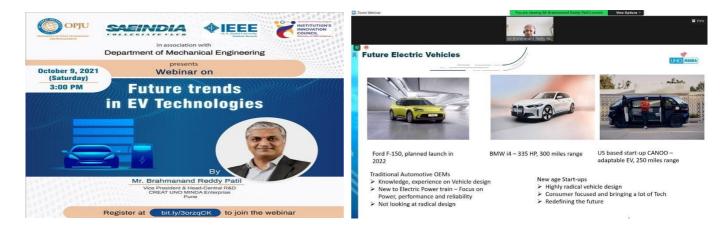
Sustainable and Green campus Activities

2021-22

Webinar on "Future Trends in EV Technologies"

OP Jindal University in association with the Department of Mechanical Engineering, Institutional Innovation Council (IIC)- under Ministry of Innovation Cell (MIC), SAE Collegiate Club, Center for Industry-Academia collaboration (CIAC), and IEEE student chapter has organized a webinar for students, startup innovators, and inquisitive learners on "Future trends in EV Technologies" attended by 120+ participants on 9th October 2021.



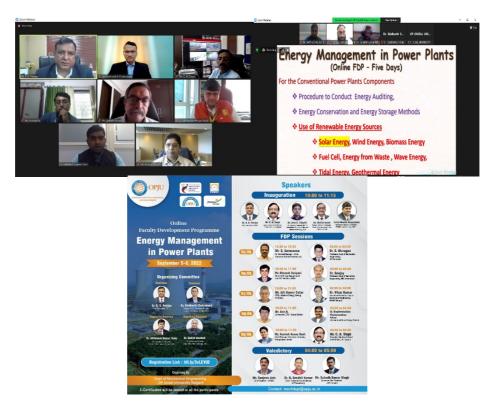
The Department of Mechanical Engineering organised an awareness session for the proposed Siemens integrated B Tech program in Mechanical Engineering with specialization in Automotive Design (BIW, Plastic Trims, and Electric Vehicle Design)/Digital Manufacturing for the first-year students. The course may start in the second year. Further, the department is also planning to collaborate with Bosch Rexroth for courses in emerging areas like Robotics, Mechatronics, and Automation, to enhance the employability skills of students.



Dr Siddharth S Chakrabarti, Professor & Head- Mechanical delivered a talk at IEEE R10 Industry-Academia Workshop on "Research and Innovation on Reduction of Carbon Footprint" organized by M/S Jindal Power Limited (JPL), Tamnar, and OPJU, Raigarh on 20th September 2022. The session was attended by industry professionals and academicians.



Department of Mechanical Engineering organized a 5 Days Online Faculty Development Program on "Energy Management in Power Plants" in association with IEEE Chapter, Chhattisgarh state Renewable Energy Development Agency (CREDA), Institutional Innovation Council and Jindal Power Limited, Tamnar from September 05-09, 2022 in online mode. The FDP was organised with an aim to familiarize the participants with latest energy conversion technologies and understand the energy management concepts in power plants. 15 speakers from IIT's, NIT's and renowned industries shared their knowledge and experience with 114 participants during the program.



Prof. Akash Pandey, Assistant professor (Sr. Grade), attended a SERB-Sponsored High-end workshop (KARYASHALA) on "Slurry Flow Characteristics and Transportation in Mineral Processing – Principle & Practices" from 25th to 30th September 2022 organized by NIT Jamshedpur.

The Department of Mechanical Engineering, OP Jindal University organized its 2nd National Level Online Quiz Competition on "Green Technology" on 28th August 2022 in association with SESI, SAE India Collegiate Club, ZYPP, CREDA, and IEEE OPJU Chapter for the B.Tech students of all branches and industry professionals. The 1st quiz was organised last year in the month of May 2021. 250+ participants from various states of India participated in the quiz.



1. Department of Mechanical Engineering in Association with the Centre of Industry-Academia Collaboration, OP Jindal University, Raigarh is organizing an online session on 06th November 2022 at 11:00 AM on the topic Autonomous Driving - Trends, Transformation, and Opportunities to familiarize the Students/ Research Scholars/ Faculty Members with the recent advancements in different fields of Autonomous Driving.



