

# **RESUME**



**Prof. Rajesh Kumar Verma**

**Ph.D., Jadavpur University Kolkata, India**

**C.Eng. (Mechanical Engineering)**

## **Professor**

Department of Mechanical Engineering

Harcourt Butler Technical University (HBTU) Kanpur

(UP Govt. Technical University)

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**Google Scholar Link:** <https://scholar.google.co.in/citations?user=s4L4NqkAAAAJ&hl>

## **BRIEF SUMMARY**

I have joined the prestigious HBTU Kanpur in the year 2022 through Direct Recruitment on the Post of Professor, MED

## **BRIEF SUMMARY**

SCI/SCIE	Scopus/ESCI	Ph.D successfully awarded	Book Chapter(s)	Patents	Copyright Documents	Conference Paper(s)
46	43	06	21	18	04	81

Govt. sponsored R&D project Ongoing/Completed  (DST/SERB/CST/AICTE/MHRD and other Govt. agencies)	As Project Principal Investigator (PI)	As Co-PI
13	08	05



**Research Excellence Award-2023**



**Research Excellence Award-2024**



## SCI RESEARCH PUBLICATIONS (BEST FIVE ONLY) (CORRESPONDING AUTHOR)



1. Prakhar Kumar Kharwar and **Rajesh Kumar Verma** "Exploration of Nature Inspired Grey Wolf Algorithm and Grey Theory in Machining of Multiwall Carbon Nanotube/Polymer Nanocomposites" *Engineering with Computers, Springer Publications* Volume 38, 1127-1148, July 2020, **SCI(IF 7.963)**
2. Jogendra Kumar, **Rajesh Kumar Verma** and Kishore Debnath, "A new approach to control the delamination and thrust force during drilling of polymer nanocomposites reinforced by graphene oxide/carbon fiber" *Composite Structures, Elsevier Publications* Volume 253, 112786, December 2020, **SCI(IF 5.407)**
3. Shivi Kesarwani and **Rajesh Kumar Verma**, "Ant Lion Optimizer (ALO) algorithm for Machinability assessment during Milling of Polymer composites modified by Zero-dimensional Carbon Nano onions" *Measurement, Elsevier Publications* Volume 187, 110282, **SCI(IF 3.927)**
4. Jogendra Kumar and **Rajesh Kumar Verma**, "A novel methodology of Combined Compromise Solution and Principal Component Analysis (CoCoSo-PCA) for machinability investigation of Graphene nanocomposites" *CIRP Journal of Manufacturing Science and Technology, Elsevier Publications*, Volume 33, 143-157, May 2021, **SCI(IF 3.602)**
5. Jogendra Kumar and **Rajesh Kumar Verma**, "Experimental investigation for machinability aspects of graphene oxide/CFRP nanocomposites and predictive modeling using hybrid approach" *Defence Technology, Elsevier Publications* 2020, Volume 17 (5), 1671-1686, October 2021, **SCI(IF 3.172)**



### COURSES TAUGHT AT :

**UG LEVEL: ALL COURSES RELATED TO MATERIALS AND MACHINING.**

**PG/PH. D LEVEL: MACHINING SCIENCE, ADVANCE MATERIAL AND CHARACTERIZATION**

- **ADVANCE MATERIALS (UG EME-425)**
- **ADVANCE MANUFACTURING PROCESS (PG EME540)**

## FEW WORKS IN ACADEMIC AND RESEARCH

### Achievements:



- Developed **Materials and Morphology laboratory at MMMUT Gorakhpur from R&D sponsored project fund Cost Rs. 38.73 Lacs**
- Research project **Ranked Second** in Uttar Pradesh- Pollution Control Board (UPPCB) Gomti Nagar, Lucknow in a Hackathon "Beat Plastic Pollution" on 02/10/2018, out of total six hundred ninety-nine (699) project entries, ranked **second with Rupees Fifteen Thousand (Rs. 15000/-) cash prize.**
- **Qualified GATE**



### Awards:

- **Two Best Research Paper Awards** in 12<sup>th</sup> International Conference on Materials, Processing & Characterization (ICMPC-2021), 06<sup>th</sup>-09<sup>th</sup> October 2021, NITTTR Chandigarh, INDIA.
- **Best Research Paper Award** in International Conference on Progressive Research in Industrial & Mechanical Engineering (PRIME - 2021), 5<sup>th</sup>-7<sup>th</sup> August 2021, organized by NIT, Patna.
- **Journal paper selected as best paper** in the volume and Published as **Vol. front Cover page** in WSPC publications.



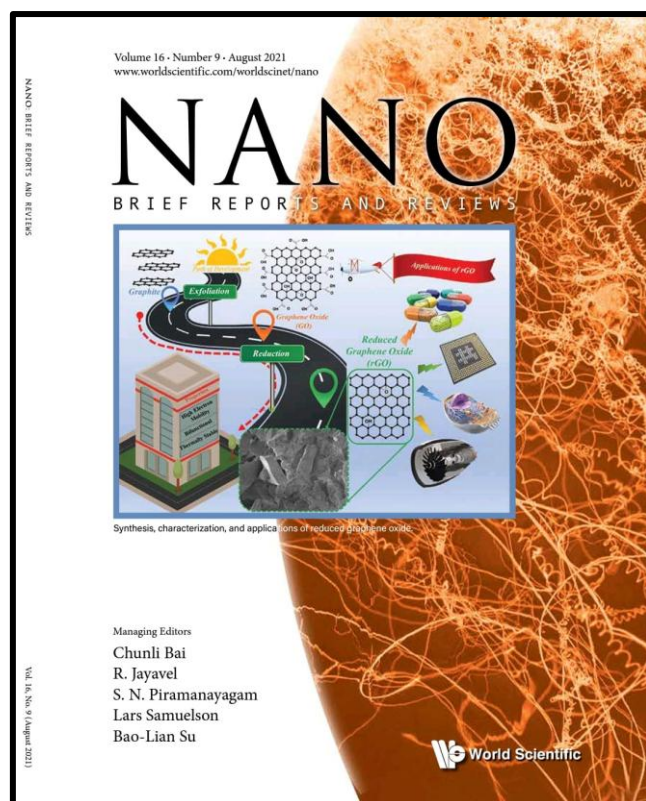
### Letter of Recognition letters / Appreciation :

- **01 no. Appreciation letter from Hon'ble Vice Chancellor MMMUT** for cooperation as a member of the committee to reform the academic structure in **NEP-2020.**
- **05 nos. of Recognition letters from Hon'ble Vice Chancellor MMMUT** for presenting diligent work towards research and development project work and academic responsibilities.
- **02 Commendation from Govt. of India**

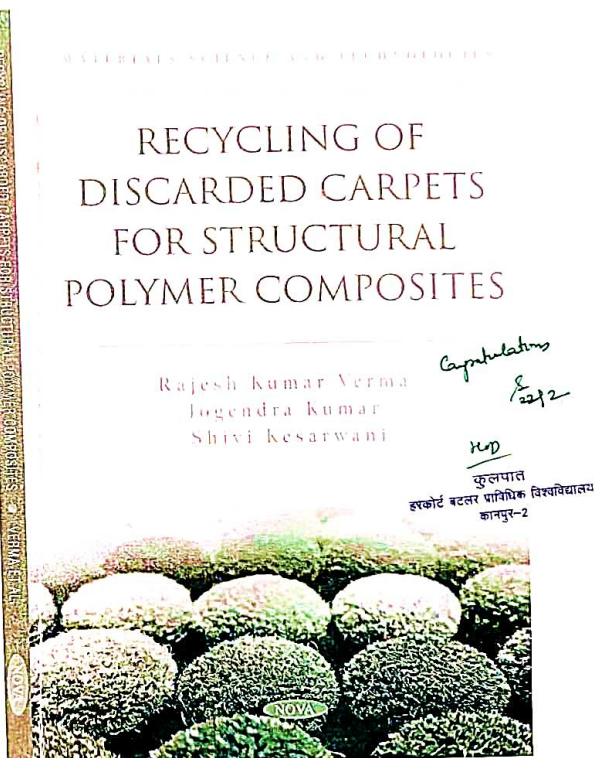
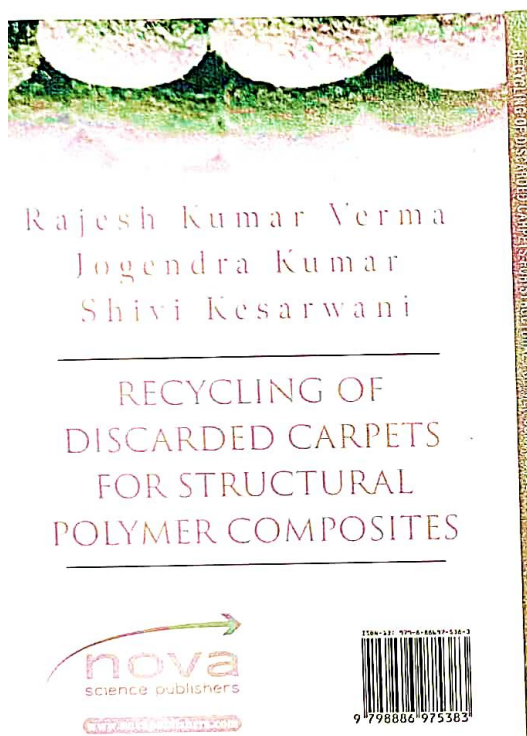
### **PROFESSIONAL ACHIEVEMENTS BRIEFLY:**

- Research project (Project ID-1099) titled 'Development of Modified Bio-Nano Composite Polymer Material for Biomedical Applications, received consolation prize of Rs 5000/- in CSTUP, Engineering Students Project Grant Scheme 2023-24, Lucknow on 27/04/2024, out of total Sixty (60) project entries.
- Received a certificate of appreciation for hard work and diligent effort for project titled Cost-effective Green Route for the Development of Carbon Nanofillers and Polymer Nanocomposites for Biomedical Applications: An Experimental Approach based on Waste to Wealth (Project [D: 2199] worth INR 18.08 lakhs sponsored by CST, Lucknow, Govt. of Uttar Pradesh, India. from Honourable Vice Chancellor, HBTU Kanpur.
- Received a certificate of appreciation for the project titled 'A Novel Integrated Photocatalytic Approach for the Development of Solar Light-Driven Hydrogen Production and CO<sub>2</sub> Conversion into Solar fine chemicals', worth INR 21.10 lakhs sponsored by SERB-DST New Delhi, India. from Honourable Vice Chancellor, HBTU Kanpur.
- Received a certificate of appreciation for the project titled 'Development of Modified Bio-Nano Composite Polymer Material for Biomedical Applications ', worth INR 20000, sponsored by CST, Lucknow, Govt. of Uttar Pradesh, India. from Honourable Vice Chancellor, HBTU Kanpur.
- Received a certificate of appreciation for project titled 'Design and Development Of Cost-Effective Extruder For 3D Printing Filament ', worth INR 20000, sponsored by CST, Lucknow, Govt. of Uttar Pradesh, India. from Honourable Vice Chancellor, HBTU Kanpur.
- Received a *research excellence award,2023* by Honourable Vice Chancellor, HBTU.
- Received a *certificate of appreciation for NAAC* from Honourable Chancellor and Vice Chancellor, HBTU.
- Received a *certificate of appreciation for NAAC* from Honourable Chancellor and Vice Chancellor, MMMUT Gorakhpur
- **Granted one Patent (Patent No.449335)** from the Patent Office, Government of India
- **Guest of Honour** at Two-week STC on “**Recent Advances in Mechanical Engineering**” on 01.05.23 in **Mechanical Engineering Department**, NIT- Patna.
- **Chaired a Technical session** on Topic “**Processing of advanced Materials**” during **AIMTDR 2023**, IIT-BHU Varanasi.
- **Best Research Paper Award** in International Conference on Progressive Research in Industrial & Mechanical Engineering (PRIME - 2021), 5<sup>th</sup> -7<sup>th</sup> August 2021, organized by NIT, Patna.
- **Two Best Research Paper Awards** in 12<sup>th</sup> International Conference on Materials, Processing & Characterization (ICMPC-2021), 06<sup>th</sup>-09<sup>th</sup> October 2021, NITTTR Chandigarh, INDIA.
- Research project **ranked second** in Uttar Pradesh- Pollution Control Board (UPPCB) Gomti Nagar, Lucknow in a Hackathon “Beat Plastic Pollution” on 02/10/2018, out of total six hundred ninety-nine (699) project entries, ranked *second with Rupees Fifteen Thousand (Rs. 15000/-) cash prize.*
- Cover page award international journal (*World scientific*)





