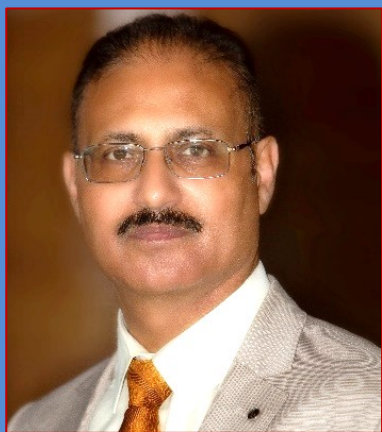


SER



**Curriculum Vitae**  
**Prof. Rakesh Sehgal**  
**Professor (HAG)**  
Mechanical Engineering Department  
National Institute of Technology (NIT) Hamirpur  
Hamirpur – 177 005 (H.P.), India

## **CURRICULUM VITAE**

**Name** : **Prof. Rakesh Sehgal**  
**Date of Birth** : **June 07, 1963**  
**Current Position** : Professor (HAG), Mechanical Engg.  
**Present Address** : National Institute of Technology Hamirpur,  
 Hamirpur-177005 (H.P.)  
**Contact Nos.** : 01972-254722(O); 254723 (Res.)  
**Mobile** : 9418058442  
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**Website** : <https://rakeshsehgal.com/>



### **Educational and Professional Qualification:**

<b>Examination or Degree</b>	<b>Board/ University</b>	<b>Year of Passing</b>	<b>Division (%age/CGPA)</b>	<b>Distinction/ Scholarship</b>
Hr. Sec. Part-1 (Matric)	H.P. Board	1978	First with Distinction (78.33%)	Science Scholarship holder
Pre-Engineering	H. P. University	1981	First (70%)	5 <sup>th</sup> Position in H. P. University; Merit Scholarship holder
B.E. Mechanical	Annamalai University (T.N.)	Dec., 1985	First with Distinction (73.13%)	Distinction holder; H.P. Govt. Scholarship holder
M. Tech. (Design of Mech. Equip.)	I.I.T., Delhi	Jan., 1991	9.75 CGPA	First position in Design Stream
<b>Ph.D.</b>	Kurukshetra University	Nov, 2001	<b>Ph.D. Topic:</b> Developing Tribo-concepts Design Methodology for Improved Reliability and Maintenance of Mechanical Systems <b>Ph.D. Supervisors:</b> Late Prof. O.P. Gandhi (IIT Delhi) Prof. Surjit Angra (NIT Kurukshetra)	
<b>Post Doctorate</b>	UGC PDF Award	Sept., 2009- Sept., 2011	<b>PDF Topic:</b> Isoviscous and Thermal Studies of Some Non-Circular Journal Bearing Profiles <b>Pursued research at Tribo-lab, Mech. Engg. Dept., NIT Hamirpur (H.P)</b> and Final Thesis/Report submitted to <b>UGC, New Delhi</b>	

## Professional Experience:

Total experience at different levels in Technical & Research Institutes: **37 Years**

Name of the Employer	Designation of the post and duration of employment period	Salary drawn at the time of leaving (Basic Pay, Allowances)	Brief description of duties	Reasons for leaving
NIT Hamirpur (H.P.)	<b>Professor (HAG)</b> Mech. Engg. (09-11-2017 to till date)	Rs. 2,24,100 + Allowances <b>(Pay level 15)</b>	Teaching and Research	Continuing
Ministry of Education (MOE), New Delhi	<b>Director, NIT Srinagar, Hazratbal, Srinagar (J&amp;K)</b> (09-11-2017 to 08-05-2023)	Rs. 2,10,000/- + Rs. 11250/- Special allowance	<b>Complete Administration</b>	Completed Term ( <b>5½ Yrs.</b> )
NIT Hamirpur (H.P.)	<b>Professor</b> Mech. Engg. (01-08-2017 to 08-11-2017)	Rs. 67,000/- + Rs. 10,000/- AGP	Teaching, Research and Administration	On Deputation as Director, NIT Srinagar (J&K)
Dept. of Technical Edu., H.P. Govt.	<b>Director-cum-Principal</b> Govt. Engg. College, Kangra (01-08-2014 to 31-07-2017) [3 Years]	Rs. 67,000/- + Rs.10,000/- AGP +Rs.3000/-SP	<b>Administration (Establishment of New Engineering College)</b>	Deputation period complete
NIT Hamirpur (H.P.)	<b>Professor</b> Mech. Engg. (25-07-2003 to 31-07-2014)	Rs. 59,690/- + Rs. 10,000/- AGP	Teaching, Research and Administration	On Deputation to H.P. Govt.
NIT Hamirpur (H.P.)	<b>Assistant Professor</b> Mech. Engg. (25-07-1995 to 24-07-2003)	Rs. 17,040/- + Allowances	Teaching, Research and Administration	Promotion as Professor
REC Hamirpur (H.P.)	<b>Sr. Lecturer</b> Mech. Engg. (14-04-1994 to 24-07-1995)	Rs. 3,700/- + Allowances (Rs. 3700-5700/-)	Teaching, Research and Administration	Promotion as Asstt. Prof.
REC Hamirpur (H.P.)	<b>Lecturer</b> Mech. Engg. (14-04-1988 to 13-04-1994)	(Rs. 700-1600/- revised to (Rs. 2200-4000/-)	Teaching and Research	Placement as Sr. Lecturer
H.P.P.W.D.	<b>Graduate J.E.</b> (01-06-1986 to 13-04-1988)	Rs. 1050/-	Bridge fabrication and Vehicle Maintenance	Aptitude for Teaching & Research

## Awards/distinctions/honours/chairs/membership of National Committees:

1. Served as **Member**, National Executive of Indian Society of Theoretical and Applied Mechanics (ISTAM) w.e.f. Dec. 1998 to Dec. 2001.
2. Served as **Vice-President** of Indian Society of Theoretical and Applied Mechanics (ISTAM) w.e.f. Dec. 2001 to Dec. 2003.
3. **Chaired a technical session** in the "All India Seminar on Emerging Trends in Mechanical

Engineering” held at NIT Kurukshetra during March 29-30, 2005.

4. **Chaired a technical session** in the “National Conference on “Recent Developments and Future Trends in Mechanical Engineering” held at NIT Hamirpur during Nov.3-4, 2006.
5. Received **Best Teacher Award** for the year 2006-2007.
6. **Chaired a technical session** in the Global Conference on “Production and Industrial Engg.” Held at NIT, Jalandhar (Pb.) during March 22-24, 2007.
7. **Reviewer** for **Reliability Engineering & Systems Safety Journal (International), Journal of Engineering Design (International)**.
8. **Reviewer** for **International Journal of Precision Engineering and Manufacturing**, Reviewed manuscript No. E07-76 Titled “Cellular Manufacturing-The heart of Manufacturing, April 18, 2008.
9. **Awarded Post Doctorate Fellowship by UGC**, India for a period of 02 (two) years to work on the project “Isoviscous and Thermal Studies of Some Non-Circular Journal Bearing Profiles” w.e.f. Sept., 2009.
10. **Reviewer** for **International Journal of Materials and Manufacturing Processes**, Reviewed manuscript No. LMMP-2010-0339 titled “The new methods of graphite nodules detection in ductile cast iron”, Sept., 2010.
11. **Reviewer** for **The Arabian Journal for Science and Engineering B: Engineering**, Reviewed manuscript No. AJSE-ENG-D-10-00141 titled “Study of the influence of approach angle for ceramic cutting tool on chip formation based on response surface methodology”, Sept. 08, 2010.
12. Nominated as **Member, National Executive Committee of Indian Society of Theoretical and Applied Mechanics (ISTAM)** for two years w.e.f. Dec., 2010.
13. Nominated as **Member, National Executive Committee of Tribology Society of India (TSI)** for two years w.e.f. Dec., 2010.
14. **Reviewer** for **International Journal of Materials and Manufacturing Processes**, Reviewed manuscript No. LMMP-2011-0627 titled “Effect of process parameters on porosity during spray rolling of 7050Al”, Nov.,2011.
15. **Member, Organizing Committee of National Tribology Conference (NTC-2011)** held at IIT Roorkee during Dec.08-10, 2011.
16. **Chaired a technical session** in the “National Tribology Conference (NTC-2011) held at IIT Roorkee during Dec.08-10, 2011.
17. Received ‘**Best Paper Award**’ for paper “Effect of approaching angle on main cutting forces while turning Ti-6Al-4V alloy” in the international conference on Mechanical, Electronics and Mechatronics Engineering (ICMEME’2012) March 17-18, 2012, Bangkok, Thailand.
18. Received “**Best Paper Award**’ for paper “Influence of machining parameters on main cutting force and surface roughness during turning of AISI A2 steel alloy” in the International Academic Conference, June 9-11, 2013, Paris, France, Paper ID No. ENG-294.
19. **Reviewer** for **International Journal of Journal of Quality in Maintenance Engineering**, Reviewed manuscript No. JQME-04-2013-0015.R1 titled “Annual maintenance budget estimation for a plant system – Digraph model and matrix approach”, March,2014.
20. **Reviewer** for **International Journal of System Assurance Engineering and Management [Springer]**, Reviewed manuscript titled “Equipment redesign feasibility through maintenance-work-order records using fuzzy cognitive maps”, April,2014
21. **Reviewer** for **International Journal of Applied Research in Quality of Life**, Reviewed manuscript No. ARIQ-D-14-00074 titled “Modeling regional disparities for a balanced quality of life and apportioning public funding - a graph theoretical approach”, May, 2014.