 Centre for Industry-Academia Collaboration (CIAC), OPJU, in association with Department of Mechanical Engineering and School of Management has organized an Online Panel Discussion on "Innovative Ecosystem & Practices" on January 16 at 6:30 PM. During the discussion the speakers stressed upon the fact that innovation must be relevant to the time and it comes from unconstrained thinking and Students must show a good attitude toward problem-solving, social skill development, and internships and must be people managers. The session was attended by 100+ enthusiastic participants.

Link for complete video: Online Panel Discussion on "Innovative Ecosystem & Practices" on January 16 at 6:30 PM. -YouTube



3. The Department of Mechanical Engineering, O.P. Jindal University, organised a workshop cum hands-on training program on "Ardubotics Robotics" on 16–17th, February 2023. The workshop was organized in association with Technex'23 - IIT Varanasi, a joint venture of Technex, IIT Varanasi & Innovians Technologies. The sessions of the workshop were very engaging, students learnt the basics of robotics, coding and key steps involved in making a robot. On the last day of workshop, a small competition was organised and two best-performing teams of the workshop got a Certificate of Excellence from Technex, IIT Varanasi & will get direct entry in the final round of competition Technex'23 to be held at IIT Varanasi in the month of March 2023.



1. OPJU

The national institute of Solar Energy (NISE) working under the Ministry of New and Renewable Energy, Government of India organized a three days online Skill development program on Solar PV system design from 23rd January to 25th January 2023. Dr. Sidharth Chakrabarti and Dr. Kuber Nath Mishra participated in the program and were awarded the participation certificate. The program was a unique amalgamation of the

theory of Solar energy utilization with industrial concepts currently prevailing in the solar industry. The program provided an insight into the well-established concepts of solar PV applications as well as solar thermal energy and power plant installations.



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2023.This

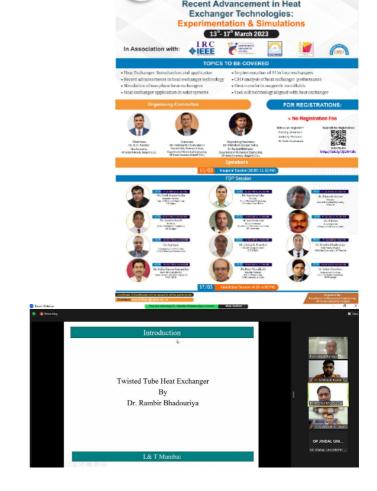
PROTOTYPE (model) in the event Tech lab

is one of the most prestigious event and Inaugural event of Technorollix, tech fest of OP Jindal University, Raigarh.



4. Department of Mechanical Engineering organized a 5 Days Online Faculty Development Program on "Recent Advancement in Heat Exchanger Technologies: Experimentation & Simulations" sponsored by Chhattisgarh Council of Science and Technology (CGCOST) in association with IRC IEEE, Institution Innovation Council OPJU (IIC), Chhattisgarh State Renewable Energy Development Agency (CREDA), Solar Energy Society of India (SESI) and Academic Staff College OPJU (ASC) from March 13th - 17th, 2023 in online mode. Total 13 eminent speakers from foreign universities, IIT's, NIT's, and renowned Industries such as Griffith University, Australia, CSIR- CMERI Durgapur, IIT Mumbai, IIT Indore, IIIT Jabalpur, NIT Durgapur, NIT Raipur, L&T Mumbai, Tata Technologies and Thermax India, shared their valuable knowledge and expertise with the participants. The FDP was marked by an energetic and engaging knowledge-sharing experience, which saw the participation of 419 attendees from various regions across India.





5. Department of Mechanical Engineering, OP Jindal University, Raigarh in association with SAE OPJU

The Department of Mechanical Engineering, in association with the Centre of Excellence in Manufacturing and Automation and the OPJU Innovation Center, organized 3 days (22nd to 24th May 2023) student workshop on 3D printing and laser cutting. Innovation such as laser cutting is a powerful tool that uses a focused beam of light to precisely cut and engrave various materials, revolutionizing manufacturing and design processes.