- Successfully completed one Govt. of India sponsored project of cost Rs. 13,90,000/- (File Sanction No. I-15011/9(29)/HRD/2008/1504 Dated 25/11/2013).
- Gate scholarship
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- Appointed as **MoU Nodal Coordinator** at HBTU Kanpur between LNM INSTITUTE OF INFORMATION TECHNOLOGY, Jaipur, and HARCOURT BUTLER TECHNICAL UNIVERSITY, Kanpur signed on May 28, 2024.
- Appointed as **Technical Expert for MSME** from Mechanical engineering trade from Mechanical Engineering Department of HBTU By Honourable Vice Chancellor, HBTU.



- Certificate of **Recognition Editors' Choice** for outstanding contribution to the **Archives of Metallurgy and Materials (SCI)** through the publication of your article titled: Effect of Zirconia and Graphene Nanoparticles Loading on Thermo-Mechanical Performance of Hybrid Polymer Nanocomposite.
- Received a **research excellence award, 2024** by Honourable Governor madam and Honourable Vice Chancellor, HBTU.
- Chaired a **Technical session** on Topic on "**International Conference on Recent Innovations in Biomaterials and Tissue Engineering**" during **ICRIBTE 2024**, organized by **HBTU Kanpur**.

#### **MAJOR CONTRIBUTIONS FOR ACADEMIC ACTIVITIES:**

- Successfully organized Two days "National Conference on Futuristics in Mechanical Engineering (FME 2019) during March 28-29, 2019, as **Organising Secretary**, sponsored by TEQIP-III, MMMUT Gorakhpur, India.

- Successfully organized seven days “Short Term Training Programme (STTP)” on “Advancements in Mechanical Engineering (AME-2018)” during December 17-23, 2018, as **Coordinator**, sponsored by TEQIP-III, MMMUT Gorakhpur, India.
- Successfully organized one day technical event Research Scholar Day (**RSD-2018**) on 16 Dec. 2018 as **Coordinator**, Mechanical Engineering Department, sponsored by TEQIP-III, MMMUT Gorakhpur, India.
- Research project **ranked second** in Uttar Pradesh- Pollution Control Board (UPPCB) Gomti Nagar, Lucknow in a Hackathon “Beat Plastic Pollution” on 02/10/2018, out of total six hundred ninety-nine (**699**) project entries, ranked *second with Rupees Fifteen Thousand (Rs. 15000/-) cash prize*.
- **Coordinator**, Swachh Bharat Abiyan (SBA) University level 02/10/2018
- **Coordinator** National Unity Day 31/10/2018

#### **R&D Project Fellow:**

S.No.	Name of the candidate	Project Area	Status/Remarks	Role
1.	<b>Dr. Devendra Kumar Singh</b>	<i>Carbon Nanofillers modified polymer nanocomposites</i>	<b>Sponsored R&amp; D Project fellow</b>	<b>Project PI</b>
2.	<b>Shri Virat Mani Vidyasagar</b>	<i>Development of low-cost structural composites</i>	<b>Sponsored R&amp; D Project fellow</b>	<b>Project CO-PI</b>
3.	<b>Dr. Jogendra Kumar</b>	<i>Processing of hybrid nanocomposites and Abrasive water jet machining</i>	<b>Sponsored DST Project fellow</b>	<b>Project PI</b>

#### **DETAILS OF RESEARCH GUIDANCE (Ph.D/M.Tech/B.Tech)**

**Dr. Rajesh Kumar Verma as Sole/ Principal Supervisor: -**

<b>Ph.D. thesis Guidance:</b>			
S.No.	Name of the candidate	Broad Area/Thesis title	Status/Remarks

1.	<b>Shri Prakhar Kumar Kharwar</b> (Registration no. 2017058003)	<i>Development and Experimental Investigation of Carbon Nanoparticle Reinforced Polymer Nanocomposites</i>	<b>Awarded</b> On 28/12/2020
2.	<b>Shri Jogendra Kumar</b> (Registration no. 2018058003)	<i>Development of polymer nanocomposites reinforced by graphene oxide/carbon fiber: Machinability evaluation and damage control module</i>	<b>Awarded</b> On 20/11/2021
3.	<b>Shri Shivi Kesarwani</b> (Registration no. 2020058017)	<i>Reduced GO in polymer composites</i>	<b>Awarded</b> On 05/06/2024
4.	<b>Shri Balram Jaiswal</b> (Registration no. 2020058002)	<i>Recycled waste carpet for development of structural composites material</i>	<b>Submitted on</b> On 05/06/2024
5.	<b>Shri Kuldeep Kumar</b> (Registration no. 202005810)	<i>Machining of polymer Nano-composites (MWCNT)</i>	<b>Awarded</b> On 04/06/2024
6.	<b>Shri Devendra Kumar Singh</b> (Registration no. 2020058003)	<i>Bio-material based Composite and its manufacturing aspects</i>	<b>Awarded</b> On 05/06/2024
7.	<b>Shri Virat Mani Vidyasagar</b> (Registration no. 2021058005)	<i>Stacking analysis of polymer composites in different configuration</i>	<b>Ongoing</b> Registered at MMMUT Gorakhpur on 17/11/2021
8.	<b>Shri Shailesh Kumar Gupta</b> (Registration no. 220310007)	<i>Manufacturing Engineering</i>	<b>Ongoing</b> Registered at HBTU Kanpur on 20/09/2022

<b>M. Tech. thesis Guidance:</b>			
<b>S.No.</b>	<b>Name of the student(s)</b>	<b>Broad Area</b>	<b>Academic Year</b>



1.	<b>Rajneesh Kumar</b> M. Tech. (Registration no. 2016053118)	Spring back Analysis of Work-Hardening Material under Axial and Torsional Loading.	2017-18
2.	<b>Ajay Kumar Yadav</b> M. Tech. (Registration no. 2017053103)	Machining of Graphite Reinforced Composites	2018-19
3.	<b>Sashmit Yadav</b> M. Tech. (Registration no. 2017053112)	Electric Discharge Machining of Inconel X-750	2018-19
4.	<b>Vikas Sahani</b> M. Tech. (Registration no. 2017053118)	Machining performance optimization of Graphite Reinforced Composites	2018-19
5.	<b>Kuldeep Kumar</b> (Registration no. 2018053108)	Fabrication and Investigation on Machining of MWCNT Doped Epoxy/GFRP composite: Some Case Experimental Research	2019-20
6.	<b>Puranjay Pratap Singh</b> (Registration no. 2018053111)	Experimental Investigation on Milling of Polymer Nanocomposites	2019-20
7.	<b>Som Nath Pandey</b> (Registration no. 2018053115)	Development of composites using carpet waste for light weight applications	2019-20
8.	<b>Umang Dubey</b> (Registration no. 2019053122)	Development and Characterization of PMMA Based Bio-nanocomposite	2020-21
9.	<b>Ankit Dhar Dubey</b> (Registration no. 2019053104) <i>(Topper &amp; Gold Medalist)</i>	Analysis of Thrust, Torque and Delamination during drilling operation on hybrid composite using multiple optimization techniques	2020-21
10.	<b>Virat Mani Vidyasagar</b> (Registration no. 2019053123)	Development and characterization of Hydroxyapatite and multi-walled carbon nanotube reinforced PMMA bone cement nanocomposite for orthopedics applications	2020-21

11.	<b>Shivam Dubey</b> (Registration no. 2020053114)	Development and characterization of polymer nanocomposites reinforced by graphene oxide/carbon fiber	2021-22
12.	<b>Taufeeq Ahmad</b> (Registration no. 2020053115)	Development and characterization of polymer nanocomposites reinforced by graphene oxide/carbon fiber	2021-22
13.	<b>Uma Dutt Choubey</b> (Registration no. 2020053116) <i>(Topper &amp; Gold Medalist)</i>	Fabrication and characterization of HDPE based polymer nanocomposites reinforced by SiC nanoparticle	2021-22

<b>B. Tech. thesis Guidance:</b>			
<b>S. No.</b>	<b>Roll No.</b>	<b>Name of the student(s)</b>	<b>Academic Year</b>
1	1311264051	Sirja Sinha	2016-17
2	1311264034	Prashanta Dwivedi	2016-17
3	1311264046	Sanjay Kumar Giri	2016-17
4	1311264038	Rahul Kumar Yadav	2016-17
5	1411264905	Dhirendra Kumar Pal	2016-17
6	1311264033	Piyush Shrivastava	2016-17

<b>S.No.</b>	<b>Roll No.</b>	<b>Student Name</b>	<b>Academic Year</b>
1.	1411264004	Aman Srivastava	2017-18
2.	1411264045	Sagar Kumar	2017-18
3.	1411264046	Samar Kumar	2017-18
4.	1411264019	Gulab Kumar Gautam	2017-18
5.	1411264056	Umesh Kumar Yadav	2017-18
6.	1411264053	Sumit Kumar Singh	2017-18
7.	1411264026	Km Neha Baranwal	2017-18
8.	1411264028	Km Sushila Patel	2017-18

S.No.	Roll No.	Student Name	Academic Year
1.	2015051084	Satyarth Prakash	2018-19
2.	2015051063	Pratyay Amrit Gupta	2018-19
3.	2015051083	Satish Kumar Gupta	2018-19
4.	2015051057	Onkar Pratap Singh	2018-19
5.	2015051011	Mahima	2018-19
6.	2015051096	Shweta Maddhesia	2018-19
7.	2015051122	Archana Gopal	2018-19
8.	2015051125	Avinash Kumar	2018-19
9.	2015051114	Virendra Kumar Chaudhary	2018-19
10.	2015051006	Abhinav Prasad	2018-19