22. **Chaired a technical session** in the International Academic Conference, June 8-12, 2014, Munich, Germany.
23. Nominated as **Member, Academic Council**, H.P. Technical University, Hamirpur (H.P.) w.e.f. August 01, 2014 to July 31, 2017 (**3 Years**).
24. Nominated as **Member, Senate of SLIET Longowal for a period of 2 years** w.e.f. March 02, 2015.
25. **Chaired a technical session** in the International Conference on Science, Management, Engineering & Technology (ICSMET 2015), March 18-19, 2015, Dubai, UAE.
26. Nominated as **Member, Academic Council**, Islamic University of Science & Technology (IUST), Awantipora, Kashmir (J&K) w.e.f. Jan. 24, 2018 to March 31, 2021 (**3 Years 2 Months**).
27. Nominated as **Member, Governing Board**, Institute of Technology, Zakura Campus, University of Kashmir (J&K) w.e.f. March 11, 2019 to March 10, 2022 (**2 Years**).
28. Nominated as **Member, Academic Council** of Baba Ghulam Shah Badshah University, Rajouri (J&K) w.e.f. Feb. 06, 2020 for a period of 02 years.
29. **Reviewer for Advances in Mechanical Engineering**, Reviewed manuscript entitled "Development of Hot Surfaces Generated by Friction Contacts of Titanium Alloy and Steel", June, 2020.
30. Nominated as **Member, Planning and Monitoring Board**, Central University of Kashmir (J&K) w.e.f. Nov. 06, 2020 to Nov. 05, 2022 (**2 Years**).
31. Nominated as **Member, State Steering Committee for Implementation of Technical Education Quality Improvement Programme (TEQIP) Phase-III** in the UT of J&K w.e.f. March 03, 2021.
32. **Reviewer for Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology**, Reviewed manuscript No. JET-20-0327.R1 titled "Control of Self Excited Rotor Disturbances in Three Lobe Journal Bearings Space Using Couple Stress Lubricant", May, 2021.
33. **Reviewer for Industrial Lubrication and Tribology**, Reviewed manuscript No. **ilt-03-2021-0060** titled "**Tribological study of TiO<sub>2</sub> Nanoparticles Modified with Stearic Acid as Additives in Lithium Grease**", May, 2021.
34. Nominated as **Expert Member, Governing Council, J&K Skill Development Mission** w.e.f. September 14, 2021.
35. Title of **Honorary Professor** awarded by **Andijan Machine-Building Institute, Ministry of Higher and Secondary Education of the Republic of Uzbekistan** for making significant contribution to the development of science and technology in the area of material science; October, 2021.
36. Nominated as **Member**, Committee to Identify the Research Laboratories & Research Institutions Having R&D facilities at their premises and to formulate guidelines for admitting the Research Scholars admitted from such Institutions as PhD Candidates (**NIT Jalandhar, January 25, 2022**).
37. **Reviewer for Tribology International**, reviewed manuscript No. **TRIBINT-D-22-00054** titled "**Combined Effects of Cryogenic Treatment and Tempering on Microstructural and Tribological Features of AISI H13 Steel**", March, 2022.
38. Nominated as **Member, Standing Complaint Scrutiny Committee (SCSC)** of AICTE, New Delhi, June, 2022.
39. Nominated as **Member**, Selection committee for faculty recruitment of NIT Jamshedpur, August 10, 2022.
40. **Reviewer for ASME Journal of Tribology**, reviewed manuscript No. TRIB-22-1269, "**Characterization of magnetorheological brake in shear mode using high strength MWCNTs and fumed silica-based MR fluids at low magnetic fields**", August, 2022.
41. **Reviewer for Industrial Lubrication and Tribology**, reviewed manuscript No. **ilt-12-2022-0365**,

**"Enhanced lubrication by core-shell TiO<sub>2</sub> nanoparticles modified with PEG-400"**, December, 2022.

42. **Editor, IUP Journal of Mechanical Engineering**, IUP Publications (A Division of ICFAI Society), Hyderabad, Telangana State, India
43. **Chaired a technical session in TribolIndia-2023**, an International Conference on Tribology, under the theme, "Sustainable Development through Tribology", organized by the Department of Mechanical Engineering, National Institute of Technology Srinagar, Hazratbal, Srinagar (J&K) India from 5<sup>th</sup> – 7<sup>th</sup> Oct., 2023 under the aegis of Tribology Society of India
44. Nominated as **Member, Selection committee** for faculty recruitment of NIT Jaipur, Nov., 2023.
45. Nominated as **Member, Selection committee** for faculty recruitment of NIT Meghalaya, December 2023.
46. Nominated as Member, Selection committee for faculty recruitment of NIT Meghalaya, July 2024.
47. Nominated as **Member, BOG, NIT Hamirpur (HP)** for a period of 2 years w.e.f. August, 2024.
48. Nominated as **Member, FC and BWC, NIT Hamirpur (HP)** for a period of 2 years w.e.f. August, 2024.
49. Nominated as Member, Selection committee for faculty recruitment of NIT Meghalaya, December, 2024.
50. Nominated as **External Expert Member of the Senate of NIT Delhi** for a period of 03 years w.e.f. June 04, 2025.

## Management and Institutional Development Activities: 35 years

S. No.	From	To	Position held	Contribution
1.	Jan.24, 2024	Till date	<b>Dean (R&amp;C)</b> , NIT Hamirpur (H.P.)	Research and Consultancy related work
2.	Nov. 09, 2017	May 08, 2023	<b>Director, NIT Srinagar (J&amp;K)</b>	Overall Administration
3.	Aug. 01, 2014	July 31, 2017	<b>Director cum Principal</b> , RGSEC Kangra (H.P.)	Setting up of a new Engineering College in Himachal Pradesh
4.	Jan. 09, 2014	July 31, 2014	<b>Coordinator</b> (Testing & Consultancy), NIT Hamirpur (H.P.)	Regulate testing and consultancy work undertaken by various teaching depts. and centres of NIT Hamirpur (H.P.)
5.	Nov. 15, 2010	Jan. 08, 2014	<b>Dean</b> (Faculty Welfare), NIT Hamirpur (H.P.)	Sponsorship of faculty for various courses, conferences, training, workshops etc., Implementation of PDA, Monitoring of civil works etc., Monitoring of all sponsored research projects undertaken by different depts./ centres
6.	Feb., 2008	Feb., 2010	<b>Chairman</b> , SUGC, NIT Hamirpur (H.P.)	<b>Made UG Manual</b> , Helping in taking important academic decisions.
7.	Feb., 2008	June, 2009	<b>Coordinator</b> , Industry-Institute Interaction, NIT	Secured membership of CII, Northern Region; Arranged lectures by Experts

			Hamirpur (H.P.)	from Industry
8.	Feb., 2006	April, 2007	<b>Dean (IRD&amp;C)</b> , NIT Hamirpur (H.P.)	Made <b>compendium of Rules and Regulations</b> for the first time; <b>Streamlined procedures</b> for sponsoring faculty and staff for conferences, summer/ winter schools and training programmes
9.	Feb., 2006	April, 2007	<b>Editor</b> , Institute Information Brochure, NIT Hamirpur (H.P.)	Published first issue of Institute Information Brochure
10.	Feb., 2006	June, 2007	<b>Member Senate SUGC</b> , NIT Hamirpur (H.P.)	Contributed for taking important academic decisions.
11.	March, 2006	July, 2014	<b>Member, Senate</b> , NIT Hamirpur (H.P.)	Contributed for taking important academic decisions.
12.	Jan., 2004	March, 2009	<b>Nodal Officer (Procurement)</b> TEQIP, NIT Hamirpur (H.P.)	Purchased equipment & furniture for all the depts.
13.	Feb., 2004	Feb., 2008	Member, Exchange Purchase Committee, NIT Hamirpur (H.P.)	Contributed in purchase and successful installation of VOD
14.	July, 2004	Dec., 2005	<b>Member</b> , Academic Council, NIT Hamirpur (H.P.)	Contributed in drafting academic rules and regulations
15.	Jan. 29, 2004	Feb. 13, 2006	<b>Head, Mech. Engg. Dept.</b> , NIT Hamirpur (H.P.)	Established various advanced labs in the dept.
16.	March 01, 2000	March 12, 2000	<b>Head, Mech. Engg. Dept.</b> , NIT Hamirpur (H.P.)	Established various advanced labs in the dept.
17.	Oct. 2000	Aug., 2002	<b>Proctor</b> , REC Hamirpur (H.P.)	General discipline of students on and off campus.
18.	June, 1998	Oct., 1999	<b>Co-ordinator, STBU of IREP</b> , REC Hamirpur (H.P.)	Installation and maintenance of many solar devices in the state of H.P.
19.	May, 1997	Aug., 1999	<b>Head, Mech. Engg. Dept.</b> , REC Hamirpur (H.P.)	Designed various Labs and Machine layouts in the labs.
20.	Dec., 1993	April, 1996	<b>Warden</b> , Kailash Boys Hostel, REC Hamirpur (H.P.)	Added many new facilities to hostel by proper financial management
21.	July, 1993	July, 1997	Member, committee for implementation of <b>Autonomous Status</b> in R.E.C., Hamirpur (H.P.)	Prepared draft document for implementation of autonomous status
22.	July, 1992	June, 1994	Member, Admission Committee, REC Hamirpur (H.P.)	Streamlined admission process
23.	July, 1988	July, 1989	OIC, College Cricket Team, REC Hamirpur (H.P.)	To facilitate the college cricket team with sports gadgets etc.
24.	July, 1988	July, 1989	Incharge, Central Workshop, REC Hamirpur (H.P.)	Designed Layouts for installation of machines in various shops.

## Important International/National MoUs Formulated for Academic & Research Collaboration (28 No.):

S. No.	Name of the Organisation/ Department Involved	Month & Year of MoU	Major Areas of Collaboration/ Understanding
1.	IITD-AIA Foundation for Smart Manufacturing	Oct. 23, 2024	Development of a Smart manufacturing demo and training facility at NIT Hamirpur which will act as an experience center for Industry partners and potential customers and will accelerate digitization adoption in a manufacturing environment particularly for SME and MSME sectors and other educational and skilling institutes.
2.	CSIR-Indian Institute of Petroleum Dehradun	Oct. 03, 2024	Exchange of information on teaching materials, libraries and e-resources, exchange of scientists/faculty, joint research activities, collaborative guest lectures, seminars, workshops, FDPs, conferences, exchange of UG/PG students for internships, joint supervision of research students and sharing of important R&D facilities/infrastructure etc.
3.	S.A.P. Automations India Pvt. Ltd., New Delhi	March 01, 2023	To hold/conduct joint technology development, knowledge sharing, training, organization of visits within the areas of cooperation; sharing of facilities, know-how, design methods; to work and educate the students in: <ul style="list-style-type: none"> <li>• Design building physics as per climate conditions</li> <li>• Use of decarbonized heat exchange for space conditioning</li> </ul> Hybridization of renewable electricity and renewable heat
4.	Andijan Institute of Economics and Construction, Uzbekistan	Feb. 28, 2023	<ul style="list-style-type: none"> <li>• To develop nano-thermoplast (polypropylene), thermoreactive (epoxy resin) and nano-filler composite materials;</li> <li>• optimize fabrication parameters through mechanical and tribological characterisation of the developed materials;</li> <li>• fabrication of gear and sleeve parts with nano-thermoplast and its composites and</li> <li>• development of polymer coatings for the working surfaces of cotton air transporter, screw conveyor</li> </ul>



			belts, screw cleaner and distributors for cotton processing industry.
5.	Jammu & Kashmir Lake Conservation & Management Authority	Nov. 07, 2022	NIT Srinagar
6.	National Highways & Infrastructure Development Corporation Limited (NHIDCL), New Delhi	Oct. 17, 2022	To share knowledge on innovative ideas and technologies in the field of highway engineering and others; to work together as a team to achieve the national objectives.
7.	All India Council for Technical Education (AICTE), New Delhi	August 30, 2022	To assess the impact of Prime Minister Special Scholarship Scheme for the Union Territory (UT's) of Jammu & Kashmir and Ladakh on social, financial-self/family aspects, academic development, personality and confidence building, idea of nation and practicing faith, giving back to home state and future plan and the comparison of success among all 22 districts of the region.
8.	Jammu & Kashmir Lake Conservation & Management Authority	August 24, 2022	Testing and treatment of raw sewage at different sewage treatment plants for various contents using aluminium chloride (PAC) powder and sodium hypochlorite liquid.
9.	Centre for Invention, Innovation, Incubation and Training (CIIT) under Directorate of Skill Development, Govt. of J & K	August 18, 2022	Up-skilling in the area of manufacturing technology and automobile engineering; to increase the employability of engineering students and support MSMEs and local industries through CIIT; to promote the idea of innovation, incubation amongst students and technical manpower to develop new products and technologies and to promote technology start-ups.
10.	Sardar Vallabhbhai national Institute of Technology, Surat (Gujarat)	June 10, 2022	Joint academic programs at Graduate or Post Graduate Level, Organisation of joint events, conferences, seminars, symposiums, Supervision of visiting research scholars, Research collaboration.
11.	The Branch Centre of Retraining and Advanced Training of Academic Staff under the Tashkent State Technical University, Uzbekistan	March 04, 2022	Facilitate the development of contacts and cooperation in the field of education and training, assist in ongoing education reform for professors, teachers and study centre listeners and to facilitate the recognition of each other's vocational.
12.	Andijan Machine-Building Institute, Uzbekistan	Dec. 17, 2021	Joint academic programs at Graduate or Post Graduate Level, Organisation of joint events, conferences, seminars,

