒ Students of Mechanical Engineering Department, Amrutvahini College of Engineering, Sangamner, Ahmednagar, Maharashtra visited Welding Research Lab as part of B. Tech project experiments on Friction Stir Welding of Al to Mg during 8th to 11th February 2021.



⇒ IPR research team visited Welding Research Lab and Metallurgy Labs in connection with Ongoing Collaborative Work on 26th February 2021:

- 1) Dr. Paritosh Chaudhuri
- 2) Mr Chandrasekhar Sasmal
- 3) Dr. Gaurang Joshi
- 4) Dr. Arunsinh Zala



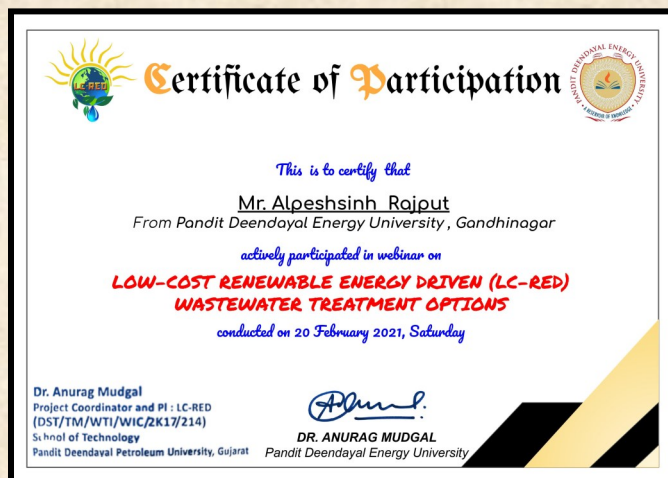


## WORKSHOP/ CONFERENCE ATTENDED

Mr. Umang Soni attended “Huawei Fusion New Generation String Solar Inverter Demonstration Event” organized by Wattkraft at Hyatt Regency, Ahmedabad on 4th February 2021.



Mr. Alpeshsinh Rajput attended webinar on "Low- Cost Renewable Energy Driven (LC-RED) Wastewater Treatment Options” organized by PDEU dated 20th February 2021.





## TRAINING OR INSTALLATION OF MAJOR EQUIPMENT

Mr. Trushar Prajapati coordinated the installation of High RPM Blender at IC Engine lab which is used for Bio-Diesel Generation dated 3rd February 2021.





## TRAINING OR INSTALLATION OF MAJOR EQUIPMENT

Mr. Umang Soni and Mr. Alpeshsinh Rajput coordinated Installation at F- Block - Mechanical Engineering Lab & underwent Training for the following Lab Equipment from the vendors as under:



- (1) Moisture Analyser which is used for measuring the presence of moisture in the Sample (Standard Sample Size of 5ml or 5gm) like food, chemical, oil etc supplied by Spectra Lab on 3rd February 2021.

- (2) Vapour Absorber System with Water Chiller which is used for measuring the cooling effect produced by different solvents, separating different solvents from a given composition of solvents. The chiller is portable and can be used with various systems. It is supplied by Balief Corporation on 24th February 2021.



# STUDENTS

## PUBLICATIONS


Soni H., Gor M., Rajput G.S., Sahlot P. Thermal Modeling of Laser Powder-Based Additive Manufacturing Process. In: Sahni M., Merigó J.M., Jha B.K., Verma R. (eds) Mathematical Modeling, Computational Intelligence Techniques and Renewable Energy. Advances in Intelligent Systems and Computing, vol 1287(2021). Springer, Singapore.

[https://doi.org/10.1007/978-981-15-9953-8\\_35](https://doi.org/10.1007/978-981-15-9953-8_35)

# STUDENTS

## PATENT

Mann Shah (17BME042) & Yug Suthar (18BME128) registered Design Patent granted vide Design No.: 336297-001 class 12-16 titled “Shock Absorber for Vehicles” registered on 15th December 2020 under the guidance of Dr. Krunal Mehta and Mr. Rahul Deharkar.

|  |                             |   |
|--|-----------------------------|---|
| <b>DESIGN NUMBER</b>   | 336297-001                  |  |
| <b>CLASS</b>   | 12-16                       |   |
| <b>PANDIT DEENDAYAL PETROLEUM UNIVERSITY, RAISAN VILLAGE, GANDHINAGAR - 382007, GUJARAT, INDIA</b> |                             |   |
| <b>DATE OF REGISTRATION</b>  | 15/12/2020                  |   |
| <b>TITLE</b>   | SHOCK ABSORBER FOR VEHICLES |   |
| <b>PRIORITY NA</b>   |                             |   |


# STUDENTS

## WEBINAR ATTENDED

Vishal Gautamkumar Dave (19MMM014) and Dhairya Shah - (19MMM005) attended 2 day workshop on “Solar PV Systems and Innovative Mounting Structures for Canal Top Solar System, organized by GERMI during 22nd to 23rd February 2021 . The workshop included site visit at Vadodara.




Mr. Parth Bagerwal (18MMT001) attended a three day online workshop on " Advanced Numerical Techniques in Science and Engineering (ANTSE 2021) organized by Department of Mathematics, School of Technology, PDEU during 26th to 28th February 2021.



**PANDIT DEENDAYAL ENERGY UNIVERSITY (PDEU),  
GANDHINAGAR, GUJARAT-382426, INDIA  
(FORMERLY PDP, GANDHINAGAR)**


Ref. No. : ANTSE/2021/70





### Advanced Numerical Techniques in Science and Engineering (ANTSE)

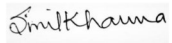
CERTIFICATE OF PARTICIPATION

This is to certify that **Mr. PARTH KAMLESH BAGERWAL** of **Pandit Deendayal Energy University, Gandhinagar** has participated in Three Day Online Workshop on “Advanced Numerical Techniques in Science and Engineering (ANTSE-2021)” organized by the Department of Mathematics, School of Technology, Pandit Deendayal Energy University, Gandhinagar, Gujarat during February 26-28, 2021.

  
**Dr. Ankushi Raje**  
 Coordinator, ANTSE-2021

  
**Dr. Chandra Shekhar Nishad**  
 Coordinator, ANTSE-2021

  
**Dr. Manoj Sahni**  
 HOD, Mathematics

  
**Prof. Sumil Khanna**  
 Director, SOT