S.No.	Roll No.	Student Name	Academic Year
1.	201705015	Pankaj Sharma	2019-20
2.	2017052024	Sandeep Sharma	2019-20
3.	2017052019	Praveen Kumar	2019-20
4.	2017052017	Pramod Yadav	2019-20

S.No.	Roll No.	Student Name	Academic Year
1.	2016051089	Vaibhav Srivastava	2020-21
2.	2017051097	Shalini Singh	2020-21
3.	2017051093	Sanjeev Kumar Maurya	2020-21
4.	2017051095	Satish Kumar Singh	2020-21
5.	2017051092	Roodra Pratap Singh	2020-21

6.	2017051101	Shashikant Kannouijia	2020-21
7.	2017051042	Dilip Kumar Gupta	2020-21
8.	2017051121	Vinay Kumar	2020-21

**B. Tech. Seminar guidance (as Principal Guide): -**

Sl. No.	Roll No.	Name of the student(s)	Academic Year
1	1411264003	Alok Kumar	2016-17
2	1411264004	Aman Srivastva	2016-17
3	1411264008	Anup Kumar Singh	2016-17
4	1411264019	Gulab Kumar Gautam	2016-17
5	1411264052	Sumit Kumar Singh	2016-17

***COURSES TAUGHT:***

**Theory Courses**

**UG Level (B.Tech)**

1. Quality Management
2. Engineering Materials
3. Energy Management
4. Manufacturing Science and Technology
5. Engineering Mechanics
6. Industrial Manufacturing Processes
7. Non-Conventional energy Resources
8. Textile Mechanics and Machinery
9. Elements of Mechanical Engg.
10. Total quality management

**Laboratory/Practical**

1. Engineering Mechanics Lab
2. Workshop Technology
3. Elements of Mechanical Engg.
4. Engineering Materials Lab.

**M.Tech /Ph.D level**

1. Metal cutting and Tool design
2. Machining Science
3. Design of Experiments



**AREA OF RESEARCH:**

Production Engineering, Manufacturing Processes, Carbon nano materials reinforced composites, FRP Composite Material, Modelling and Optimization of Production Processes

**ADMINISTRATIVE RESPONSIBILITIES FROM 2022 TO present (HBTU Kanpur)**

1.	NAAC coordinator	Lead Indicator Criteria-3, NAAC
2.	Classes coordination work	University Coordinator
3.	Finance Controller, HBTU	May-Oct, 2023
4.	Additional Controller of Examinations (Ad.CoE)	September 2024 to present
5.	Center Supdt. HBTU Exam	September 2024 to present

**ADMINISTRATIVE RESPONSIBILITIES FROM 2018 TO JUNE 2022 (MMMUT)**

S.No.	Duration	Administrative Role
1.	2018, April -Feb. 2020	NSS Coordinator, MMM university of Technology Gorakhpur
2.	2018-Cont	PGS & R Convener Mechanical Engineering Department, MMMUT Gorakhpur
3.	July 6-8, 2018	MRC Department level activities in charge for Malaviya Research conclave (MRC2018) MMMUT Gorakhpur
4.	July 2018	Officer In-charge (O/c) Machine Design (computer) laboratory
5.	23-24 August 2018	Coordinator, Convocation related departmental activity
6.	02-21 August 2018	Member of Discipline and security committee in IPNS 2018
7.	03, 06, 07 August 2018	Coordinator of different activities in IPNS- 2018
8.	01/10/2018	Coordinator, Swachh Bharat Abiyan (SBA) University level
9.	02/10/2018	Coordinator, Cleanness Drive University level
10.	23/10/2018	Coordinator, Expert Talk 23/10/2018, MED MMMUT
11.	02/10/2018	Coordinator, Unnat Bharat Abiyan (UBA)

12.	31/10/2018	<b>Coordinator</b> Rashtriya Ekta Diwas (Unity Day) and Rashtriya Sankalp Diwas
13.	16-17 November 2018	<b>Coordinator</b> Academic Audit, MED MMMUT
14.	2018	<b>Coordinator</b> NIRF, MED MMMUT
15.	16/12/2018	<b>Coordinator</b> RSD-2018
16.	17-23 December 2018	<b>Coordinator</b> STTP AME-2018
17.	01-02 Feb. 2019	<b>Executive committee member</b> , 56 <sup>th</sup> Annual Sports Meet (ASM), MMMUT
18.	01-02 Feb. 2019	<b>Jury</b> of various events of 56 <sup>th</sup> Annual Sports Meet (ASM), MMMUT
19.	01 Feb. 2019	<b>BoS</b> MED, MMMUT
20.	28-29 March 2019	<b>Organising Secretary</b> <b>National Conference FME-2019</b>
21.	23/07/2019-30/07/2019	<b>Workshop on Jal Shakti- A initiative of AICTE, Govt. of India</b>
22.	05/08/2019-08/08/2019	<b>Three days seminar on “Role of NSS in student life”</b>
23.	01/09/2019-15/09/2019	<b>Workshop and seminar on single use plastic</b>
24.	10/12/2019 to 26/12/2019	<b>Technical workshop under Unnat Bharat Abiyan-A initiative of MHRD Govt. of India</b>
25.	30/12/2019	<b>Blood donation camp at MMMUT Gorakhpur</b>
26.	14/02/2020 to present	<b>Vice-chairman, Council of student activities (CSA)</b>
27.	February 2020	<b>Deputy Coordinator</b> <b>Malaviya Research Conclave (MRC-2020)</b>
28.	May 2020 to present	<b>Coordinator, Nodal centre Virtual lab-MMMUT supported by IIT Kanpur</b>

#### ***COURSE DEVELOPMENT:***

1. Course curriculum committee member for **PG Course M.Tech** in Carpet & Textile Management IICT Bhadohi.
2. Prepared course structure and syllabi for B.Tech (Mechanical Engineering) and M.Tech (Computer integrated manufacturing) Program during Jan2018 to July 2018.
3. B. Tech and M. Tech subject's modification related to Production engineering, TQM, Engineering Materials, Machining Science, Design of Experiments (DoE), CAPP, Advanced Material and Characterization etc.

### ***LAB MODERNIZATION:***

Materials and Morphology lab. Developed through Govt. sponsored project (UPCST, CRS, AICTE, MoT Govt of India agencies) at MED, MMMUT Gorakhpur, India

### ***TECHNICAL MEMBERSHIP:***

1. Life Associate Member of International Association of Engineers (IAENG)  
**Membership Number: 114989**
2. Life Associate Member of International Association of Computer Science and Information Technology, Mechanical Engineering Society (MES) **Membership Number: 80347235**
3. Senior member of Universal Association of Mechanical and Aeronautical Engineers (UAMAE) **Membership Number: SNM1005741**
4. Member of DAAAM International Vienna, **Membership Number: DPN64046**
5. Academic Society of Science Engineering and Technology (ASSET), Annual Member ID- AM1809F05
6. Life Member of Institution of Engineers (India) (MIE): **M-1727995**

### ***INVITED TALKS/EXPERT LECTURES***

1. Delivered invited talk (Three hours) on the topic “*Theory of cutting tools*” and “*Basics of machining*” dated-17/07/2017, invited by Programme Coordinator of course ID CU51, Department of Mechanical Engineering, **NITTTR Kolkata**, Under MHRD, Govt. of India, Salt Lake City, Kolkata – 700106
2. Delivered expert lectures (Three hours) on the topic “*Basics of machining*” dated-18/07/2017 respectively invited by **NITTTR Kolkata**, Under MHRD, Govt. of India, Salt Lake City, Kolkata – 700106
3. Delivered expert talk of one hour duration on “*Optimization methods used in manufacturing technology*” on 04/10/2017 invited by Head of Department (HoD), Department of Mechanical Engineering Ashoka Institute of Technology & Management Varanasi – 221007
4. Delivered expert talk on “*NSS- its role & objective in student life*” on 04 August 2018 in Induction program for new students (IPNS 2018)

5. Delivered guest lecture on “***Machining of composite and metals***” on 04/10/2017 invited by Ashoka Institute of Technology & Management Varanasi – 221007
6. Delivered expert lecture on “***Machining performance optimization in drilling and turning of composites materials***” on 24/03/2018, short term training program (STTP), Computational and Manufacturing Challenges in Mechanical Engineering (CMCME-2018) organised by MED, MMMUT Gorakhpur UP
7. Delivered expert lecture on “***Machining of GRRP composite***” on 26/6/2018 in Faculty Development Program (FDP) on “Modern Optimization Techniques for Engineering and Scientific Applications” from 25<sup>th</sup> June to 29<sup>th</sup> June, 2018, organised by Department of Mechanical Engineering, Ashoka Institute of Technology & Management Varanasi – 221007
8. Delivered expert lecture on “***Multi-response Optimization modules in manufacturing engineering***” on 26/6/2018 in Faculty Development Program (FDP) on “Modern Optimization Techniques for Engineering and Scientific Applications” from 25<sup>th</sup> June to 29<sup>th</sup> June, 2018, organised by Ashoka Institute of Technology & Management Varanasi – 221007 .
9. Delivered expert lecture on “***Taguchi based Multi-response Optimization***” on 22/12/2018 in “Short Term Training Programme (STTP)” on “Advancements in Mechanical Engineering (AME-2018)” during December 17-23, 2018, sponsored by TEQIP-III, MMMUT Gorakhpur, India.
10. Delivered expert lecture On Machining of FRP (Epoxy) composites: A multi-objective optimization approach on 30-03-2019 in Short Term Course On the “Recent Advances and Industrial Applications of Advanced Machining Processes” (RAIAMP-2019)” during March 26-30, 2019, Organised by Mechanical Engg. Department, BIET Jhansi UP.
11. Delivered expert talk on Processing and characterization of composite materials at Department of Mechanical Engineering, SVNIT Surat on dated 11/10/2019.
12. Delivered expert lecture On Synthesis, functionalization and Machinability of polymer composites on 24-03-2020 in TEQIP-III Sponsored One Week Short Term Course On Advanced Trends In Manufacturing & Material Characterization (TMMC-2020) during 24<sup>th</sup> Feb - 28<sup>th</sup> Feb 2020, organised by Department of Mechanical Engineering Institute of Engineering & Technology, Bundelkhand University, Jhansi.