			symposiums, Supervision of visiting research scholars, Research collaboration.
13.	Tashkent State Transport University, Tashkent	Dec. 17, 2021	Joint academic programs at Graduate or Post Graduate Level, Organisation of joint events, conferences, seminars, symposiums, Supervision of visiting research scholars, Research collaboration.
14.	Andijan Machine-Building Institute, Uzbekistan	Dec. 17, 2021	Cooperation in Implementing the project "Development, Mechanical and Tribological Characterisation of Nano Thermoplast (polypropylene)/ Thermoreactive (epoxy resin)/Nano filler composites and Nano Polymer Coatings".
15.	Yeoju Technical Institute, Tashkent	Dec. 17, 2021	Joint academic programs at Graduate or Post Graduate Level, Organisation of joint events, conferences, seminars, symposiums, Supervision of visiting research scholars, Research collaboration.
16.	IIT Ropar (Pb.)	Nov., 2021	1. Collaborative academic and research activities involving students, staff and faculty. 2. Collaboration Institute for DST-AWADH Project
17.	Engineers for Sustainable Energy Solutions (ESES), Kentucky, USA	7 <sup>th</sup> June, 2021	Collaborative work to combat the rising issue of plastic waste pollution and its disposal in modern society to save economies, ecosystems and human health.
18.	Babol Noshirvani University of Technology (BNTU), Iran	26 <sup>th</sup> April, 2021	Collaborative academic and research activities involving students, staff and faculty.
19.	IIT Delhi, India	24 <sup>th</sup> Dec., 2020	Exchange of students for Internships and PhD Programmes.
20.	Ministry of Micro, Small and Medium Enterprises (MSME), Govt. of India, Nirman Bhavan, New Delhi	3 <sup>rd</sup> Dec., 2020	Provide advice on Process Design and Development, Product Design and Development, Value Engineering and Alternate material usage.
21.	All India Council for Technical Education (AICTE), New Delhi	20 <sup>th</sup> Nov., 2020	To conduct training programs for faculty of AICTE approved Institutions/ University Depts. to prepare them for being successful in a knowledge society.
22.	Department of Materials Science and Engineering, University of North Texas, Texas 76207, USA	Oct., 2020	To carry out joint research on tribomaterials under high temperature conditions.
23.	CSIR-Central Scientific Instruments Organisation, Chandigarh	11 <sup>th</sup> Nov., 2019	Joint research work, Exchange of staff through deputation on full-time/part-time basis, Impart training to staff,

			students and technical personnel.
23.	University of Sfax, Tunisia	Dec., 2018	Joint academic programs at Graduate or Post Graduate Level, Organisation of joint events, conferences, seminars, symposiums, Supervision of visiting research scholars, Research collaboration.
24.	National School of Engineers of Sfax, Tunisia	Dec., 2018	Joint academic programs at Graduate or Post Graduate Level, Organisation of joint events, conferences, seminars, symposiums, Supervision of visiting research scholars, Research collaboration.
25.	Advanced Level Telecommunication Training Centre, BSNL, Govt. of India Enclave, Raj Nagar, Ghaziabad, UP	5 <sup>th</sup> May, 2018	Design and Offering the special modules and Internship program for students of relevant courses curriculum, Joint organization of certified courses in areas of relevance, Extending the facilities of ALTTC, BSNL to enhance industrial exposure of the students.
26.	National Institute of Secondary Steel Technology (NISST), Mandi Gobindgarh (Pb.)	4 <sup>th</sup> April, 2018	Industrial visits and training of students and faculty, deputation of resource persons from NISST to engage relevant courses for Mechanical and MME Depts.
27.	IIT Delhi, India	8 <sup>th</sup> Feb., 2018	Exchange information on Teaching-Learning materials, jointly organize seminars, conferences, workshops or short-term continuing education programs, Exchange of faculty, staff and students, Joint guidance of research candidates.
28.	IIT Jammu (J&K)	24 <sup>th</sup> Jan., 2018	Exchange information on Teaching-Learning materials, jointly organize seminars, conferences, workshops or short-term continuing education programs, Exchange of faculty, staff and students, Joint guidance of research candidates.

### Overseas Visits:

S. No.	Place (Country Visited)	Purpose of Visit	Dates of Visit
1.	Ishlinsky Institute of Problems in Mechanics, Moscow, Russia	Development of Smart Materials and Coatings for Space Applications	Feb. 05-15, 2024
2.	Los Angeles, San	Personal Visit to University of San Diego to attend	June 10-29, 2023

	Diego, Atlanta (USA)	the Graduation Ceremony of my daughter	
3.	SFAX (Tunisia)	To attend First Tunisia-India workshop on Tribology for Sustainable Development (TSD 2018), Dec.19-20, 2018, Hammamet Tunisia and signing of MOUs with University of SFAX and National School of Engineering, SFAX, Tunisia	Dec. 17-27, 2018
4.	Dubai (UAE)	To attend International Conference on Science, Management, Engineering & Technology (ICSMET 2015)	March 18-19, 2015
5.	Munich (Germany)	To attend Clute Institute International Academic Conference	June 08-12, 2014
6.	Paris (France)	To attend Clute Institute International Academic Conference	June 9-11, 2013
7.	Thailand (Bangkok)	To attend international conference on Mechanical, Electronics and Mechatronics Engineering (ICMEME'2012)	March 17-18, 2012
8.	Hiroshima (Japan)	To attend International Tribology Conference (ITC-2011)	Oct. 30-Nov. 03, 2011
9.	Lulea (Sweden)	To undertake training in Tribolab, Lulea University of Technology	Sept.25-Oct. 06, 2006
10.	Unna (Germany)	To inspect and get training on Lathe Tool Dynamometer in TelC	Feb. 4-9, 2006
11.	Washington DC (USA)	To attend World Tribology Congress'05	Sept.,12-16, 2005
12.	Bangkok (Thailand)	To attend APO International Workshop	Aug.2-13, 1999
13.	Ebeltoft (Denmark)	To attend World Tribology Conference	June 7-10, 1998

**Funding: Research Project and Others: Completed- 06; Ongoing- 04**  
**(Rs. 228.89 Lacs)**

S. No.	Client/Organisation's Name	Nature of Project	Duration of Project	Amount of Grant (INR)
1.	Science and Engineering Research Board, Technology Bhavan, New Delhi - 110016	Development of Novel WC-Cr <sub>3</sub> C <sub>2</sub> -Ni functionally graded composite coatings on Nickel-based C-263 superalloy for Nuclear application	03 Years (2023-26)	28.83Lacs
2.	Department of Science and Technology, International Division, Govt. of India	DST-FIST Project (Level 2) to strengthen the research facilities in the Mechanical Engineering Department, NIT Srinagar (J&K)	05 Years (2022-27)	102 Lacs
3.	Indo-Russia Joint Project under International Cooperation, Department of Science and Technology, International Division, Govt. of India	Design, Development, Theoretical and Experimental Study of Smart Tribological Coatings for Space Applications	03 Years (2022-25)	95 Lacs

4.	Indo-Uzbekistan Joint Project under International Cooperation, Department of Science and Technology, International Division, Govt. of India	Development, Mechanical and Tribological Characterization of Nano Thermoplast PP/ Thermoreactive ER/ Nano Filler Composites and Polymer Coatings	03 Years (2020-23)	22.5 Lacs
5.	Indo-Tunisia Joint Scientific Cooperation, Department of Science and Technology, International Division, Govt. of India	Joint research collaboration in nano-materials	03 Years (2018-21)	21.60 lacs
6.	Post Doctortae Research Fellowship Award, University Grants Commission, Govt. of India	Isovisious and Thermal Studies of Some Non-circular Journal Bearing Profiles	02 Years (2009-11)	24.75 Lacs
7.	Ministry of Human Resources Development (MHRD), Govt. of India	Experimental Investigation of the Thermal Behaviour of Elliptical and Off-set Halves Journal Bearings	02 Years (2004-06)	10.00 Lacs
8.	Ministry of Human Resources Development (MHRD), Govt. of India	Development of Mechatronics Lab	02 Years (2004-06)	13.00 Lacs
9.	Ministry of Human Resources Development (MHRD), Govt. of India	Design and Fabrication of Journal Bearing Test Rig to Study the Thermal Behaviour of Circular Journal Bearings (FIP)	02 Years (1995-97)	1.75 lacs
10.	Ministry of Human Resources Development (MHRD), Govt. of India	Modernization of Departmental Computational Lab.	02 Years (1992-94)	5.00 Lacs

### Consultancy Assignments:

S. No.	Client/Organisation's Name	Nature of Assignment	Duration of Assignment
1.	HPPWD, Mechanical Division, Hamirpur (H.P.)	Viscosity test of used oils of LMVs and HMVs	06 Months
2.	Power Generation Wing, HP State Electricity Board, Shahpur, Distt. Kangra	Testing of failed studs of Pelton Turbines	01 Month
3.	State Cable Car Corporation, Gulmarg, Gandola, Srinagar (J&K)	Non-Destructive Testing of few structures at Gandola Cable Car System	02 Months (Nov., 2017 to Dec., 2017)
4.	J & K State Transport Corporation	Safety audit of mechanized car parking system, Srinagar	04 Months (June, 2018 to Sept., 2018)
5.	Nuclear Research Laboratory, Zukura, Srinagar (J&K)	Testing of Chain Pulley Block of Radiation Source	02 Months (Dec. 2020 to Jan., 2021)

### Membership of Professional Societies: 08 Nos.

1. Life member of the Institution of Engineers (India), Membership No. AM- 056576.

2. Life member of the Indian Society for Technical Education (ISTE), Membership No. LM-7980.
3. Life member of the Association for Machines and Mechanisms (AMM), Membership No. LM-059.
4. Life member of the Indian Society of Theoretical and Applied Mechanics (ISTAM), Membership No. L-369.
5. Life member of the Tribology Society of India (TSI), Membership No. LM-3690.
6. Member of American Society of Mechanical Engineers (ASME), Membership No. 000100165482
7. Life member of Materials Research Society of India (MRSI), Membership No. LMB-2053.
8. Society of Tribologists and Lubrication Engineers (STLE), Membership No. 78048.