The Department of Mechanical Engineering in association with the Research and Development Cell organized an expert talk on the topic "The Applications of Thermal and Fluid Engineering" on 18th May 2023. The speaker for the session was *Dr. Sunil Kumar, Texas A&M University, USA, he discussed in detail the importance of thermal and fluids engineering. 100+ participants attended the session.



The Department of Mechanical Engineering in association with Centre of Excellence in Manufacturing and Automation has organized its Manufacturing talk-9 on 11th May 2023. The speaker for the session, Mr. Satvik Sabarad, Manufacturing Engineer at Tesla, USA shared his knowledge in the area of Design of Experiments, Predicting the impurities by Machine learning approach, Image processing using CNN in additive manufacturing, ANN and other relevant subjects. The session was attended by 50+ participants.

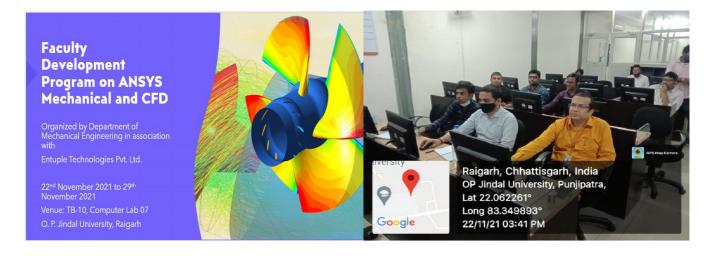




Faculty Development Program on ANSYS Mechanical and Computational Fluid Dynamics

Department of Mechanical Engineering, School of Engineering, O. P. Jindal University, Raigarh and Center for Industry-Academia collaboration (CIAC) successfully organized a "**Faculty Development Program on ANSYS Mechanical and CFD**" in association with Entuple Technologies Pvt. Ltd., Bangalore from 22_{nd} November 2021 to 29_{th} November 2021. The participant faculties and technical staff were from the Department of Mechanical, Metallurgy, and Civil engineering. Research scholars from the Department of Mechanical engineering also participated in the training program. Mr. Satish G, Sr. Application Engineer from Entuple Technologies delivered 3-day sessions on ANSYS- Computational Fluid Dynamics which covered Introduction and capabilities of ANSYS- Fluent CFD, hands-on sessions

on SpaceClaim, Meshing module, and CFD module. Mr. Gokul Raj Sr. Application Engineer from Entuple Technologies delivered 4-day sessions on ANSYS- Mechanical which covered Introduction and capabilities of ANSYS- Mechanical, meshing module, hands-on sessions on static and transient Structural and Thermal analysis, Modal analysis using Workbench.



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 The Centre for Industry-Academia Collaboration in association with the Department of Electrical, Mechanical & Metallurgical, and Materials Engineering, IQAC has organized an online one-day workshop on "Design and Development of sustainable technology Aligned Curriculum" on January 12, 2022, from 10.30 AM to 1.00 PM to discuss and implement an industry-linked curriculum for the ongoing B. Tech program in the departments. This workshop aimed to bring Industry-Academia Professionals to a single platform to discuss the needs and latest technologies implemented in the industry and to take suggestions from them to modify the existing curriculum aligned to the sustainable technology and make students employable.





The Department of Mechanical Engineering in association with CIAC, SAE Collegiate Club OPJU, IEEE OPJU student branch, and IIC OPJU organized a session on "Automotive Thermal System- Developent and Challenges" on 13th Jan 2022. Mr. Vipin Jacob, Manager, Force Motors India Ltd., Pune discussed in detail the key aspects related to the design and development of thermal systems of automobiles. The session was attended by 100+ participants.

In association with Department of Mechanical Engineering Presents Webinar on Automotive Thermal Systems Development and Challenges	C Thermal System Development Challenges and Trends - Higher engine cooling demand with high power engines.
	 Lesser front opening area due to styling and aerodynamic demand Additional components in exhaust after treatment (DPF, SCR) due increasing emission norms. Leading to requirement of heat shield insulation material.
	 Electrification (thermostat, radiator fan) and control logics to impr the cooling system performance.
	 New refrigerants (R134a to R1234yf) and systems (duel loop HVAC^{CONSINCE} system with chiller to reduce use of refrigerant) to reduce GWP.
	- Additional cooling loop for power electronic cooling and battery

 The Department of Civil Engineering in association with CIAC organized a session on "Bridge Engineering" on 12th March 2022. Mr. Ashish Sharma, Senior Engineer, Jacobs discussed in detailthe key aspects related to the basics of Bridge Engineering, opportunities and skill set required in the field. The session was attended by 150+ participants.