13. Delivered expert lecture on “Polymer composites and its machining behaviour” on 25-06-2020 in TEQIP-III Sponsored One Week Online Faculty Development Program on Advances in Mechanical Engineering during 22nd June - 26th June 2020, organised by Department of Mechanical Engineering, Lok Nayak Jai Prakash Institute of Technology, Bihar State Govt. Institute, Chapra, Bihar.
14. Delivered expert lecture on “Virtual labs for Engineering Institution” on 25-06-2020 in TEQIP-III Sponsored Five Days National Workshop on Practical Learning Through Virtual Lab during 20th July - 24th July 2020, Jointly Organized by Department of Mechanical Engg. & Department Of Civil Engg., Institute of Engineering & Technology, Dr. Rammanohar Lohia Avadh University, Ayodhya, Uttar Pradesh.
15. Delivered expert lecture on “Role of Novel Polymer Nano-Composites Reinforced by MWCNT/Go for Emerging Engineering Applications” on 21-07-2020 in One Week Online Faculty Development Program on Emerging Trends, Issues and Chalages in Next Generation Technology 21st July - 25th July 2020, organised by Department of Mechanical Engineering, Rama University, Private Deemed to be University, Kanpur, Uttar Pradesh.
16. Delivered expert lecture on “Machining of Polymer Nanocomposites” in TEQIP-III Sponsored One Week Online short-term course On Advances in Design Manufacturing Engineering 03rd August - 07th August 2020, organised by Department of Mechanical Engineering, National Institute of Technology, Patna, Bihar.
17. Delivered expert lecture on “Tools for graph, data plotting and designing” in TEQIP-III Sponsored One Week Online short-term course On Tools and Scientific Communication for Research Article and Proposal Writing 19th September – 23rd September 2020, organised by Department of Mechanical Engineering, G B PANT Institute of Engineering & Technology, Pauri (An Autonomous Institute of Uttarakhand Technical University, Government of Uttarakhand), Uttarakhand
18. Delivered expert lecture on “Polymer composites and its machining behaviour” in TEQIP-III Sponsored One Week Online short-term course On Advanced Manufacturing Processes – 2020 (AMP-2020) 16th November – 20th November 2020, organised by Department of Mechanical Engineering, Department of Mechanical Engineering National Institute of Technology Manipur, Langol, Imphal.
19. Delivered expert lecture on “Polymer Nano-Composites: Machining and Machinability” on 12-02-2021 in One Week Online Faculty Development Program on

“Novel Materials”, Sponsored by AICTE Training and Learning (ATAL) Academy, 08th February - 12th February 2021, organised by Department of Mechanical Engineering, National Institute of Technology Patna, Bihar.

20. Delivered expert lecture on “Polymer Nanocomposites Reinforced by Carbon nano materials (CNMs) for Sustainable Engineering Applications” on 28-05-2021 in Two days International Conference on Sustainable Innovation in Mechanical Engineering (ICSIME-2021), 28th May - 29th May 2021, organised by Department of Mechanical Engineering, Rama University, Private Deemed to be University, Kanpur, Uttar Pradesh.
21. Delivered online expert talk on topic “Machining of MWCNT/Polymer nanocomposites” on 5 June 2021, at Faculty of Engineering, Shri Rawatpura Sarkar University Raipur, Chhattisgarh, India
22. Delivered expert lecture on “Polymer nanocomposites modified by graphene” in Online Faculty Development Program on Green Technology & Sustainability Engineering, Sponsored by AICTE Training and Learning (ATAL) Academy during 10 – 14 January, 2022 organised by Department of Mechanical Engineering, National Institute of Technology Manipur, India
23. Delivered expert lecture on “Novel Polymer Nano Composites for Structural Application” on 01/05/2023, in Two weeks online Short-Term Course (STC) on “Recent Advances in Mechanical Engineering (RAME-2023)” organized by the Department Mechanical Engineering, NIT-Patna, India during 01-10 May, 2023 in hybrid mode.
24. Delivered expert lecture on “Laminated Polymer nanocomposites: Fabrication and Machining aspect” in 9th international congress on engineering, architecture and design, 2022, Turkey Istanbul during May 14-16, Istanbul.
25. Delivered expert lecture on “Technology for a Better Tomorrow: Exploring Opportunities and Challenges" at UPCT Lucknow on 11 may 2024, technology day.
26. Delivered expert lecture on “Manufacturing aspect and advanced characterization of polymer composites” at FDP in HBTU Kanpur in Plastic engineering department, 23 May 2024.
27. Delivered expert lecture on “Development and machining investigation of polymer composites modified by Carbon nano materials” at Sant Longowal Institute of Engineering & Technology: Deemed university in Longowal, Punjab, on 29 July 2024.

28. Delivered expert lecture on “Production and machining investigation of polymer composites modified by Carbon nano materials” in 5 Days (26-30 September 2024) FDP on "Advanced Materials, Manufacturing & Energy System" at Jagadambha College of Engineering & Technology, Yavatmal, on 28 September 2024.
29. Delivered expert lecture on “Nanocomposites: Development and Advanced machining for structural application” in United College of Engineering & Research, Allahabad on 6<sup>th</sup> November, 2024.
30. Delivered expert lecture on “Enhancing UHMWPE Properties: Nanofillers Transforming Biomedical Applications” in International Conference on Recent Innovations in Biomaterials and Tissue Engineering at HBTU Kanpur on 06 Dec. 2024.

#### ***FDP Attended***

- ✓ ***Advance Pedagogical Learning and University Administration ”27.05.20.4 to 01.06.2024, HBTU Kanpur***

#### ***SESSION CHAIR IN INTERNATIONAL / NATIONAL CONFERENCE/ POSTER/SEMINAR***

1. International Conference on Energy, Environment; Material Sciences (ICE2M), IEEE conference 1st -3rd December 2019 Organized by Department of Mechanical Engineering, Madan Mohan Malaviya University of Technology, Gorakhpur, Uttar Pradesh
2. International Conference on “Recent Advances in Manufacturing” (RAM-2020) 03rd – 05th July 2020 Organized by Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, Gujarat
3. International Conference on “Recent Advances in Manufacturing” (RAM-2021) 10<sup>th</sup> – 12<sup>th</sup> June 2021 Organized by Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, Gujarat
4. International Conference on Progressive Research in Industrial & Mechanical Engineering (PRIME - 2021), 5th -7th August 2021, organized by NIT, Patna.
5. International Conference on Topic “Processing of advanced Materials” during AIMTDR 2023, organized by IIT-BHU Varanasi.
6. International Conference on “International Conference on Recent Innovations in Biomaterials and Tissue Engineering” during ICRIOTE 2024, organized by HBTU Kanpur.

### **ACADEMIC INTERACTION WITH OTHER UNIVERSITIES/ ORGANISATIONS:**

1. IIT Delhi, DTU Delhi, D.I.T.E Govt. of NCT Delhi, JNU New Delhi.
2. NIT Rourkela, NIT Meghalaya, NIT Patna, NIT Bhopal, MNNIT Allahabad
3. Jadavpur University Kolkata, NITTTR Kolkata, Under MHRD, Salt Lake City, Kolkata – 700106, West Bengal
4. HBTU Kanpur UP, BIET Jhansi UP
5. Bundelkhand University, Jhansi-284001, MJP Rohilkhand University Bareilly
6. Ashoka Institute of Technology & Management Varanasi – 221007, SR Group of Institutions Jhansi, KIT Varanasi.

### **OTHER ASSIGNMENT(S):**

1. **Technical committee member** of IEEE Sponsored 2nd International Conference on Control Computing Communication and Materials (ICCCCM-2016) 21<sup>st</sup>– 22<sup>nd</sup> October, 2016 jointly Organized by United College of Engineering & Research, Allahabad And Asian Institute of Technology, Thailand.
2. **Research paper reviewer** of IEEE Sponsored International Conference (IEEE Conference ID – 39191)
3. **Research paper reviewer of Textile Research Journal of sage publications** (<http://www.sagepublications.com/>)
4. **Research paper reviewer of Int. J. of Business Intelligence and Data Mining**, Inderscience Publishers Ltd. (<https://indersciencesubmissions.com/>)
5. **Research paper reviewer of International Journal of Engineering Technology, Management and Applied Sciences (IJETMAS)** ISSN 2349-4476. (<http://conferenceinfo.org/aboutus.php>)
6. **Research paper reviewer of International Journal of Engineering, Technology, Science and Research (IJETSR)** ISSN 2394-3386. ([www.conferenceinfo.org](http://www.conferenceinfo.org))
7. **Research paper reviewer & Technical Member of International Conference ICIF-2018**, organized by IITRAM Ahmedabad, Gujrat from 18-19 May 2018
8. **Research paper reviewer & Technical Member International Conference IC-RIDME-2018**, organized by NIT Shillong Meghalaya from 8-10 Nov. 2018.



### **TRAINING PROGRAMME/STC/WORKSHOP/SEMINAR ORGANIZED:**

1. **File Sanction No.** I-15011/9(29)/HRD/2008/1504 Dated 25/11/2013

**Name of Project:** Two nos. of Training programme under component “training through established institution” under Human Resource Development Scheme (HRD) scheme of Ministry of Textiles.

**Sponsored by:** O/o Development Commissioner (HC), Ministry of Textiles, Govt. of India

**Cost of Workshop:** 13, 90,000 (Thirteen lakhs nineteen thousand only)

**Two Nos. workshops organized as under:**

One month duration total No. of Candidates trained: One hundred twenty candidates (120) From 01/11/2014 to 30/11/2014

Four-month Duration total No. of Candidates trained: Forty candidates (40) From 01/11/2014 to 15/03/2015

2. **Organising Secretary** (Centre Incharge) for one day seminar on 14 April 2017

**Name of Seminar:** “BHIM app and its application”

**File no.** 12012/3/2013-General, Dated 31/03/2017

**Sponsored by:** Ministry of Textiles.

3. **Coordinator** of seven days “**Short Term Training Programme (STTP)**” on “Advancements in Mechanical Engineering (**AME-2018**)” during December 17-23, 2018, sponsored by TEQIP-III, MMMUT Gorakhpur, India.
4. **Coordinator** of one day technical event Research Scholar Day (**RSD-2018**) on 16 Dec. 2018, Mechanical Engineering Department, sponsored by TEQIP-III, MMMUT Gorakhpur, India.
5. **Organising Secretary** of **National Conference** on Futuristics in Mechanical Engineering (**FME-2019**) during March 28-29, 2019 sponsored by TEQIP-III, MMMUT Gorakhpur, India.
6. **Deputy Coordinator** of **National level seminar** in the series of Fourth malaviya research conclave (**MRC-2020**) during Feb. 22-24, 2020 sponsored by TEQIP-III, MMMUT Gorakhpur, India.