## **Expertise/Areas of Specialization**

- Design of Mechanical Equipment
- Bearings Tribology
- Materials Tribology
- Nano Tribology
- Micro and Nano Coatings
- Reliability Modeling & Evaluation
- Fault location and Failure cause identification
- Mechanism Synthesis & Analysis

## **Research Collaborations**

1. Research Collaboration with Russia under DST Project since 2022
2. Research Collaboration with Tashkent State Technical University, Tashkent State Transport University, Tashkent and Andijan Machine-Building Institute Uzbekistan under DST Project since 2020
3. Research Collaboration with University of SFAX, SFAX, Tunisia under DST Project since 2017
4. Research & Academic Collaboration with IIT Delhi and IIT Jammu
5. Research Collaboration with School of Mechanical Engineering, University of Texas, USA
6. Research Collaboration with Prof. Brahm Prakash, TriboLab, LTU, Sweden

## **Brief Account of Research Interests with Special Focus on Tribology**

Main research interests include:

- Synthesis and characterization (Mechanical, metallurgical/metallographic and tribological) of materials for aerospace, automobile, hot & cold rolling, tool & die and bio-medical applications. Materials such as adamite, piston alloys, stir cast aluminium-silicon alloys (hyper and hypo-eutectoid), copolymers, titanium alloys, tool & die steels and polymer & nano-composites have been investigated for machining parameters optimization and tribological behaviour. Investigation of selected tool & die steels have also been carried out after subjecting them to varied cryogenic treatment cycles. Theoretical equations for modeling wear, friction and machining have been developed using various modeling techniques such as ANOVA, Box-Cox, Genetic Algorithm and validation of the model equations carried out.
- Synthesis and characterization (Mechanical, metallurgical/metallographic and tribological) of

coatings (micro, nano; layered, composite; smart, adaptive, self-healing) for aerospace, automobile and bio-medical applications. The mechanical properties and wear behaviour of a nanoscale multilayer coating of Ti/MoS<sub>2</sub>/Si/MoS<sub>2</sub> (170 nm thickness) has been investigated

- Synthesis and thermal analysis of metallic & polymer circular and non-circular hydrodynamic journal bearing profiles such as Elliptical, offset halves and Multi-lobe lubricated with commercial grade oils. Theoretical and experimental analysis of bearing profiles made of Aluminium, Bronze and Polymethylmethacrylate has been carried out with an objective to standardize design equations/process for non-circular journal bearings, optimization of the operational parameters and the available commercial grade oils.
- Graph theory and matrix approach for ranking of tribo-materials based on the material wear index; Hasse diagram approach for wear evaluation and ranking of tribo-materials; Graph theory and matrix approach for modelling of antifriction bearings to determine reliability index; Fault location in tribo-mechanical system (journal bearing lubrication system) using graph theory and matrix approach and Failure cause identification of tribo-mechanical systems (journal bearing oil supply system) based on fault-tree using a digraph approach.

### Ph.D. Supervision: 20 (Awarded-16; Submitted-01; On-going-03)

S. No.	Name of Candidate & ID	Year of Completion	Uni./Institute	Title of Thesis
1.	Sh. Suresh Dhiman 2K04/NITK/PhD-1020M	Oct., 2008 (Awarded)	Kurukshetra University (Hy)	Assessment and Optimisation of Cutting Parameters during Machining
2.	Sh. Mohit Dhiman 2K6-PhD-ME-06	Aug., 2010 (Awarded)	NIT Hamirpur (H.P.)	Development, Characterization and Parametric Optimization of Wear Resistant Piston Alloys
3.	Sh. Amit Chauhan 2K6-PhD-ME-05	June, 2011 (Awarded)	NIT Hamirpur (H.P.)	Experimental investigations of the behaviour of few non-circular journal bearings
4.	Ms. Jaspreet Kaur Bhatia 07411103	July, 2012 (Awarded)	NIT Jalandhar (Pb.)	Synthesis and Characterization of Soy Protein Concentrate Graft Copolymers and their Applications as a Particle Reinforcement in Biodegradable Composites
5.	Sh. P.K. Sood 2K6-PhD-ME-20	Aug., 2012 (Awarded)	NIT Hamirpur (H.P.)	Studies on stir cast aluminium alloys
6.	Sh. Sanjiv Kumar 2K6-PhD-ME-36	July, 2013 (Awarded)	NIT Hamirpur (H.P.)	Vibration control of rotating beams using active constrained layer damping (ACLD) treatment
7.	Sh. Nirmal Singh 2K6-PhD-ME-61	Oct., 2014 (Awarded)	NIT Hamirpur (H.P.)	Some investigations on cryogenically and non-cryogenically treated tools in turning
8.	Sh. Manoj Nayak 2K6-PhD-ME-91	Aug., 2016 (Awarded)	NIT Hamirpur (H.P.)	Investigating Machinability and Tool Wear/Performance of CBN Tool Inserts in Hard Turning of D6 Steel
9.	Sh. Mukund Dutt Sharma 2K6-PhD-ME-127	Aug., 2016 (Awarded)	NIT Hamirpur (H.P.)	Tribological Studies and Machining Parameterization of Titanium Alloys
10.	Sh. Sanjiv Katoch	March, 2018	NIT Hamirpur	Effect of Cryogenic Treatment on

	2K6-PhD-MSE-169	(Awarded)	(H.P.)	Mechanical and Metallurgical Properties of Tool and Die Steels
11.	Sheikh Ghulam Mohd. 2012-PhD-FOE-169	August, 2021 (Awarded)	NIT Srinagar (J&K)	Structural Integrity Assessment of Welded and Concrete Structures using NDT Techniques
12.	Ms. Qurat-Ul-Ain 2018PHAMEC006	August, 2024 (Awarded)	NIT Srinagar (J&K)	Nanomechanical and Nanotribological Characterisation of Nanocomposites: Integrating Experimental and Simulation Approach
13.	Sh. Chandra Shekhar Singh 2018PHAMEC012	August, 2024 (Awarded)	NIT Srinagar (J&K)	Synthesis and Microstructural, Physical, Mechanical, and Tribological Characterization of Cu-Ni Alloy Based Metal Matrix Composites for Railway Applications
14.	Sh. Himanshu Shekhar Gupta 2019PHSMEC002	August, 2024 Awarded	NIT Srinagar (J&K)	Development and Analysis of Mahua Oil Based Biocompatible Nao Lubricants for Engineering Applications
15.	Sh. Sanjay Jaswal 2019PHSMEC003	August, 2024 Awarded	NIT Srinagar (J&K)	Magnetorheological, Tribological, Stabilization and Anticorrosion Characteristics of Core-Shell Particles Based Magnetorheological Fluids
16.	Sh. Vivek Singh 2K19-Ph.D-ME-446	March, 2025 Awarded	NIT Hamirpur (H.P.)	Investigation on Structural, Mechanical and Tribological Characteristics of Magnetron Sputtered TaN Coating on Ti6Al7Nb Alloy
17.	Sh. Jashveer Singh 2k20-PhD-ME-503	Thesis Submitted	NIT Hamirpur (H.P.)	Atomistic modelling based mechanical characterization of Ti matrix nanocomposites reinforced with Gr/hBN/GrhBN
18.	Sh. Syed Faizan Altaf 2020PHAMEC	Registered in 2020	NIT Srinagar (J&K)	Materials Tribology (Coatings)
19.	Sh. Shahnaz Bashir Bhat 2021PHAMEC008	Registered in 2021	NIT Srinagar (J&K)	Materials Tribology
20.	Sh. Sheikh Haris Mukhtar 2022PHAMEC006	Registered in 2022	NIT Srinagar (J&K)	Investigating Refractory High-Entropy Alloy Thin Films for Next-Generation High Temperature Coating Materials

### Post-Doctoral Candidates Supervision: 01

S. No.	Name of Candidate	Year of Completion	Uni./Institute	Title of Thesis
1.	Dr. Vivek	August 2022	NIT Srinagar (J&K)	Study on stress and deformation characteristics of unpaved roads reinforced with untreated and treated coir geotextiles



**M.Tech. Thesis Supervision: 18 Nos.**

S. No.	Title of Thesis	Year	Category
1.	Machining parameter optimization of Titanium Grade-V in turning	July, 2010	Major
2.	Study of friction and wear characteristics of Titanium Grade-V	July, 2010	Major
3.	Influence of the stochastic roughness and wave texture on the performance of non-circular journal bearings	July, 2011	Major
4.	Experimental investigation of oil film behavior of finite journal bearings	July, 2011	Major
5.	Study on effect of surface texture on the performance of hydrodynamic journal bearings	July, 2011	Major
6.	Study of friction and wear behavior of Adamite under sliding and rolling condition	July, 2014	Major
7.	Thermal characteristics of elliptical and offset halves journal bearing profiles	July, 2014	Major
8.	Tribological behavior of biodegradable castor oil modified with copper oxide and zinc oxide nanoparticles	July, 2018	Major
9.	Friction and wear characterization of Titanium Grade-5 Alloy at Elevated Temperature	July, 2018	Major
10.	Effect of cryogenic treatment on friction and wear behaviour of Ti-3Al-2.5V titanium alloy	July, 2020	Major
11.	Nanomechanical and tribological characterization of self-lubricating MoS <sub>2</sub> nanocoating on AMS 5898 for aerospace applications	July, 2021	Major
12.	Effect of nano-coating on tribological behavior of cryogenically treated Titanium Alloy ASTM 348 Ti-9 grade for aviation application	July, 2021	Major
13.	Effect of nanocoating on tribological behaviour of Ti-Alloys for biomedical applications-A comparative study	July, 2021	Major
14.	Effect of laser surface texturing and lubricant with MoS <sub>2</sub> on the tribological properties of AISI 316 stainless steel (Ms. Nishtha; Enrollment No. 2020MMECIT002)	July, 2022	Major
15.	Nanomechanical and tribological characterization of adaptive MoS <sub>2</sub> /Ag/CaF <sub>2</sub> coatings for aerospace applications (Ms. Shazia Gul Jan; Enrollment No. 2020MMECMS005)	July, 2022	Major
16.	Tribological Properties of Zirconium Nitride (ZrN) and Calcium Difluoride (CaF <sub>2</sub> ) Coating Deposited by Magnetron Sputtering on Bearing Steel SAE 52100 (Mr. Ishtiaq Hussain Sheikh; Enrollment No. 2021MMECIT003)	July, 2023	Major
17.	Study on microstructure and microhardness evolution on ysz coated inconel 718 under different deposition and annealing conditions (Mr. Mohammad Moazam, Enroll-2023MMECIT004)	July, 2025	Major
18.	Analysis of Surface and structural properties of chromium coated inconel 718 at elevated temperatures- a comparative study (Mr. Munsha Habib, Enroll-2023MMECIT007)	July, 2025	Major