 A meeting of CSIR-Institute of Minerals and Materials Technology (IMMT) Bhubaneswar, Jindal Power Limited Tamnar, and OP Jindal University Raigarh was organized through ZOOM on 03.02.2022 at 4.30
 5:30 PM. The meeting was attended by Shri Chavinath Singh, Executive Director & Plant Head, JPL Tamnar, Mr. R D Katre, Vice President, JPL Tamnar, Dr. P. K. Senapati, Head, D&PE, with his team fromCSIR-IMMT Bhubaneswar, Dr. Siddharth S Chakrabarti- Director, Centre or Industry-Academia (CIAC), OPJU, Dr. Ashok K Srivastava, Director- Center for Research Excellence (CRE), OPJU.



Dr. P. K. Senapati, Head-D&PE, IMMT Bhubaneswar made a presentation on various research facilities available in the department. He also emphasized the expertise and technical capabilities available with the department to take up possible collaborative projects with JPL. There was a detailed discussion on the opportunities to do collaborative projects within JPL, CSIR-IMMT, and OPJU.



- Mr, Vinod Nagpure attended online expert lecture on "Innovation in Concrete Technology" delivered by Dr. Yogini Deshpande, IC-ACI Director and Technical Head of Renuka Consultants, Mumbai on 12th November, 2021.
- Mr Jitesh Singh, Assistant Professor, and Mr. Narendra Deshmukh, Lab Assistant, Department of Mechanical Engineering for completing a 2-weeks training program organized by the National Skill Development Corporation from 15th - 27th January 2022 on "Metal Inert Gas/ Metal Active Gas/ Gas Metal Arc Welder (MIG/MAG/GMAW) (CSC/Q0209)- v1.0" and becoming a certified trainer.
- Mr Gyanesh K Rao, M Tech, second semester has participated and pitched his idea in India's biggest Defence Innovation Challenge organized on 19th Jan at Ahmedabad. He got a complimentary exhibition stall to showcase his products and ideas.
- Mr. Hrishikesh Shastri, Scientific Officer, attended a Five-day Online Faculty Development Program (FDP) on "Advances in Materials Processing and Characterization" organized by DAV institute of Engineering and Technology, Jalandhar, Punjab in association with AICTE-ISTE during 5 Jan 2022 to 11 Jan 2022.
- Dr. A.K. Srivastava, Dr. M. Kalyan Phani, Prof. Neeraj Verma and Prof. N. Acharjee have attended TWO weeks virtual E&ICT FDP on Data Science and its applications organized jointly by NIT Raipur and NIT Warangal during March 7-16, 2022.
- Mr. Anshul Yadav, B.Tech 5th Semester student of Metallurgical and Materials Engineering completed the course entitled "Python 101 for Data Science" (5 October, 2021) and "Robots are Coming! Build IoT Apps with Watson, Swift, and Node RED" (1 December, 2021) at IBM Developer Skill Network.

• Dr Sandeep Biswal, "Intrinsic Time Decomposition Based Differential Protection with Adaptive Threshold for UPFC Compensated Transmission Line" 2022, International Journal of Emerging Electric Power Systems (Early Access). • Dr Sandeep Biswal, "Taylor series based protection starting element for STATCOM compensated transmission line," Electric Power Systems Research, vol. 204, 2022. (Impact Factor = 3.414).

- Dr Sandeep Biswal is an editor of the book "Machine Learning and AI Techniques in Interactive Medical Image Analysis".
- Dr Sushree Diptimayee Swain, " Space Vector Pulse Width Modulation for DSTATCOM" Springer.
- Dr Sushree Diptimayee Swain, "Adaptive Controller based Shunt Active Power Filter for power quality enhancement in Grid-integrated PV systems" Elsevier.
- Mrs Pushpanjali Shadangi, attended eight days FDP on "Applications of power electronics in electrical vehicle and energy storage" on 14th-22th february, 2022 organized by NIT Warangal.