### **WORKSHOP/SHORT-TERM COURSES ATTENDED:**

1. QIP short term course on “Emerging Trends in Carbon Nanotechnology”, November 07-12th, 2011 organized by Department of Mechanical Engineering, Indian Institute of Technology **IIT-Kanpur**, Kanpur-208016, UP, INDIA (Sponsored by QIP-AICTE)
2. Quality Improvement & Continuing Education Programme (QIP-CEP), Short Term Course on “Advanced Steel Design (October 8-12, 2012)” organized by Department of Civil Engineering Indian Institute of Technology **IIT-Delhi**, Delhi Hauz Khas, New Delhi-110016 INDIA (Sponsored by QIP-AICTE)
3. Short Term Course on “Multi-Objective Optimization Methods and Applications in Manufacturing (MOOMAM-2014)” held during June 6-8, 2014, organized by Department of Mechanical Engineering, National Institute of Technology (**NIT**), Rourkela-769008
4. Short Term Course on “Numerical and optimization Technique (NOT-2015)” from September 30<sup>th</sup> to October 4<sup>th</sup>, 2015, organized by Department of Civil Engineering Motilal Nehru National Institute of Technology (**MNNIT**), Allahabad UP, INDIA
5. Workshop on “Carpet making craft (CMC-2105)” from 15-17 July 2015 organized by Indian Institute of Carpet Technology (IICT) Bhadohi sponsored by Ministry of Textiles, Govt. of INDIA
6. Workshop on “Curriculum development” from 23-24 April 2016, organized by Indian Institute of Carpet Technology (IICT) Bhadohi Under Ministry of Textiles, Govt. of INDIA, Chauri Road, Bhadohi-221401 UP
7. Short Term Course on “advances in Design & Manufacturing (ADM-2016)” (Sponsored by TEQIP II) from July 04-10, 2016 organised by Mechanical Engineering Department, Madan Mohan Malaviya University of Technology(**MMMUT**) Gorakhpur-273 010, (U.P.)
8. Workshop on “Opportunities and Challenges for Industry- Institute interface” from 23-24 July 2016, organized by Indian Institute of Carpet Technology (IICT) Bhadohi Under Ministry of Textiles, Govt. of INDIA, Chauri Road, Bhadohi-221401 UP
9. Short term course on “Technological Advancement of Polymer Nanocomposites” from 04-08 April 2019, organized by Center for Development of Technical Education, Indian Institute of Technology (IIT) Kanpur, UP
10. Workshop on “Panel of Confrence Organizers (POCO-2019)” on 25 September 2019, organized by IEEE-UP Section (INDIA) at Madan Mohan Malaviya University of Technology, Gorakhpur, UP
11. Short term course on “Research Method and Data Analysis Using SPSS & AMOS” from 27-31 January 2020, organized by Madan Mohan Malaviya University of Technology, Gorakhpur, UP

12. One Week Pedagogical Training Program on “Curriculum design, Delivery and Assessment for Outcome Based Education” from 11-16 May 2020, organized by Internal Quality Assurance Cell (IQAC), Madan Mohan Malaviya University of Technology, Gorakhpur, UP

### **List of Publications**

SCI/SCIE	Scopus/ESCI/SCImago	Book Chapter(s)	Patents (Awarded/Published/ Filled)	Copyright Documents (Registered/ Submitted)	Conference Paper(s)
<b>46</b>	<b>43</b>	<b>21</b>	<b>18</b>	<b>04</b>	<b>81</b>

### **National/International Patents**

1. **Indian Patent 202111012813:** "Method for Synthesis of Carbon Nano Onions (CNOs)", April 02, 2021: **Published/Granted**
2. **Indian Patent 202111025285:** "Graphene Oxide and Carbon Fiber Reinforced Nanocomposite Material ", June 18, 2021: **Published**
3. **Indian Patent 202111032430:** "Method of Fabrication of a Polymer Composite from Polyester Carpet", August 20, 2021: **Published**
4. **Indian Design Patent 356986-001:** " Tiles", January 19, 2022: **Application Published**
5. **Indian Design Patent 361488-001:** " Electromagnetic Field (EMF) Reduction Box", March 29, 2022: **Application Published**
6. **Indian Design Patent 361489-001:** " Electromagnetic Field (EMF) Reduction Box Cap ", March 29, 2022: **Application Published**
7. **Indian Design Patent 365180-001:** " ACETABULAR CUP LINER", May 31, 2022: **Application Published.**
8. **Indian Design Patent 366426-001:** " Multi-Row Paddy Transplanting Machine ", June 20, 2022: **Application Published.**
9. **Indian Design Patent 381036-001:** “Anti-Topple FRP Road Safety Barriers”, March 07, 2023: **Application Published.**
10. **Indian Patent 202341035739 A:** “Shape free solar panel”, June 30, 2023: **Application Published.**
11. **Indian Design Patent 389505-001:** “GRASS AND LEAF TRIMMING DEVICE”, Jan 19, 2024: **Application Published.**
12. **Indian Patent 202341039958 A:** “Spiral Air Distribution System in Updraft Gasifier”, September 22, 2023: **Application Published.**
13. **Indian Design Patent 396547-001:** “Modified controlled irrigation system”, October 04, 2023: **Application Published.**
14. **Indian Design Patent 395775-001:** “Adjustable Orthopedic Screw”, September 09, 2023: **Application Published.**
15. **Indian Design Patent 412441-001:** “Modified Extruder Design for Nanocomposite Polymer Material Extrusion”, April 02, 2024: **Application Published.**
16. **Indian Design Patent 439496-001:** “Solar panel design mimicking natural photosynthesis”, November 07, 2024: **Application Published.**

**17. Indian Design Patent 427073-001: “Spring Assisted Exhaust Fan”, 04 December 2024: Application Published.**

**18. Indian Design Patent 441622-001: “Artificial Bio Bearing Liner for Lumbar Disk”, 23 December 2024: Application Submitted.**

### **National/International Copyrights**

1. **Diary No.:** 11514/2021-CO/L, **Registration Number:** L-107279/2021, **Title:** MWCNT/Epoxy Nanocomposites, **Author:** Dr. Rajesh Kumar Verma, **Status:** Registered, **Dated:** 03/09/2021.
2. **Diary No.:** 11506/2021-CO/L, **Title:** Structural Composite Material Developed from discarded Carpet, **Author:** Dr. Rajesh Kumar Verma, **Status:** Registered, **Dated:** 22/05/2021
3. **Diary No.:** 3790/2022-CO/L, **Title:** Structural Nanocomposite Developed from Discarded Jute Carpet And MWCNT Nanomaterial., **Author:** Dr. Rajesh Kumar Verma, **Status:** Registered, **Dated:** 27/06/2022
4. **Diary No.:** 13755/2021-CO/L, **Title:** MWCNT-HA-PMMA bone cement Nanocomposites, **Author:** Dr. Rajesh Kumar Verma, **Status:** Registered, **Dated:** 22/06/2021

### **Books/Chapter contributed to reputed publishers**

#### **Authored/Edited Books**

1. **Authored Book, “Recycling of Discarded Carpets for Structural Polymer Composites” Publisher Name:** Nova Science Publishers Inc., USA, **ISBN:** 979-8-88697-538-3 **(2023)**
2. **Edited Book, “Polymer Nanocomposites: Fabrication to Applications” Publisher Name:** CRC Press, Taylor & Francis Group LLC, USA, **(2023) ISBN** 978-103-23-8195-4
3. **Edited Book “Nanocomposite and Nanohybrid Materials: Processing and Applications” Publisher Name:** DE Gruyter (Germany), **(2023) ISBN** 978-3-11-113789-6. **DOI:10.1515/9783111137902**
4. **Edited Book “Machining and Tribology of Advanced Materials from Coatings, Lubrications, Surface Treatments to Modeling and Simulation” Publisher Name:** DE Gruyter (Germany), **(2024) ISBN** 978-3-11-137642-4.
5. **Authored Book, “Scientific Article Writing and Publication: Essential Skills and Tools” Publisher Name:** REDSHINE Publishers, INDIA, **(2024) ISBN** 978-1304651952
6. **Edited Book “Advanced Manufacturing and Machining Aspects of Composite Materials” Publisher Name:** Elsevier Ltd. London Wall London **(2024). ISBN:** 9780443347351



7. **Edited Book** “*Hybrid materials and advanced manufacturing: Modern technique and applications*” under ‘Computational Product Design and Digital Manufacturing’ **Publisher Name:** CRC Press, Taylor & Francis Group LLC, USA, (2024).

### **Edited Chapters**

1. **Rajesh Kumar Verma**, Prakhar Kumar Kharwar, Arpan Kumar Mondal, Kumar Abhishek and Jogendra Kumar, (2020) Exploration of MOORA Based Hybrid Taguchi Method for Multi-response Optimization—A Case Study, *Advances in Mechanical Engineering*, Lecture Notes in Mechanical Engineering, pp 515-525 **First Online:** 17 January 2020, **Online ISBN** 978-981-15-0124-1, **Print ISBN** 978-981-15-0123-4, **DOI:** [https://doi.org/10.1007/978-981-15-0124-1\\_47](https://doi.org/10.1007/978-981-15-0124-1_47), **Publisher Name:** Springer, Singapore.
2. Vikas Kumar, **Rajesh Kumar Verma**, (2020) “Utility Theory Embedded Taguchi Optimisation Method in Machining of Graphite Reinforced Polymer Composites (GRPC)” *Advances in Intelligent Systems and Computing* book series (AISC, volume 979), **First Online-**08 April 2020, **Print ISBN** 978-981-15-3214-6, **Online ISBN** 978-981-15-3215-3, **DOI:** [https://doi.org/10.1007/978-981-15-3215-3\\_43](https://doi.org/10.1007/978-981-15-3215-3_43), **Publisher Name:** Springer, Singapore
3. Vikas Kumar, **Rajesh Kumar Verma**, (2020) “PCA-GRA Coupled Multi-Criteria Optimization Approach in Machining of Polymer Composites” *Advances in Intelligent Systems and Computing* book series (AISC, volume 979), **First Online-**08 April 2020, **Print ISBN** 978-981-15-3214-6, **Online ISBN** 978-981-15-3215-3, **DOI:** [https://doi.org/10.1007/978-981-15-3215-3\\_47](https://doi.org/10.1007/978-981-15-3215-3_47), **Publisher Name:** Springer, Singapore
4. Jogendra Kumar, **Rajesh Kumar Verma** and Prateek Khare (2020) “Graphene functionalized Carbon/Glass fiber reinforced polymer nanocomposites: Fabrication and Characterization for manufacturing applications”, in Handbook Of Functionalized Nanomaterials: Environmental Health and Safety , **Publisher Name:** Elsevier Inc. Publication, **DOI:** 10.1016/B978-0-12-822415-1.00011-1, ISBN: 978-0-12-822415-1
5. Prasanth Kottapalli, Rahul Narkhede, Harshit K. Dave, Himanshu V. Patel, **Rajesh Kumar Verma** (2021) “Experimental and Simulation Study on Permeability of Hybrid Composite”, in Advances in Manufacturing Processes. Lecture Notes in Mechanical Engineering. **Publisher Name:** Springer, Singapore. **DOI:** 10.1007/978-981-15-9117-4\_29
6. Shivi Kesarwani, Vinay Kumar Patel, Vijay Kumar Singh and **Rajesh Kumar Verma**, Prakhar Kuma Kharwar (2022) “Recent trends in the manufacturing of reduced Graphene oxide modified epoxy nanocomposites as advanced functional material”, in Trends in Fabrication of Polymers and Polymer composites, **Publisher Name:** AIP Publications, USA, **DOI:** 10.1063/9780735423916\_009, ISBN 978-0-7354-2388-6
7. Prakhar Kumar Kharwar, **Rajesh Kumar Verma** and and Abhishek Singh (2022) “Synthesis of catalyst-free Carbon Nano Onions (CNOs) for advanced functional

materials”, in Trends in Fabrication of Polymers and Polymer composites, **Publisher Name:** AIP Publications, USA, **DOI:** 10.1063/9780735423916\_008, ISBN 978-0-7354-2388-6