**B.Tech. Project Guidance: 47 Nos.**

S. No.	Title of Project	Year	Category
1.	A rapid technique for design and performance evaluation of steady state journal bearings.	Nov.1997	Minor
2.	Isoviscous and thermal analysis of circular journal bearings.	May 1998	Major
3.	Computer aided design of multispeed gear box.	Nov.1998	Minor
4.	Thermal analysis of circular journal bearings: An experimental and computational approach.	May 1999	Major
5.	Iso-viscous analysis of circular, two lobe and elliptical bearings.	Nov. 1999	Minor
6.	Thermal analysis of circular and non-circular (two lobe, elliptical and orthogonally displaced) bearings.	May 2000	Major
7.	Synthesis of a four-bar mechanism using three-point accuracy method.	Nov. 2001	Minor
8.	Variable speed drive (Design and fabrication project).	April 2001	Major
9.	Thermal analysis of journal bearings: an experimental and theoretical approach.	April 2001	Major
10.	LBB analysis of integrity assessment of nuclear pressure tubes based on deuterium ingress.	Nov. 2002	Minor
11.	A report on design, analysis and fabrication of a six-legged walking machine- "Mech- Crab".	Aug. 2003	Major
12.	Synthesis and analysis of a patient chair for sitting and standing positions.	Nov. 2003	Minor
13.	Design and fabrication of four speed gear box.	April 2004	Major
14.	Design and fabrication of window operating mechanism.	April 2004	Major
15.	Development of quadruped walking robot.	Dec. 2004	Minor
16.	Iso-viscous analysis of two lobe and elliptical journal bearings.	Dec. 2004	Minor
17.	Study of machining characteristics of Al alloy A-390.	Dec. 2004	Minor
18.	Kinematics and dynamics of tricept robot.	May 2005	Major
19.	Development and fabrication of an automatic stamping machine.	May 2005	Major
20.	Study of the machining behaviour of high carbon steel of hyper eutectoid composition.	May 2005	Major
21.	Machinability behaviour assessment of medium carbon steels during machining.	Dec. 2005	Minor
22.	Design and fabrication of solar powered propeller boat.	May 2006	Minor
23.	Kinematic design of a new mechanism for windshield wipers.	Nov. 2006	Minor
24.	Study of effects of machining parameters on machining variables for EN31 steel.	May, 2007	Major
25.	Design of a new mechanism for windshield wipers for Maruti-800.	Dec.,2007	Minor
26.	Study of effect of cutting parameters on machining variables in	April, 2008	Major

	turning of hardened EN31.		
27.	Wear & Friction studies of Adamite.	Nov., 2008	Minor
28.	Study of wear & friction characteristics of Adamite and EN-31 steel.	May, 2009	Major
29.	Tribological characteristics of aluminium alloys under dry sliding condition	Nov. 2009	Minor
30.	Comparative analysis of degradation of lubricating oil used by various car manufacturers and prediction of engine quality	Nov. 2009	Minor
31.	Study of microstructure and sliding friction & wear characteristics of hypereutectic aluminium silicon alloys	May, 2010	Minor
32.	Study of the effect of blade profiles & speeds on noise levels of condenser unit of air-conditioning system and ways to reduce it	May, 2010	Major
33.	Noise control of domestic air conditioner using muffler	May, 2010	Major
34.	A comparative erosive behavior study of different grade steels	Nov., 2010	Major
35.	A comparative erosive behavior study of different grade steels	May, 2011	Major
36.	Study, design and manufacturing of power screw mechanism and its control	Nov., 2011	Major
37.	Design and manufacturing of pick and place industrial robotic arm and its automatic control	April, 2012	Major
38.	Variable geometry track vehicle	Nov., 2012	Major
39.	Study of the effect of heat treatment on friction and wear characteristics of hot work tool steel (H 11) under dry sliding condition	Nov., 2012	Major
40.	Study of the effect of heat treatment on machining behavior of AISI 4340 steel	April, 2013	Major
41.	Synthesis, analysis and fabrication of a four-legged walking machine using six link mechanism	April, 2013	Major
42.	Study of various fin designs used for aerostat and their integration to the main envelope	May, 2014	Major
43.	Evaluation of performance of gasoline blended with 30% ethanol-butanol mixture at varying load conditions	May, 2014	Major
44.	Static and dynamic analysis of truck chassis	May, 2014	Major
45.	To Study the Tribological Behavior of Bio-Inspired Textures and Mechanical Characterization of AISI A2 Steel	June, 2023	Major
46.	To Study the Tribological and Mechanical Characterization of Aluminium and Gilding Metal	May, 2024	Major
47.	High Speed VTOL UAV With Foldable Wings and Thrust Vectoring	May, 2025	Major

## Ph.D. Thesis Adjudication: 45

S. No.	Name of Candidate	Year of Adjudication	University/ Institute	Title of Thesis
1.	Md. Azizuddin	2009	Osmania University, Hyderabad	Analysis of an Air-Conditioning System for Alternate
2.	Gundabattini Edison	2009	Osmania University, Hyderabad	Effective Valve Flow for Hermetic Compressor Optimization: Analysis & Design
3.	Lachiram	2010	Osmania University, Hyderabad	Investigation and Optimization of Process Parameters to Enhance the Performance of Microwave Antennas
4.	Suvendu Prasad Sahu	2010	Sambalpur University, Burla	A Study on Solid Particle Erosion Wear Response of Plasma Sprayed Fly Ash Coatings
5.	Ankush Anand	2011	SMVDU Katra (J&K)	Development of Design Methodology for Product Life Cycle Engineering
6.	Ramesh Chandra Singh	2012	University of Delhi	Thermohydrodynamic Analysis of Lubricated Piston Rings of Internal Combustion Engine
7.	Mukesh Eknath Shimpi	2013	Sardar Patel University, Gujarat	Numerical Models Associated with Some Problems in Lubrication
8.	Maughal Ahmed Ali Baig	2014	JNTU Hyderabad	Control of Base Drag with Micro Jets
9.	Darji Pranav Harshadbhai	2014	NIT Surat	Development of Mathematical Model to Determine Optimum Hollowness of Hollow Cylindrical Roller Bearings and Evaluation of Fatigue Life Improvement through Experimental and Theoretical Analysis
10.	Vivek Srivastava	2014	NIT Jalandhar (Pb.)	Dynamic Characteristics of Expanded Polypropylene under Multiple Loading
11.	Ramesh Chandra Singh	2014	NIT Surat (Gujarat)	Thermohydrodynamic Analysis of Lubricated Piston Rings of Internal Combustion Engines
12.	Kishan Lal Meena	2015	NITTTR Chandigarh	An Experimental Study of Non-traditional Machining of Al/SiC-MMC's
13.	Bhuvnesh Bhardwaj	2016	SLIET Longowal (Pb.)	Mathematical Modeling and Selection of Machining Parameters for Optimization of Surface Roughness in Metal Processing

14.	Vivek Kumar	2017	SLIET Longowal	Investigation of Structural Dynamics and Ride Comfort of Rail Vehicle System
15.	Satish Kumar	2018	MDU, Rohtak (Hy.)	Investigation of Dielectric for Machining of Nickel- Based Superalloy using Electrical Discharge Machining
16.	Solanki Mitulkumar Thakorbbhai	2018	NIT Surat (Gujarat)	Estimation of Static Load Carrying Capacity of a Layered Cylindrical Hollow Roller Bearing Through Numerical and Experimental Techniques
17.	Ruchin Kacker	2018	NIT Jalandhar (Pb.)	Investigations on Stress Triaxiality for Unified Strength Theory and Anisotropy for Mixed Mode Fracture
18.	Suneev Anil Bansal	2109	Panjab University, Chandigarh	Synthesis and Characterization of Polymer/Graphene Oxide Based Composite Materials for Mechanical Applications
19.	Vipin Kumar Sharma	2019	DTU Delhi	Performance Studies of Textured Journal Bearing
20.	Jasleen Kaur	2019	NITTTR Chandigarh	Parametric Study of Metal Flow in Closed Die Forging
21.	Irfan Ul Haq	2019	SMVDU, Katra (J&K)	Evaluation of Mechanical and Tribological Performance of Aluminium 7075 Alloy
22.	Tarun Bhardwaj	2019	NIT Allahabad (UP)	Laser Additive Manufacturing of Maraging steel and Titanium-Molybdenum alloy
23.	Rityuj Singh Parihar	2019	NIT Raipur (Chhattisgarh)	Development, Characterization and Modeling of Functionally Graded Cemented Tungsten Carbide for Industrial Applications
24.	Ravi Kumar Ranjan	2019	NIT Silchar (Assam)	Surrogate Based Probabilistic Performance Assessment of Sandwich Plates
25.	Shivdev Singh	2020	NIT Jalandhar (Pb.)	A Study on Properties of Aluminium Matrix Hybrid Composites
26.	Jasbir Singh	2020	NIT Kurukshetra (Hy.)	An Investigation on Mechanical & Tribological Behaviour of Nanostructured Weld Clad
27.	Kummitha Obula Reddy	2020	NIT Silchar (Assam)	Numerical Analysis of Mixing and Combustion of a Hydrogen Fueled Scramjet Combustor using Strut Fuel Injectors and Cavity Flame

				holders
28.	Hussain Mahamed Sahed Mostafa Mazarbhuiya	2020	NIT Silchar (Assam)	Design and Development of an Asymmetric Blade H-Darrieus Vertical Axis Wind Turbines for Built Environment
29.	Ravi Raman Sekhar	2020	Symbiosis International (Deemed University), Pune (Maharashtra)	Investigation of Cutting Forces, Tool Wear and Surface Morphology in Turning of Advanced Metal Matrix Composites
30.	Sourabh Bhaskar	2020	MNIT Jaipur	Mechanical and Sliding Wear Performance of AA2024 Hybrid Alloy Composite Materials: Effect of Ceramic-Graphite Particulate Combinations
31.	Anubhav Taheem	2021	NIT Jalandhar	Design and Experimental Investigations of Solar Dryer for Apricot with Heat Storage
32.	Vikas Sharma	2021	MNIT Jaipur	Evaluation of Mechanical and Abrasive Wear Performance of Ceramic Particulate-Fiber Reinforced Epoxy Polymer Composite Materials
33.	D. V. Srikanth	2022	JNTU Hyderabad	Theoretical Investigation of a Tilting Pad Thrust Bearing for large Vertical Machines
34.	M. Arangarajan	2022	Annamalai University (T.N.)	Experimental Analysis of Emission and Combustion Characteristics of CRDI Diesel Engine Using Biodiesel Blends at High Injection Pressure with SCR
35.	Dinesh Kumar	2022	NIT Kurukshetra (Hy)	Mechanical and Tribological Behavior of Ultrasonic Assisted Magnesium based Metal matrix Hybrid Composites
36.	Stanley Samlal	2023	Hindustan Institute of Technology & Science, Padur, Chennai (TN)	Impact Response of Foam Core Sandwich Panels with Hybrid Face Sheet
37.	Mohammad Arif	2023	NIT Jalandhar (Pb.)	Study of Textured Journal Bearing Performance for No-Newtonian Rheology of Lubricants
38.	Dheeman Bhuyan	2023	NIT Meghalaya	Investigation of Blood Flow Phenomena and Introduction of Pulsatility during Cardiopulmonary Bypass
39.	Rajat Gupta	2024	NIT Kurukshetra	Development and Characterization of Monolithic and Composite