• Dr Sushree Diptimayee Swain, attended a QIP-STTP on "Real Time Simulation in Smart Grid: Significance and Applications" on 21st -26th February 2022, organized by IIT Indore.

- Mrs Bhawana Deshmukh, AICTE-ISTE Sponsored Induction / Refresher Programme (Online) on "Developments and Applications in Renewable Energy in Power System" (2nd-8th March 2022) Organized by CSIT, Durg.
- Mrs Pushpanjali Shadangi has been invited to deliver a lecture on topic"Introduction to Solar Thermal Energy, Solar Collectors, Design Efficiency Calculations And Applications", for JIPT Tamnar students, on 24th march 2022.
- Dr. Sandeep Biswal had been invited as an expert speaker for AICTE-ISTE Sponsored Induction /Refresher Programme (Online) on "Developments and Applications in Renewable Energy in Power System" (2nd-8th March 2022) Organized by CSIT, Durg.
- Dr. Sushree Diptimayee Swain had been invited to deliver a lecture on the topic "Introduction about solar power technology, present power scenario in India, Solar cells, design, efficiency, and solar power calculations", on 25th March 2022, Organized by JIPT Tamnar.
- Dr. Sushree Diptimayee Swain had been invited as an expert speaker for "Introduction about solar power technology, present power scenario in India, Solar cells, design, efficiency, and solar power calculations", on 28th March 2022, Organized by JIPT Tamnar.
- All faculties of EE department attended a hands-on training programme on "Real Time Simulation in OPAL RT: Significance and Applications" on 15th -16th February 2022, organized by OPJU.
- Dr. Nitesh Bharadwaj invited as a guest Speaker to deliver online lectures for the Customized Course on "Cyber security for Navy Officers".

• Dr. Nitesh Bharadwaj delivered an expert talk at AICTE Training And Learning (ATAL) Academy-Faculty Development Programme on Cyber Security & Digital Forensics (Online) 6th Dec – 10th Dec 2021 @IIIT Pune on the topic Modern Day Digital Forensics - Tools and Challenge.

• Dr. Ankur Rastogi, Associate Professor, Chemistry department attended five days online Faculty Development Program on "Mentoring for Institutional Social Responsibility and Facilitation for Community Engagement" organized by Faculty Development Centre, MGNCRE, Department of Higher Education, Ministry of Higher Education, Govt. of India, Hyderabad during 2- 6 Feb., 2022.

• Dr. Manas Ranjan Mishra, Assistant Professor, Mathematics attended 5 days online FDP on "Mentoring for institutional social responsibility and Facilitation for Community Engagement" from 27th Jan -31st Jan, 2022.

• Dr J. P. Rath was invited as a reviewer in "Journal of Consumer Behaviour – Wiley, ABDC-A, SSCI, SCOPUS" on 19.10.2021 for the paper entitled "Understanding Preemptive Consumer Behavior: Evidence from the Pandemic".

• Asst. Prof of Biomedical Engg & Prof I/C Innovation Cell, NIT, Raipur and more than 80 students participated in this workshop.

• Dr. Sunil Kumar Presented two papers in an international conference organized by OP Jindal University, Raigarh, and Received Best Paper Awards in both the presentations on Nov 27-28, 2021 on "Green entrepreneurial intention as a mediator between selective factors and green entrepreneurial behavior and "Concept of homestay for sustainable development in rural areas of Uttrakhand".

- Dr J. P. Rath delivered a training at JSPL, Raigarh on the topic "Interpersonal skills and team building" on 20.10.2021. Dr.Saket Jeswani was invited as a reviewer for the ESCI Indexed Inderscience journal "Int. J. of Indian Culture and Business Management " for paper entitled "Embedding sustainability towards the growth of the developing economy: A study on sustainable management practices of the leading corporates" on 5 Dec 2021.
- Sukanta Sahoo had been invited as a speaker in the seminar on" Digital Marketing and rural issues" organized by Saivalley World Institute of Management and Technology, Rourkela on Dtd:-5th March,2022.