8. Sanjeev Kumar, Vinay Kumar Patel and **Rajesh Kumar Verma** (2022) “Importance of Chemical Treatments of Natural Fibers in Fabrication of High-Performance Natural Fiber-Reinforced Polymer Composites”, in Trends in Applications of Polymers and Polymer composites, **Publisher Name:** AIP Publications, USA, **DOI:** 10.1063/9780735423916\_010, ISBN 9780735424524
9. Umang Dubey, Shivi Kesarwani, Panagiotis Kyratsis and **Rajesh Kumar Verma**, “Development of modified Polymethyl methacrylate and Hydroxyapatite (PMMA/HA) Biomaterial composite for Orthopaedic products” In Advances in Product Design Engineering, **PP.** 159–178, **Publisher Name:** Springer Nature, **DOI:** 10.1007/978-3-030-98124-2\_7, ISBN 978-3-030-98124-2
10. Jogendra Kumar, Shivi Kesarwani, Balram Jaiswal, Kaushlendra Kumar, Devendra Kumar Singh, Kuldeep Kumar, Rahul Vishwakarma and **Rajesh Kumar Verma** (2022) “Study on Drilling behavior of Polymer Nanocomposites modified by Carbon nanomaterial with Fiber: A Case study” in Computational Intelligence in Manufacturing, **PP.** 87–109, **Publisher Name:** Elsevier Inc. Publication, **DOI:** 10.1016/B978-0-323-91854-1.00004-2, ISBN 978-0-323-91854-1
11. Shivi Kesarwani, **Rajesh Kumar Verma**, Prakhar Kuma Kharwar (2022) “Basalt fiber reinforced polymer composites and its significance in the future of composites”, in Trends in Applications of Polymers and Polymer composites, **Status-In Press**, **Publisher Name:** AIP Publications, USA, ISBN 9780735424524, DOI Number: 10.1063/9780735424555
12. Jogendra Kumar, Prakhar Kumar Kharwar and **Rajesh Kumar Verma** (2022) “The machining potential and damage modeling of carbon/polymer composites for high-performance applications”, in Trends in Applications of Polymers and Polymer composites, **Status-In Press**, **Publisher Name:** AIP Publications, USA, ISBN: 9780735424524, **DOI Number:** 10.1063/9780735424555
13. Kuldeep Kumar, Jogendra Kumar, Vijay Kumar Singh, Rajesh Kumar Verma and Abhishek Singh. "A novel approach for optimization of Machining characteristics of polymer nanocomposites", CIMS 2020, July 2022 in Optimization of Industrial Systems [DOI:10.1002/9781119755074.ch28](https://doi.org/10.1002/9781119755074.ch28) **Publisher Name:** Wiley, , Print ISBN:9781119750314 |Online ISBN:9781119755074
14. Shivi Kesarwani., Prakhar Kumar Kharwar., and **Rajesh Kumar Verma** (2023). “Artificial Neural Network (ANN) for Parametric Appraisal and Milling Efficiency Evaluation of Carbon/Epoxy Nanocomposites”. In: Jain, P.K., Ramkumar, J., Prabhu Raja, V., Kalayarasan, M. (eds) Advances in Simulation, Product Design and Development. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-19-4556-4\\_14](https://doi.org/10.1007/978-981-19-4556-4_14) **Publisher Name:** Springer, Singapore, Online ISBN 978-981-19-4556-4.

15. Devendra Kumar Singh and Rajesh Kumar Verma (2023) “Realizing the Application Potential of Graphene-Modified Bionanocomposites for Prosthesis and Implant Applications”. In: Bhattacharyya, B., Mathew, J., Saravanakumar, N., Rajeshkumar, G. (eds) Advances in Micro and Nano Manufacturing and Surface Engineering. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-19-4571-7\\_29](https://doi.org/10.1007/978-981-19-4571-7_29) **Publisher Name:** Springer, Singapore, Online ISBN 978-981-19-4571-7.
16. Kuldeep Kumar, and Rajesh Kumar Verma (2023) “Combined Compromise Solution for Machining Performance Optimization of Modified Polymer Composite”. In: Dixit, U.S., Kanthababu, M., Ramesh Babu, A., Udhayakumar, S. (eds) Advances in Forming, Machining and Automation. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-19-3866-5\\_17](https://doi.org/10.1007/978-981-19-3866-5_17) **Publisher Name:** Springer, Singapore, Online ISBN 978-981-19-3866-5.
17. Rahul Vishwakarma, Rajesh Kumar Verma and Kishore Debnath (2023). “Investigation on Micro Electric Discharge Machining of Polymer Nanocomposites Modified by Graphene Nanoplatelet”. In: Dixit, U.S., Kanthababu, M., Ramesh Babu, A., Udhayakumar, S. (eds) Advances in Forming, Machining and Automation. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-19-3866-5\\_28](https://doi.org/10.1007/978-981-19-3866-5_28) **Publisher Name:** Springer, Singapore, Online ISBN 978-981-19-3866-5.
18. Jogendra kumar, Balram jaiswal, Kuldeep kumar, Kaushlendra kumar, and Rajesh kumar verma(2023) “Reuse of waste carpet into a sustainable composite: a case study on recycling approach” In: Khanna, N., Gajrani, K.K., Giasin, K., & Davim, J.P. (Eds.). (2023). Sustainable Materials and Manufacturing Technologies (1st ed.). <https://doi.org/10.1201/9781003291961> **Publisher Name:** CRC Press. Online ISBN: 9781003291961.
19. Rajesh Kumar Verma, Virat Mani Vidyasagar, Devendra Kumar Singh, Umang Dubey, and Panagiotis Kyratsis. "12 Characterization and mechanical properties analysis of carbon nanotube and hydroxyapatite-modified polymethyl methacrylate bone cement for bio-nanocomposite". Nanocomposite and Nanohybrid Materials: Processing and Applications, edited by Rajesh Kumar Verma, Devendra Kumar Singh and J. Paulo Davim, <https://doi.org/10.1515/9783111137902-012>. **Publisher Name:** De Gruyter, 2024, pp. 237-258. Online ISBN: 9783111137902.
20. Rajesh Kumar Verma, Kuldeep Kumar, Shivam Kumar Dubey, Shivi Kesarwani, Prakhar Kumar Kharwar, Arpan Kumar Mondal, and Mark J. Jackson. "13 Role of nanomaterials in enhancing the performance of polymer composite materials". Nanocomposite and Nanohybrid Materials: Processing and Applications, edited by Rajesh Kumar Verma, Devendra Kumar Singh and J. Paulo Davim, <https://doi.org/10.1515/9783111137902-013> **Publisher Name:** De Gruyter, 2024, pp. 259-276. Online ISBN: 9783111137902.

21. Devendra Kumar Singh, Rajesh **Kumar Verma**, Virendra Kumar , Nishant kumar Singh and Rajesh kumar Yadav (2025). “Enhancing Wear Performance of Reinforced UHMWPE Composites: A Comprehensive Exploration” **Edited Book** Machining and Tribology of Advanced Materials from Coatings, Lubrications, Surface Treatments to Modeling and Simulation, edited by Nishant Kumar Singh, Rajesh Kumar Verma, Virendra Kumar and J. Paulo Davim, **Publisher Name:** De Gruyter, 2024. Online ISBN: 978-3-11-137642-4. (**Status:** Published) doi: <https://doi.org/10.1515/9783111377292-011>
22. Devendra Kumar Singh and **Rajesh Kumar Verma**, Jogendra kumar, Shivi Kesarwani (2025) “Challenges and Opportunities for Future Advancements in Composite Manufacturing” **Edited Book** “*Advanced Manufacturing and Machining Aspects of Composite Materials*” **Publisher Name:** Elsevier Ltd. London Wall London (2024). ISBN: 9780443347351.

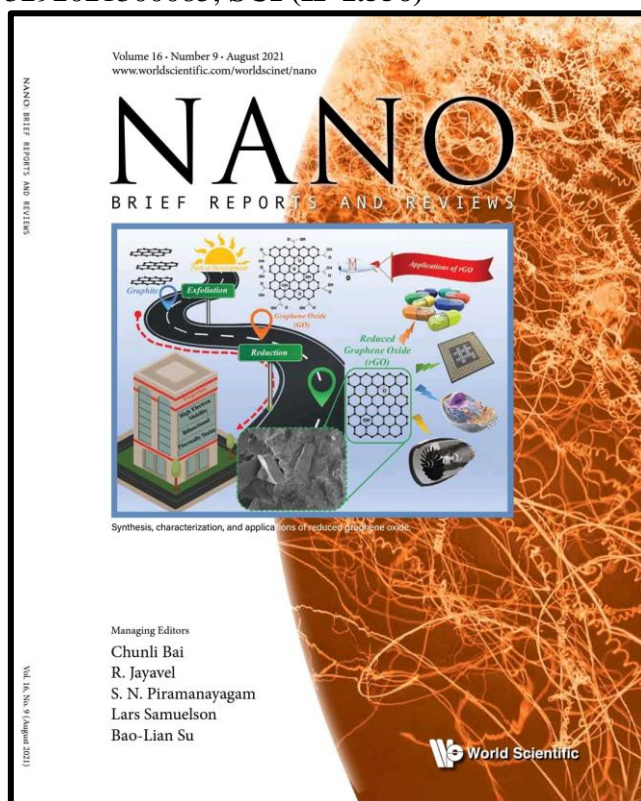
## ***Publications in International Journals***

### **LIST OF SCI JOURNALS**

1. Prakhar Kumar Kharwar, **Rajesh Kumar Verma** “*Exploration of Nature Inspired Grey Wolf Algorithm and Grey Theory in Machining of Multiwall Carbon Nanotube/Polymer Nanocomposites*” Engineering with Computers, Springer Publications, Volume 38, 1127-1148, July 2020, **DOI:** 10.1007/s00366-020-01103-x, **SCI (IF 7.963)**
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52. Balram Jaiswal, Sanjay Mishra and **Rajesh Kumar Verma** “Characteristics of discarded polymer composites material: Mechanical properties analysis”, 8<sup>th</sup> International and 29<sup>th</sup> All India Machine Tool Design and Research Conference (AIMTDR-2021), 9 - 11, December 2021, **Accepted**
53. Devendra Kumar Singh and **Rajesh Kumar Verma** “A Review of Recent Developments in Graphene/Graphene-based Bio-Nanocomposite Materials for implant application”, 8<sup>th</sup> International and 29<sup>th</sup> All India Machine Tool Design and Research Conference (AIMTDR-2021), 9 - 11, December 2021, **Accepted**
54. Virat Mani Vidyasagar, Umang Dubey, Kuldeep Kumar, Shivi Kesarwani and **Rajesh Kumar Verma**, “Machining of Polymethyl-methacrylate (PMMA) bone cement-based nanocomposite using Combined compromise solution (CoCoSo) theory”, 3rd International Conference on Future of Engineering Systems and Technologies, (FEST2021), December 18-19, 2021, **Accepted [Paper ID: 11]**
55. **Rajesh Kumar Verma**, Balram Jaiswal, Rahul Vishwakarma, Kuldeep Kumar and Kaushlendra Kumar, “Water absorption study and characterization of polymer composites developed from discarded nylon carpet”, 3rd International Conference on Future of Engineering Systems and Technologies, (FEST2021), December 18-19, 2021, **Accepted [Paper ID: 21]**
56. Ankit Dhar Dubey, Jogendra Kumar, Shivi Kesarwani and **Rajesh Kumar Verma**, “Flexural properties and Cost evaluation of hybrid polymer composites developed from different stacking sequences of fiber laminates”, 12<sup>th</sup> ICMPC 2021, Oct. 06-09, 2021, NITTTR Chandigarh, INDIA **[Paper ID: 176]**
57. **Rajesh Kumar Verma**, Balram Jaiswal, Rahul Vishwakarma, Kuldeep Kumar, and Kaushlendra Kumar, “Polymer composite developed from discarded carpet for light weight structural applications: Development and Mechanical analysis”, 12<sup>th</sup> ICMPC 2021, Oct. 06-09, 2021, NITTTR Chandigarh, INDIA **[Paper ID: 632]**
58. Shivi Kesarwani and **Rajesh Kumar Verma**, “Grey integrated Multiobjective Particle Swarm Optimization (MOPSO) for Machining assessment and predictive modeling of Cutting Forces generated during Polymer nanocomposite Drilling”, 12<sup>th</sup> ICMPC 2021, Oct. 06-09, 2021, NITTTR Chandigarh, INDIA **[Paper ID: 1108]**
59. Kuldeep Kumar, Prakhar Kumar Kharwar and **Rajesh Kumar Verma**, “Investigation on Flexural strength of Polymer nanocomposites modified by MWCNT and Glass fiber”, 12<sup>th</sup> ICMPC 2021, Oct. 06-09, 2021, NITTTR Chandigarh, INDIA **[Paper ID: 1115]**
60. Devendra Kumar Singh and **Rajesh Kumar Verma**. (2021). A critical review on ultra-high molecular weight polyethylene (UHMWPE) for prosthesis and implant functions. E3S Web Conf. 309 01018 (2021) (International conference on materials processing and characterization-ICMPC-2021), DOI: 10.1051/e3sconf/202130901018, Status: Published. **[Paper ID: 177]**