				Coatings by Friction Surfacing Technique
40.	J. Jensin Joshua	2024	Hindustan Institute of Technology & Science, Chennai (TN)	Mechanical Characterization of Nanoparticle Infused Intrawoven Kelvar/Basalt-Epoxy Composite Laminates
41.	Vishal Singh	2024	IIT Jammu (J&K)	Investigation of PVP Lubricated Multirecessed Hybrid Journal Bearing
42.	Tanvi Saxena	2024	IGDTUW, Delhi	Study and Evaluation of Physical Properties for Banana Based Hybrid Composite
43.	Rahul Wandra	2024	Lovely Professional University, Punjab	Surface Modification of $\beta$ -Phase Titanium Alloy by Ball Burnishing Assisted Electrical Discharge Cladding for Implants
44.	Mayank Chouhan	2025	NIT Kurukshetra	Development and Characterization of Multilayered Ceramic Metal Functionally Graded Materials for Impact Applications
45.	Ekta Yadav	2025	IGDTUW, Delhi	A Study on Pre-fault Detection in Rotating Elements by using Advanced Techniques and its Analysis

**Key Note address / Invited talks delivered at various International/National Conferences, Seminars and Workshops: 60 Nos.**

S. No.	Title of Lecture/ Lecture Series	Date, Place and Programme in which lectures delivered	Other relevant information
1.	Two- Dimensional and Three-Dimensional Transformations in Geometric Modeling	4 <sup>th</sup> Nov. 1996, Dept. of Defense Research & Development, New Delhi, CEP course on "Operational Research and Statistics in Design and Development" 28 Oct-08 Nov. 96,	For Sr. Officers (Scientists) of DRDO
2.	Acoustic diagnosis & fault detection prior to failure	Jan. 16, 1998, CII Chandigarh, Seminar and Expert Visit on Vibration in Machinery and its Control	For engineers working in industry
3.	Materials for Tribological Applications	Dec. 23, 2003 to Jan 4, 2004, NIT Hamirpur (H.P.) AICTE-ISTE STP on Advances in Manufacturing Systems	For faculty of Engg. Institutions
4.	Selection and Layout of Turbines	Dec. 16-29, 2002, NIT Hamirpur (H.P.) ISTE STC on Small Hydro Power	For faculty of Engg. Institutions
5.	Design of Turbines	Dec. 16-29, 2002, NIT Hamirpur (H.P.) ISTE STC on Small Hydro Power	For faculty of Engg. Institutions and industry

			people
6.	Selection and Layout of Turbines	May 07-11, 2007, NIT Hamirpur (H.P.) TEQIP STC on Small Hydro Power	For faculty of Engg. Institutions and industry people
7.	Design of Turbines	May 07-11, 2007, NIT Hamirpur (H.P.) TEQIP STC on Small Hydro Power	For faculty of Engg. Institutions and industry people
8.	Computer aided design	June 02-13, 2008, NIT Hamirpur (H.P.) AICTE/ MHRD STC on CAD/CAM/ Optimization Techniques	For faculty of Engg. Institutions and industry people
9.	Green Productivity – Concept and Approach	June 16-20, 2008, NIT Hamirpur (H.P.) AICTE/MHRD STC on Sustainable energy generation and environmental management	For faculty of Engg. Institutions and industry people
10.	Industry-Institute Interaction	June 30- July 11, 2008, NIT Hamirpur (H.P.) AICTE/MHRD Orientation programme for technical teachers	For faculty of Engg. Institutions and industry people
11.	Pneumatic and hydraulic machine and mechanism control for Mechatronics equipment control	July 12-21, 2008, NIT Hamirpur (H.P.) AICTE/MHRD STC on Mechatronics and Robotics	For faculty of Engg. Institutions and industry people
12.	Tribo-testing	Nov. 30-Dec. 04, 2009, SVNIT Surat (Gujarat) AICTE/MHRD STC on Metallurgical Aspects of Tribology	For faculty of Engg. Institutions and industry people
13.	Tribo-surfaces and their characterisation	Nov. 30-Dec. 04, 2009, SVNIT Surat (Gujarat) AICTE/MHRD STC on Metallurgical Aspects of Tribology	For faculty of Engg. Institutions and industry people
14.	Tribo-testing	June 01, 2010; Dept. of Chemistry, NIT Jalandhar	For faculty and PG students/RS
15.	Oil analysis-An effective condition monitoring tool	June 21-25, 2010, NIT Hamirpur (H.P.) AICTE/MHRD summer school on Condition Monitoring of Plant & Machinery	For faculty of Engg. Institutions and industry people
16.	CAD/CAM-An Overview	Oct. 22, 2010, Invited Talk Delivered at DTE, Sundernagar (H.P.)	For faculty, guests and students
17.	Use of tools of education technology	Feb.27, 2011, Invited talk delivered at Himalayan Group of Professional Institutions, Kala Amb (H.P.)	For faculty of Engg. Institutions
18.	Tribo-testing	May 21, 2011, Expert Lecture delivered in National Conference on Advances in Mechanical Engineering (NCAME-2011), UIET, Punjab University, Chandigarh	For participants of conference, faculty and students of UIET
19.	Engineering Mechanics	July 16-20, 2012, Expert lectures delivered during FDP on Engineering Mechanics, LPU, Jalandhar (Pb.)	For faculty of LPU, Jalandhar



20.	General Research Methodologies & Research Initiatives in Tribology	July 12, 2013, Expert lecture delivered during TEQIP-II Workshop on Research Methodologies, UIET, Panjab University, Chandigarh	For faculty of Engg. Institutions, Universities & Industry Officials
21.	Condition Monitoring of Bearings	July 18, 2013, Expert Lecture delivered during TEQIP-II Workshop on Condition Monitoring of Plant & machinery, Mech. Engg. Dept., NIT Hamirpur (H.P.)	For faculty of Engg. Institutions, Universities & Industry Officials
22.	Condition Monitoring Through Oil Analysis	July 20, 2013, Expert Lecture delivered during TEQIP-II Workshop on Condition Monitoring of Plant & machinery, Mech. Engg. Dept., NIT Hamirpur (H.P.)	For faculty of Engg. Institutions, Universities & Industry Officials
23.	Student Centred Learning and Tools of Education Technology	August 03, 2013, Expert Lecture delivered during TEQIP-II Induction Training Programme on "Effective Teaching Learning Process (ETLP-13)", Aug. 03-04, 2013, NIT Hamirpur (H.P.)	For faculty of NIT Hamirpur (H.P.)
24.	Experimental and Theoretical Thermal Analysis of Bronze Elliptical and Offset-halves Journal Bearing Profiles	Oct. 15, 2013, Expert Lecture delivered during "International Conference on Advances in Tribology and Engineering Systems" held at GTU, Oct. 15-17, 2013, Ahmedabad, Gujarat.	For faculty of Engineering Institutions and Industry Officials
25.	Undergraduate Projects - Application of Concepts for Design, Analysis & Fabrication	May, 02, 2014, Expert lecture during FDP on "Emerging Research Trends in Engineering & Technology" held in Mechanical Engg. Dept., IFTM University, Moradabad (U.P.)	For faculty and students of Mechanical Engg. Dept.
26.	Research Initiatives in Tribology	May, 03, 2014, Expert lecture during FDP on "Emerging Research Trends in Engineering & Technology" held in Mechanical Engg. Dept., IFTM University, Moradabad (U.P.)	For faculty of Mechanical Engg. Dept.
27.	Fluid Film Lubrication and Hydrodynamic Bearings	June 26, 2014, Expert Talk delivered during "6th Summer School in Tribology" organized by IIPM, Gurgaon; DST, New Delhi; TSI, Faridabad and Indian Oil R & D Centre, Faridabad during June 23-27, 2014.	For faculty of various Engg. Institutions and Officials from Industry
28.	Research Initiatives in Tribology	June 27, 2014; Key Note Address delivered during "International Conference on Mechanical Engineering, Automation & Intelligent Computing" held at Corporate Institute of Science & Technology, Bhopal during June 27-28, 2014	For faculty and participants of the conference
29.	Thermal Analysis of Bronze Elliptical and Offset-halves Journal Bearing Profiles: An Experimental	Nov. 14, 2014; Expert Talk delivered during "Workshop on Industrial Tribology and Applications" held at NIT Surat during Nov. 14-15, 2014	For faculty and participants of the workshop

	Approach		
30.	Advances in Research of Tribological and Material Considerations in Design of Machine Elements	April 11, 2015; Invited Expert Talk delivered during Tech Fest at JNGEC Sundernagar	For faculty and students
31.	Tribology and Transportation Systems	June 15, 2015; Invited Key Note Talk delivered during “Workshop on Science of Transportation Systems” held at NIT Hamirpur (H.P.) during June 15-19, 2015	For faculty of various Engg. Institutions and Officials from Industry
32.	Evolution of Technical Education in India and the way Forward for 21st Century Technical Institutions	Oct. 01, 2015; Invited Key Note Talk delivered during “ISTE Section Annual Convention “SAC-15”, NIT, Hamirpur (H.P.)	For faculty of various Engg. Institutions and Students
33.	Research Initiatives in Tribology	Oct. 03, 2015; Invited Expert Lecture delivered at NITTTT, Chandigarh	For faculty and students of Mech. Engg. Dept.
34.	Thermal Analysis of Elliptical and Offset-halves Journal Bearing Profiles: An Experimental Approach	December 19, 2018; Invited Key Note Talk delivered during First Tunisia-India workshop on Tribology for Sustainable Development (TSD 2018), Dec.19-20, 2018, Hammamet Tunisia	For university faculty and participants
35.	Student-Centered Learning and the Tools of Education Technology	April 02, 2019; Invited Talk delivered during Induction Training Programme on “Pedagogy” organized from April 01-05, 2019 at NIT Srinagar (J&K)	For faculty of NIT Srinagar and other Universities and Institutions
36.	Oil Analysis: A Predictive and Proactive Maintenance Tool	June 18, 2019; Expert Talk delivered during International Symposium on “Tribology for Sustainability” organized from June 17-21, 2019 at NIT Srinagar (J&K)	For faculty of NIT Srinagar and other Universities and Institutions
37.	The New Path in Technical Education Post COVID 19 Outbreak	Sept. 08, 2020; Expert Talk delivered during an International Webinar organized by ICARE, Haldia Group of Institutions, West Bengal	For faculty, Research Scholars and Students of Haldia and other Institutions
38.	Developments in Materials Tribology	Sept. 15, 2020; Expert Talk delivered during one week Online Short-Term Course on “Future Scope in Engineering Materials and Tribology” organized by Mechanical Engineering Department, NIT Jalandhar from Sept. 15-19, 2020	For faculty, Research Scholars and Students of NIT Jalandhar and other Institutions/ Organisations
39.	Tribomaterials-Synthesis and Characterization	Jan. 04, 2021; Expert Talk delivered during one week Online Short-Term Course on “Basics of Tribology and Its Industrial Engineering Applications (BTIEA-2021)” MNIT Jaipur, Jan., 04-08, 2021	For faculty, Research Scholars and Students of MNIT Jaipur and other Institutions/ Organisations