61. Devendra Kumar Singh and **Rajesh Kumar Verma**. (2022). Investigation On the Impact Performances of RGO And ZrO<sub>2</sub> Reinforced Polymer Composites for Bio-Bearing Applications, (2022). 9<sup>th</sup> International Congress on Engineering, Architecture and Design, Istanbul, Turkey from 14-15-16 May 2022. Status: **Published**
62. Jogendra Kumar, Kuldeep Kumar, Balram Jaiswal, Kaushlendra Kumar and **Rajesh Kumar Verma**, “Mechanical and physical properties analysis of Textile (carpet) waste/polymer composite modified by nanofiller”, AMEIM 2022, Feb. 25-26, 2022, NIT Raipur, INDIA [Paper ID: 7016]
63. Uma Dutt Chaubey and **Rajesh Kumar Verma**, “Contemporary development on the mechanical properties of HDPE/Natural fiber composites”, International Conference on Advancements in Interdisciplinary Research (AIR-2022), 6th - 7th May 2022, Organized by Motilal Nehru National Institute of Technology Allahabad, Prayagraj (U.P.), INDIA [Paper ID: 84]
64. Shivi Kesarwani and **Rajesh Kumar Verma**, “Machinability Investigation and Optimization during End milling of reduced graphene oxide (rGO) modified laminated nanocomposites”, 20<sup>th</sup> ISME Conference on Advances In Mechanical Engineering, 19<sup>th</sup> - 21<sup>st</sup> May 2022, Organized by Department of Mechanical Engineering, Indian Institute of Technology Ropar, INDIA [Paper ID: 5850],
65. Shivam Kumar Dubey and **Rajesh Kumar Verma**, “A critical review on the enhancement of mechanical properties of Carbon fiber reinforced polymer composites using carbon-based nanomaterials (CBNs)”, 20<sup>th</sup> ISME Conference on Advances In Mechanical Engineering, 19<sup>th</sup> - 21<sup>st</sup> May 2022, Organized by Department of Mechanical Engineering, Indian Institute of Technology Ropar, INDIA [Paper ID: 5566]
66. Taufeeq Ahmad and **Rajesh Kumar Verma**, “Effect of stacking sequences on the Mechanical Properties of Hybrid Laminated Composites”, 20<sup>th</sup> ISME Conference on Advances In Mechanical Engineering, 19<sup>th</sup> - 21<sup>st</sup> May 2022, Organized by Department of Mechanical Engineering, Indian Institute of Technology Ropar, INDIA [Paper ID: 5656]
67. **Rajesh Kumar Verma** and Devendra Kumar Singh “Investigation on Mechanical properties of Bio-polymer nanocomposites for Artificial Bio-Bearing (ABB) applications”, 9th International & 30th All India Manufacturing Technology, Design and Research Conference (8th to 10th December 2023), IIT-BHU Varanasi (AIMTDR-2023), Status: Presented. [Paper ID 128]
68. **Rajesh Kumar Verma** and Shivi Kesarwani “Influence of reduced Graphene oxide (rGO) modified CFRP composites during Abrasive Water Jet Machining”, 9th International & 30th All India Manufacturing Technology, Design and Research Conference (8th to 10th December 2023), IIT-BHU Varanasi (AIMTDR-2023), Status: Presented. [Paper ID 127]
69. **Rajesh Kumar Verma** and Devendra Kumar Singh “Tribological investigation on Zirconia loaded Polymeric Bio-Nanocomposite Materials under Simulated Body Fluid condition” 2nd International Conference on Advances in Nanomaterials and Devices for Energy and Environment (CANDEE-2023) , 19-20 December 2023, Status: Presented [Paper ID 24]
70. **Rajesh Kumar Verma** and Shailesh Kumar Gupta, "Effect of Carbon Nanoparticles on the Physical and Mechanical Properties of Carbon/Basalt Fiber Reinforced Hybrid Composites" 2nd International Conference on Advances in Nanomaterials and Devices for Energy and Environment (CANDEE-2023), 19-20 December 2023, Status: Presented [Paper ID 70].

71. Nishant K. Singh Virendra Kumar and **Rajesh Kumar Verma** “Performance Improvement of Cold Storage Via Energy Conservation Using a Taguchi Techniques” at VI-International Antalya Scientific Research and Innovative Studies Congress held on December 02-04, 2023 / Antalya, Türkiye. Status: **Presented**.
72. **Rajesh Kumar Verma** and Devendra Kumar Singh “Improved Ultra-High Molecular Weight Polyethylene with rGO: Thermal, Morphological, and Fracture Analysis at CHEM-TECHNOVA 2024, at HBTU Kanpur, (21 -23 March 2024), Status: **Presented**.
73. **Rajesh Kumar Verma**, Sumit Kumar Patel, Sher Bahadur Verma, Ashish Prajapati, Devendra Kumar Singh, Virendra Kumar “MWCNT reinforced high density polyethylene nanocomposite for biomedical applications, at CHEM-TECHNOVA 2024, at HBTU Kanpur, (21 -23 March 2024), Status: **Presented**.
74. **Rajesh Kumar Verma**, Nilesh Kumar Agarahari, Sanghratna Gautam, Ashish Kumar, Devendra Kumar Singh, Nishant kumar Singh “Cost Effective Extruder for 3D Printing of Filament” at CHEM-TECHNOVA 2024, at HBTU Kanpur, (21 -23 March 2024), Status: **Presented**.
75. Shailesh Kumar Gupta, **Prof. Rajesh Kumar Verma** “Incorporating carbon nanomaterials in the Hybridized polymer composite for structural applications”. at CHEM-TECHNOVA 2024, at HBTU Kanpur, (21 -23 March 2024), Status: **Presented**.
76. Devendra Kumar Singh and **Prof. Rajesh Kumar Verma**. (2024). “Thermal Morphological and Fracture-Based Evaluation of ZrO<sub>2</sub> modified Ultra-High Molecular Weight Polyethylene”. 5th International Congress on Contemporary Scientific Research, April 21-22, 2024 / Kayseri, Türkiye,2024. Status: **Published**.
77. Dr. Devendra Kumar Singh and **Prof. Rajesh Kumar Verma**. (2024). “Advancements in UHMWPE nanocomposites: a comprehensive review of graphene and silver nanofiller reinforcement for biomedical applications”. Bio&NanoTech2024 October 30 - November 01, 2024 / ARDAHAN, TÜRKIYE October 30 - November 01, 2024 / ARDAHAN, TÜRKIYE, April 21-22, 2024 / Kayseri, Türkiye,2024. Status: **Published**.
78. **Rajesh Kumar Verma** and Devendra Kumar Singh (2024) “Enhancing Ultra-High Molecular Weight Polyethylene: The Role of Hybrid Nanofillers in Biomedical Applications” 3rd International Conference on Advances in Nanomaterials and Devices for Energy and Environment 03-05 December 2024, Department of Engineering Sciences ABV-IIITM, Morena Link Road Gwalior, 474010 (M.P.), INDIA Status: **Published**.
79. Nishant K. Singh Virendra Kumar and **Rajesh Kumar Verma** “RECOVERING VALUE FROM FIBER REINFORCED COMPOSITES: A SUSTAINABILITY PERSPECTIVE” at INTERNATIONAL SCIENTIFIC RESEARCH AND INNOVATION CONGRESS-II December 16-18, 2024 / Adana, Türkiye WEB: <https://www.ubakkongre.com/research>. Status: **Published**.
80. Rajesh Kumar Verma Jogendra Kumar, Rajneesh Kumar Singh Yadvendra Kumar Mishra (2025) “EXTENSIVE ANALYSIS OF CARPET WASTE GENERATION, AND THEIR MANAGEMENT FOR LIGHT WEIGHT ENGINEERING APPLICATION” International Conference on Greener Technologies in Mechanical Engineering ICGTME-2025 Organized by, Department of Mechanical Engineering Birla Institute of Technology and Science Pilani, Pilani Campus Under the, Diamond Jubilee Celebrations at BITS Pilani February 3 - 4, 2025 Birla Institute of Technology and Science Pilani, Pilani Campus, Rajasthan, India Status: Published.
81. Jogendra Kumar and **Rajesh Kumar Verma** (2025) “TENSILE, FLEXURAL, AND MACHINABILITY INVESTIGATION OF POLYMER NANOCOMPOSITES REINFORCED WITH CARON NANO MATERIALS” International Conference on Greener Technologies in Mechanical Engineering ICGTME-2025 Organized by,

Department of Mechanical Engineering Birla Institute of Technology and Science Pilani, Pilani Campus Under the, Diamond Jubilee Celebrations at BITS Pilani February 3 - 4, 2025 Birla Institute of Technology and Science Pilani, Pilani Campus, Rajasthan, India Status: **Published.**

### ***Conference / Seminar Attended & Paper Presentation***

1. **Presented and Published** a research paper on “*Introducing Combined Quality Loss Concept in Taguchi’s Philosophy for Parametric Optimization of Wire EDM*”, in the Proceeding of “4<sup>th</sup> International Conference on Advances in Mechanical Engineering”, held on September 23-25, 2010 at S.V. National Institute of Technology, Surat – 395 007, Gujarat, INDIA. **[Paper ID PI-56], Page No. 497-501.**
2. **Presented and Published** a research paper on “*A case study to solve multi response optimization problem*”, Proceedings of 2<sup>nd</sup> International Conference on Production and Industrial Engineering (CPIE 2010), December 3-5, 2010, organized by Department of Industrial and Production Engineering, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar-144011. **[Paper ID: F001], Page No. 353-357.**
3. **Presented and Published** a research paper on “*Utility Theory in Taguchi based multi-response optimization: a case study*”, Proceedings of 2<sup>nd</sup> International Conference on Production and Industrial Engineering (CPIE 2010), December 3-5, 2010, organized by Department of Industrial and Production Engineering, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar-144011. **[Paper ID: F002], Page No. 358-361.**
4. **Presented and Published** a research paper on, “*Exploration of Multi-Response Performance Index and CQL Concept in Quality Optimization: A Case Study*”. Proceedings of National Conference on Advances in Mechanical Engineering (NCAME-2010) November 27-28, 2010. Mechanical Engineering Section, Aligarh Muslim University, Aligarh-202002, U.P., INDIA. **[Paper ID PI-52], Page No.176-182.**
5. **Presented and Published** a research paper on “*Implementation and Strategies of TPM in FMS for Maximum Equipment Productivity*”. Proceedings of National Conference on Advances in Mechanical Engineering (NCAME-2010) November 27-28, 2010. Mechanical Engineering Section, Faculty of Engineering & Technology, Aligarh Muslim University, Aligarh-202002, U.P., INDIA. **[Paper ID PI-59], Page No.157-162.**
6. **Presented and Published** a research paper on “*Implementation of TPM in manufacturing companies for zero defects production of parts: An overview*”. Proceeding of International Conference on Practice and Research in Management, for Sustainable Development, to be held in February 18-20, 2011 (PRIM 2011), organized by Department of Management, Faculty of Social Sciences, Dayalbagh Educational Institute (Deemed University), Dayalbagh, Agra, UP INDIA. **[Paper ID OT:208]**

7. **Presented and Published** a research paper on “*Key Success Factors in Knowledge Management for Effective and Efficient Contributions to the System*”. Proceedings of National conference on Management of innovation in business and technology: new strides, February 19-20, 2011. Organized by School of Management studies, Varanasi-221001, U.P, INDIA.
8. **Presented and Published** a research paper on “*Strategic Analysis of Total Productive Maintenance in Flexible Manufacturing System for Maximum OEE*”. Proceedings of International Conference on Recent Trends in Engineering, Technology & Management February 26-27, 2011. Organized by Bundelkhand Institute of Engineering and Technology Jhansi- 284128, U.P., INDIA. **[Paper ID ME-129], Page No.829-836.**
9. **Presented and Published** a research paper on “*Introducing TPM in Flexible Manufacturing System for Maximum OEE*”. Proceedings of International Conference on Industrial Engineering (ICIE) 2011. Organized by International Conference on Advances in Mechanical Engineering”, held on November 17-19, 2011 at S.V. National Institute of Technology, Surat –395 007, Gujarat, INDIA. **[Paper ID ICIE-153], Page No. 1155-1160.**
10. **Presented and Published** a paper entitled *A fuzzy-ICA based hybrid approach for parametric appraisal in machining (turning) of GFRP composites*, in the **6<sup>th</sup> International conference on Innovative trends in Mechanical, Material, Manufacturing, Automobile, Aeronautical Engineering and Applied Physics**” (ITMAEAP 2014) held during 20<sup>th</sup> December, 2014 at School of Social Science Auditorium, Jawaharlal Nehru University (JNU), New Delhi-110067.
11. **Presented and Published** a paper entitled “*Machining performance optimization in Drilling of GFRP composites: A utility theory (UT) based approach* ” International Conference on Control Computing Communication and Materials (ICCCCM-2016) 21<sup>st</sup> and 22<sup>nd</sup> October, 2016, UCER Allahabad UP (IEEE Conference ID – 39191, paper ID ICCCM- 2016-229)
12. **Presented and Published** a paper entitled “*Parametric appraisal in machining of glass fibre reinforced composites: Exploration of utility-fuzzy rule based Taguchi approach*” National Conference on Design, Manufacturing & Thermal Engineering 10-11 February 2017, organized by Department of Mechanical Engineering, JSPM’s Bhivarabai Sawant Institute of Technology & Research Wagholi, Pune, M.S. 412207. INDIA.**[Paper ID NCDMTE2017- NME 24]**
13. **Presented and Published** a paper entitled “*Investigations on abrasion wear performances of Machine made tufted carpets (Acrylic): Exploration of Taguchi optimization philosophy*” National Conference on Design, Manufacturing & Thermal Engineering 10-11 February 2017, organized by Department of Mechanical Engineering, JSPM’s Bhivarabai Sawant Institute of Technology & Research Wagholi, Pune, M.S. 412207. INDIA. **[Paper ID NCDMTE2017- NME 28].**



14. **Presented and Published** a paper entitled “*Parametric appraisal in machine made tufted carpets for quality and productivity improvement*” National Conference on Design, Manufacturing & Thermal Engineering 10-11 February 2017, organized by Department of Mechanical Engineering, JSPM’s Bhivarabai Sawant Institute of Technology & Research Wagholi, Pune, M.S. 412207. INDIA. [Paper ID NCDMTE2017- NME 29].
15. **Presented and Published** a paper entitled “*Application of WPCA based hybrid Taguchi method for quality and productivity characteristics optimization in tufted MMC (Acrylic materials)*” National Conference on Design, Manufacturing & Thermal Engineering 10-11 February 2017, organized by Department of Mechanical Engineering, JSPM’s Bhivarabai Sawant Institute of Technology & Research Wagholi, Pune, M.S. 412207. INDIA. [Paper ID NCDMTE2017- NME 30].
16. **Presented and Published** a paper entitled “*PCA- GRA integrated Taguchi approach in machining of GFRP composites: A Multi-objective optimization approach*” International Conference on Design, Materials & Manufacturing Concerns in Production of Quality Engineering Goods March 27-29, 2017, organized by Department of Mechanical Engineering, School of Engineering, Harcourt Butler Technical University (HBTU) Kanpur. INDIA. [Paper ID MFN\_25]
17. **Presented and Published** a paper entitled “*Parametric appraisal and multi-response optimization in turning of GFRP composites: Exploration of weighted principal component analysis (WPCA)*” 3rd International Conference on Advancements and Recent Innovations in Mechanical, Production and Industrial Engineering (ARIMPIE – 2017) April 21-22, 2017, organized by Department of Mechanical Engineering, ITS Engineering college, Greater Noida. INDIA. [Paper ID ARIMPIE17-P-2]
18. **Presented and Published** a paper entitled “*Exploration of UT-FIS integrated Taguchi approach for Multi-response Optimization in machining of GFRP Composites materials*” 3<sup>rd</sup> Indian conference on applied mechanics(INCAM-2017), July 5-7 2017, organized by Applied Mechanics Department, Motilal Nehru National Institute of Technology (MNNIT), Allahabad UP, INDIA [Paper ID INCAM -13]
19. **Presented and Published** a paper entitled “*Application of fuzzy expert system and Imperialist Competitive Algorithm (ICA) for multi response optimization problems*” International Conference on Innovations in Control, Communication and Information Systems (ICICCI-2017) 12<sup>th</sup> -13<sup>th</sup> August, 2017 Delhi-NCR, Greater Noida, INDIA. (IEEE Conference ID - 40867) [Paper ID ICICCI-69]
20. **Presented and Published** a paper entitled “*Exploration of WPCA based Taguchi approach for multi-response optimization in Quality characteristics of machine made tufted carpets*” International Conference on Advances in Polymer Science & Technology 23-25 November, 2017 Organised by Indian Institute of Technology IIT-Delhi, Delhi Hauz Khas, New Delhi-110016 INDIA (Paper ID - 451)

21. **Presented and published** a paper entitled “Utility-Taguchi based hybrid Optimization Approach in Machining of Graphite Composites” 2019 International Conference on Energy, Environment & Material Sciences (ICE2M), IEEE conference 1st -3rd December 2019 Organized by Madan Mohan Malaviya University of Technology, Gorakhpur Department of Mechanical Engineering IEEE conference (**Paper ID - 08**)
22. **Presented and published** a paper entitled " Study on polymer (epoxy) composite using carpet waste for lightweight structural applications: A new approach for waste management ", 11<sup>th</sup> ICMPC 2020, Dec. 15-17, 2020, IIT Indore, INDIA [**Paper ID: MATPR-D20-21411**]
23. **Presented and published** a paper entitled “Investigation on Mechanical properties of Bio-polymer nanocomposites for Artificial Bio-Bearing (ABB) applications”, 9th International & 30th All India Manufacturing Technology, Design and Research Conference (8th to 10th December 2023), IIT-BHU Varanasi (AIMTDR-2023), Status: Presented. [**Paper ID 128**]
24. **Presented and published** a paper entitled “Influence of reduced Graphene oxide (rGO) modified CFRP composites during Abrasive Water Jet Machining”, 9th International & 30th All India Manufacturing Technology, Design and Research Conference (8th to 10th December 2023), IIT-BHU Varanasi (AIMTDR-2023), Status: Presented. [**Paper ID 127**]
25. **Rajesh Kumar Verma** and Devendra Kumar Singh “Improved Ultra-High Molecular Weight Polyethylene with rGO: Thermal, Morphological, and Fracture Analysis at CHEM-TECHNOVA 2024, at HBTU Kanpur, (21 -23 March 2024), Status: **Presented.**
26. **Presented and published** a paper entitled “Tribological investigation on Zirconia loaded Polymeric Bio-Nanocomposite Materials under Simulated Body Fluid condition” 2nd International Conference on Advances in Nanomaterials and Devices for Energy and Environment (CANDEE-2023), 19-20 December 2023, Status: Presented [**Paper ID 24**]
27. **Presented and published** a paper entitled “Performance Improvement of Cold Storage Via Energy Conservation Using a Taguchi Techniques” at VI-International Antalya Scientific Research and Innovative Studies Congress held on December 02-04, 2023 / Antalya, Türkiye.
28. **Rajesh Kumar Verma** and Devendra Kumar Singh (2024) “Enhancing Ultra-High Molecular Weight Polyethylene: The Role of Hybrid Nanofillers in Biomedical

Applications” 3rd International Conference on Advances in Nanomaterials and Devices for Energy and Environment 03-05 December 2024, Department of Engineering Sciences ABV-IIITM, Morena Link Road Gwalior, 474010 (M.P.), INDIA Status: **Published.**

29. Jogendra Kumar and **Rajesh Kumar Verma** (2025) “TENSILE, FLEXURAL, AND MACHINABILITY INVESTIGATION OF POLYMER NANOCOMPOSITES REINFORCED WITH CARON NANO MATERIALS” International Conference on Greener Technologies in Mechanical Engineering ICGTME-2025 Organized by, Department of Mechanical Engineering Birla Institute of Technology and Science Pilani, Pilani Campus Under the, Diamond Jubilee Celebrations at BITS Pilani February 3 - 4, 2025 Birla Institute of Technology and Science Pilani, Pilani Campus, Rajasthan, India Status: **Published.**