40.	Biomaterials for Societal Needs	March 30, 2021; Expert Talk delivered on International Doctor's Day, Shere Kashmir Institute of Medical Sciences, Srinagar (J&K)	For faculty, resident doctors, nursing and paramedical staff of SKIMS
41.	Biomaterials for Societal Needs	Sept., 09, 2021; Expert Talk delivered on Royal Charter Day-2021, Mizoram State Centre-IE(India)	For Members of IE(India), Mizoram State Centre and Faculty of NIT Mizoram
42.	Post Covid-19 Opportunities	January 8, 2022; Expert Talk delivered in the 2 <sup>nd</sup> PAN NIT HSS International Conference on Resilience and Transformation for Global Restructuring, MNIT Jaipur (Rajasthan)	For International & National Participants from Education & Research Organisations
43.	Biomaterials for Societal Needs	<b>June 1, 2022;</b> Expert Talk delivered in the One Week Training Program on "R&D Equipment Material Processing & Advanced Functional Material Characterization Techniques" under Synergistic Training program Utilizing the Scientific and Technological Infrastructure (STUTI); May 30-June 05, 2022, Sponsored by: Department of Science & Technology; Organised by Dept. of Physics, Vansathali Viyapeeth & NIT Srinagar (J&K)	For faculty & Research Scholars from different Universities/ Institutions across the country
44.	Biomaterials for Societal Needs	<b>July 1, 2022;</b> Expert Talk delivered in the One Week Training Program on "Material Characterization Techniques" under Synergistic Training program Utilizing the Scientific and Technological Infrastructure (STUTI); June 28-July 04, 2022, Sponsored by: Department of Science & Technology; Organised by Dept. of Physics, AMU & Dept. of Physics, NIT Srinagar (J&K)	For faculty & Research Scholars from different Universities/ Institutions across the country
45	Tribology of Biomaterials	<b>Sept. 02, 2022;</b> Expert Talk delivered in the One Week High End Workshop on "3D Printing, Nano-Tribology and Characterization of Materials" August 29 – Sept. 03, 2022, Sponsored by: Department of Science & Technology; Organised by Dept. Mechanical Engg., NIT Srinagar (J&K)	For faculty & Research Scholars from different Universities/ Institutions across the country
46.	Tribomaterials-Synthesis and Characterisation	<b>Sept.10, 2022;</b> Expert Talk delivered in the One Faculty Development Program on "Advances in material Processing and Additive Manufacturing" Sept. 01-10, 2022, Organised under Electronics and ICT Academy, PDPM IITDM Jabalpur (MP)	For faculty & Research Scholars from different Universities/ Institutions across the country
47.	Tribology of Biomaterials	<b>Feb.26, 2023;</b> Expert Talk delivered in the DST (SERB) Karyashala on "Smart Manufacturing and Circular Economy" Feb. 20-26, 2023, Organised by Department of	For M.Tech. students & Research Scholars from different Universities/ Institutions across the

		Production and Industrial Engineering, PEC, Chandigarh	country
48.	Current Status and Future Prospects of Solar Energy in Jammu and Kashmir	<b>March 18, 2023;</b> Expert Talk delivered during one week training programme on “Design & Installation of Solar PV System” March 16-21, 2023, Organised by Division of Renewable Energy Engineering (REE), College of Agricultural Engineering and Technology SKUAST-Kashmir, Shalimar, Srinagar (J&K)	UG/PG Students and Unemployed Youth of J&K
49.	Required Interventions for Assured Improvement in Technical Education in Himachal Pradesh	<b>May 02, 2023;</b> Expert Talk delivered during State Level Conference cum Review Meeting on “Improving Technical Education in Himachal Pradesh: Vision to Action” May 01-02, 2023, Organised by The Department of Technical Education, Vocational and Industrial Training, Himachal Pradesh at Rajiv Gandhi Govt. Engineering College, Kangra (H.P.)	Directors/Principals of Engineering Colleges, Polytechnics and ITIs located in HP
50.	Tribology of Biomaterials	<b>July 16, 2023;</b> Expert Talk delivered at the Department of Mechanical Engineering, Faculty of Engineering & Technology, Annamalai University (T.N.)	For Faculty, Research Scholars & M.Tech. students from different Departments
51.	Tribological and Magnetorheological Properties of Smart Fluids	<b>Oct. 06, 2023;</b> Keynote/Invited Talk delivered in TribolIndia-2023, an International Conference on Tribology, under the theme, “Sustainable Development through Tribology”, organized by the Department of Mechanical Engineering, NIT Srinagar (J&K) under the aegis of Tribology Society of India	For Faculty, Research Scholars and participants from industry within and outside India
52.	Technology Business Incubators	<b>July 28, 2024;</b> Invited Talk delivered in Two Days Workshop on “Incubation Centres: Fostering Innovations & Startups”; 27 <sup>th</sup> – 28 <sup>th</sup> July, 2024; Chaudhary Bansi Lal University, Bhiwani (Hy)	For Faculty and Research Scholars
53.	Research Initiatives in Tribology	<b>Aug. 24, 2024;</b> Expert Talk delivered during one week Online Short-Term Course on “Basics of Tribology and Its Industrial Engineering Applications (BTIEA-2021)” SVNIT Surat, August, 20-24, 2024	For Faculty and Research Scholars
54.	Oil Analysis: A Predictive and Proactive Maintenance Tool	<b>Sept. 20, 2024;</b> Expert Talk delivered during eSTC on “Condition Monitoring of Mechanical Systems (CMMS-2024)” Sept. 16 - 20, 2024	For Faculty and Research Scholars
55.	Lubricating Oil Analysis: A Predictive and Proactive Maintenance Tool	<b>Oct. 16, 2024;</b> Expert Talk delivered during International Conference On “Future and Recent Advances in Mechanical Engineering	For faculty & Research Scholars from different Universities/ Institutions across the country

		(FRAME - 2024)" NIT Kurukshetra, Oct. 15 - 17, 2024	
56.	Sustenance Models for North Eastern Region-Role of Technical Institutions	<b>Nov. 16, 2024;</b> Expert Talk delivered during National Workshop on Viksit Bharat 2024-Atmanirbhar North East, NIT Meghalaya (Cherrapunji)	For faculty of different Institutions/Universities, officials of state and central Govt. organisations
57.	Technology Business Incubators-A Way Forward for Startups	<b>Nov. 19, 2024;</b> Expert Talk delivered during Pre-Conference Workshop on Viksit Bharat 2024, Chitkara University, Punjab	For Faculty, Research Scholars and UG/PG students
58.	Technology Business Incubators-A Way Forward for Startups	<b>March 22, 2025,</b> Expert Talk delivered during Workshop on "Entrepreneurship and Role of Research in Developing Optimized Processes and New Products", RGEC Nagrota Bagwan, Distt. Kangra (HP)	For Faculty, and UG/PG students
59.	Coatings and their Characterisation	<b>March 28, 2025,</b> Expert Talk delivered during in the Department of Mechanical Engineering, NIT Meghalaya, Sohra, Cherrapunji	For Faculty, Research Scholars and UG/PG students
60.	Technology Business Incubators-A Way Forward for Startups	<b>April 01, 2025,</b> Extramural Lecture delivered during the Institute Day Function of NIT Meghalaya, NIT Meghalaya, Sohra	For Invited Guests, Faculty, Research Scholars and UG/PG students

### Conferences/Short Term Courses/Training Programs Organized: 18 Nos.

S. No.	Name of Conference/ Seminar/ Course	Sponsored by	Dates
1.	National seminar on "Vibration in Machinery and its Control" in association with NRTC Parwanoo (H.P.)	CII, Chandigarh	Jan. 16, 1998
2.	46th Congress of ISTAM- An International Event R.E.C., Hamirpur (H.P.) (Now NIT, Hamirpur (H.P.))	AICTE, DRDO, CSIR, DST, ISTAM	Dec.19-22, 2001
3.	National Conference on "Emerging Energy Technologies (NCEET-2003)", NIT Hamirpur (H.P.)	CSIR, HIMURJA, DRDA	March 28-29, 2003
4.	National Level Technical Festival NIMBUS'04(for students) NIT Hamirpur (H.P.)	AICTE, CSIR, DST Shimla, BBTDD	March 19-21 2004
5.	Short Term Training Programme for Entrepreneurs on "Welding Processes" NIT Hamirpur (H.P.)	TEQIP, NIT Hamirpur	Dec 20-24, 2004
6.	National Level Technical Festival NIMBUS'05(for students) NIT Hamirpur (H.P.)	TEQIP, Microsoft, Agmatel	March 18-20, 2005
7.	Short Term Training Programme on "Refrigeration & Air-conditioning Maintenance Practice"	TEQIP-NIT Hamirpur	May 25-30, 2005
8.	Induction Training Programme on "Teaching Methods"	TEQIP- NIT Hamirpur	Jan 28-29, 2006
9.	National Conference on "Recent Developments and Future Trends in Mechanical Engineering"	TEQIP- NIT Hamirpur, MTAB	Nov. 03-04, 2006

10.	STC on “Fundamentals of Tribology”	TEQIP- NIT Hamirpur, DUCOM, GE, Bangalore	July 09-20, 2007
11.	Short Term Training Programme on “Conventional and advanced machining processes”	TEQIP- NIT Hamirpur	Dec.03-07, 2007
12.	Short Term Training Programme on “Mechatronics & Robotics” NIT Hamirpur (H.P.)	AICTE/MHRD	July 12-21, 2008
13.	Summer School on “Condition Monitoring of Plant and Machinery” NIT Hamirpur (H.P.)	AICTE/MHRD	June 21-25, 2010
14.	Application of power operated tools (metal cutting and wood working) NIT Hamirpur (H.P.)	AICTE/MHRD	July 05-09, 2010
15.	Faculty development programme on “Engineering Mechanics” LPU, Jalandhar	LPU, Jalandhar	July 16-20, 2012
16.	STC/Workshop on “Fundamentals of Tribology”	TEQIP- NIT Hamirpur (H.P.)	May 26-30, 2014
17.	Co-Chair of 1 <sup>st</sup> International Scientific Conference on “Modern Materials Science: Topical Issues, Achievements and Innovations” (ISCMMSTIAI-2022)	Tashkent State Transport University, NIT Srinagar, Tashkent Institute of Engineers of Irrigation and Mechanization of Agriculture, Andijan Machine-Building Institute, Tashkent Chemical Technological Institute, Kazan Federal University (Russia), Tashkent State Agrar University, Karshi Engineering and Economic Institute March 4-5, 2022	
18.	Coordinator, Training Program on “Publishing Scholarly Content with IEEE”	LRC, NIT Srinagar (J&K)	August 04, 2022

### Seminars/Symposia/Workshops Attended: 24 No.

S. No.	Name of the Conf./Seminar/ Sym./Workshop	Place & Sponsored by	Dates
1.	National Seminar on Power Scenario in India	R.E.C. Hamirpur (H.P.)	Oct.14-15, 1995
2.	National Conference on Recent Advances in Mechanical Engineering	R.E.C. Kurukshetra (Hy)	March 7-8, 1997
3.	National Symposium on Recent Trends in Theoretical and Applied Mechanics	R.E.C. Kurukshetra (Hy)	Nov. 15, 1997
4.	National Seminar on Maintenance and Condition Monitoring	G E College, Trissure (Kerala)	Feb. 14, 1998
5.	International Conference on Tribology NORDTRIB'98	Ebeltoft, Denmark	June 7-10, 1998

6.	All India Seminar on Recent Trends in Manufacturing	HMT Pinjore	April 24, 1999
7.	Workshop on Product Design and Development for Supporting Industry	Bangkok, Thailand	Aug 2-13, 1999
8.	All India Seminar on Emerging Trends in Mechanical Engineering	NIT Kurukshetra (Hy)	March 29-30, 2005
9.	National Conference on Recent Developments and Future Trends in Mechanical Engineering	NIT Hamirpur (H.P.)	Nov. 03-04, 2006
10.	Global Conference on Production and Industrial Engg.	NIT Jalandhar (Pb.)	March 22-24, 2007
11.	National Workshop on Plasma Surface Interactions and Processing	NIT Hamirpur (H.P.)	May 25-27, 2009
12.	National seminar on "Nuclear Technology for Nation Building (NTBT-09)"	INS & NIT Hamirpur (H.P.)	August 08, 2009
13.	National Workshop on "Public Key Infrastructure (PKI)"	C-DAC, Bangalore & NIT Hamirpur (H.P.)	Feb. 12-13, 2011
14.	Workshop on Right to Information Act-2005	HIPA, H.P. Govt. & NIT Hamirpur (H.P.)	Feb.26, 2011
15.	International Tribology Conference ITC-2011	Hiroshima, Japan	Oct. 30- Nov. 03, 2011
16.	International conference on Mechanical, Electronics and Mechatronics Engineering (ICMEME'2012)	Thailand (Bangkok)	March 17-18, 2012
17.	International Conference on Production and Industrial Engineering (CPIE-2013)	NIT Jalandhar (Pb.)	March 29-31, 2013
18.	Regional Workshop on Industry-Academia Collaboration for Greater Employability (Northern Region)	NITTTR, Chandigarh & TEQIP-II	June 27-28, 2013
19.	Clute Institute International Academic Conference	Paris, France	June 9-11, 2013
20.	International Conference on Advances in Tribology and Engineering Systems	Ahmadabad, Gujarat	Oct. 15-17, 2013
21.	Workshop on Leadership Development in Higher Education for Vice-Chancellors	NIEPA, New Delhi	Dec. 7-8, 2017
22.	Skill and Entrepreneurship Conclave- Talaash (Building Human Capital: Skill-Innovation-Entrepreneurship)	SKICC, Srinagar, (J&K)	May 12-13, 2018
23.	Workshop on Preventive Vigilance and Vigilance Awareness	MNNIT Allahabad	Sept. 13-14, 2018
24.	Workshop on Leadership Development in Higher Education for Vice-Chancellors	NIEPA, New Delhi	Jan. 24-25, 2019

## Short Term Courses Attended: 22 Nos.

S. No.	Name of course/Workshop	Place & Sponsored by	Dates
1.	Summer school on "Product Development"	I.I.T. Delhi; QIP	June 2–16, 1992
2.	Winter school on "Computer Aided Drafting"	MNREC Allahabad; ISTE	Dec. 20, 1993 to Jan. 1, 1994
3.	Summer school on "Metal Forming – Theory and Practice"	PEC Chandigarh; ISTE	June 6-18, 1994
4.	Summer school on "Direct Energy Conversion Devices"	U.O.R., Roorkee; QIP	June 21–July 5, 1994
5.	Programme on "Performance Appraisal & Development Systems"	R.E.C. Hamirpur (H.P.); ISTE	May 26–28, 1995
6.	Winter school on "Bearing Design and Analysis"	I.I.T., Delhi; QIP	Dec. 8–14, 1996
7.	Summer school on "New Concepts and Methodologies for Innovative Industry – Institute Interaction"	R.E.C, Hamirpur (H.P.); ISTE	July 7 –12, 1997
8.	Winter school on "Computer Aided Maintenance"	I.I.T., Delhi; QIP	Dec.8–13, 1997
9.	Workshop on "Product Development and Design for Supporting Industry"	Thailand Productivity Institute, Bangkok	August 2-13, 1999
10.	Short term course on "Reliability and Maintenance of Plant and Machinery"	I.I.T. Delhi; QIP	Dec.4-8, 2000
11.	Training programme on "Standard rules and procedures of the World Bank for procurement of goods, works & services"	NIFM Faridabad, World Bank; TEQIP-II	Feb.17-28, 2003
12.	STTP on "Visual Basic 6.0"	NIT Hamirpur (H.P.); SPIC & NITTTR Chandigarh	Feb. 18-29, 2004
13.	Short term course on "Melt Treatment in Foundries"	NIT, Hamirpur (H.P.); AICTE-ISTE	June 14-18, 2004
14.	STTP on "C++"	NIT Hamirpur (H.P.); SPIC & NITTTR Chandigarh	Aug. 14-22, 2004
15.	Workshop on "Student Counselling"	NIT Kurukshetra (Hy)	March 12, 2005
16.	Training in Tribology lab.	Tribo-lab, Lulea University of Tech., Sweden	Sept. 26- Oct. 06, 2006
17.	National Workshop on "Industry Institute Interaction (NWIII-2007)"	NIT Kurukshetra (Hy)	Feb. 19-20, 2007
18.	Training programme on "Culture Building Through Team	NIT Hamirpur (H.P.)	April 21-22,



	Work”		2007
19.	Short term course on “AUTOCAD”	NIT Hamirpur (H.P.); TEQIP	Nov. 22-23, 2007
20.	Summer School in Tribology	TSI, Hyderabad (India)	June 10-13, 2009
21.	STC on “Application based Global Trends in Renewable Energy Sources”	NIT Hamirpur; MHRD & AICTE	Sept. 20-24, 2010
22.	Programme on “Management Capacity Enhancement for Administrators”	IIM Lucknow; TEQIP-II, NIT Hamirpur (H.P.)	Feb. 11-15, 2013

(Annexure)

**LIST OF PUBLICATIONS**

**Books Authored: 02**

**Edited Books: 05**

**Book Chapters: 25**

**Patents Granted: 02**

**Patents Published: 02**

**Papers published Peer-reviewed International / National Journals: 105**

**Communicated: 05**

**Papers published in International Conference Proceedings: 60**

**Papers published in National Conference Proceedings: 25**

**Articles published in Popular magazines/Newspapers: 03**

**IDs of Prof. Rakesh Sehgal in Various Popular Research Platforms:**

S. No.	Research Platform	ID
1.	Scopus	<a href="https://www.scopus.com/authid/detail.uri?authorId=57202592183">https://www.scopus.com/authid/detail.uri?authorId=57202592183</a>
2.	Research Gate	<a href="https://www.researchgate.net/profile/Rakesh_Sehgal/publications">https://www.researchgate.net/profile/Rakesh_Sehgal/publications</a>
3.	Google Scholar	<a href="https://scholar.google.com/citations?hl=en&amp;user=cViOk7MAAAAJ">https://scholar.google.com/citations?hl=en&amp;user=cViOk7MAAAAJ</a>
4.	Orchid	<a href="https://orcid.org/0000-0002-1264-6373">https://orcid.org/0000-0002-1264-6373</a>
5.	Publons	<a href="https://publons.com/researcher/3745469/rakesh-sehgal">https://publons.com/researcher/3745469/rakesh-sehgal</a>
6.	Vidwan	<a href="https://vidwan.inflibnet.ac.in/myprofile">https://vidwan.inflibnet.ac.in/myprofile</a>

**Edited Books:**

1. Editor: Rakesh Sehgal, Performance Evaluation of Bearings, Publisher: InTech, Janeza Trdine 9, 51000 Rijeka, Croatia, ISBN 978-953-51-0786-6, Oct., 2012.
2. Editors: **Rakesh Sehgal**, Neeraj Gupta, Mukund Dutt Sharma, Anuradha Tomar, Smart Electrical and Mechanical Systems: An application of Artificial Intelligence and Machine learning, Publisher: Elsevier, 1st Edition: June 1, 2022, ISBN: 9780323907897.
3. Editors: Vijay Kumar, Kashma Sharma, **Rakesh Sehgal**, Susheel Kalia, Conjugated Polymers for Next Generation of Photovoltaics, Energy Storage and Electronics, Vol 1. Publisher: Elsevier, ISBN: 9780128234426 (2022). <https://doi.org/10.1016/C2020-0-00254-9>
4. Editors: Vijay Kumar, Kashma Sharma, **Rakesh Sehgal**, Susheel Kalia, Conjugated Polymers for Next Generation of Photovoltaics, Energy Storage and Electronics, Vol 2. Publisher: Elsevier, ISBN: 9780128240946 (2022). <https://doi.org/10.1016/C2020-0-01559-8>
5. Editors: Vijay Kumar, Irfan Ayoub, Hendrik C Swart, **Rakesh Sehgal**, Upconversion Nanoparticles (UCNPs) for Functional Applications: Springer Nature Singapore, ISBN: 978-981-99-3913-8 (2023). <https://link.springer.com/book/9789819939121>

6. Authors: M.F. Wani, Jitendra K. Katiyar, **Rakesh Sehgal**, High Temperature Tribology of Ceramics and Ceramic Matrix Composites, *December 01, 2024, Elsevier Paperback ISBN: 9780323916059; eBook ISBN: 9780323916066*
7. Authors: Vivek, Sandeep Samantaray, **Rakesh Sehgal**, Reclaimed Waste Materials for Sustainable Pavement Construction, *CRC Press, Taylor and Francis, DOI: 10.1201/9781003598220*

## Book Chapters (Published): 25

1. Nirmal S. Kalsi, **Rakesh Sehgal**, Vishal S. Sharma; Grey-Based Taguchi Analysis Approach for Optimization of Multi-Objective Problem, *Analytical Approaches to Strategic Decision-Making: Interdisciplinary Considerations*, Copyright © 2014, IGI Global.  
<https://doi.org/10.4018/978-1-4666-5958-2.ch011>
2. Sanjiv Kumar, Rajiv Kumar, **Rakesh Sehgal**, Sanjeev Bhandari; Vibration Analysis of Rotor Bearing Housings Considering Unbalancing in Two Planes, Publisher: Springer; ISBN: 978-81-322-1858-6 (Print) 978-81-322-1859-3 (Online); April 29, 2014, Lecture Notes in Mechanical Engineering Book Series, pp. 83-93.  
[http://doi.org/10.1007/978-81-322-1859-3\\_8](http://doi.org/10.1007/978-81-322-1859-3_8)
3. Nath J., Sharma K., Kumar S., Sharma V., Kumar V., **Sehgal R.** (2021) Electrospun Nanofibers for Wastewater Treatment. In: Tiwari S.K., Sharma K., Sharma V., Kumar V. (eds) *Electrospun Nanofibers*. Springer Series on Polymer and Composite Materials. Springer, Cham.  
[https://doi.org/10.1007/978-3-030-79979-3\\_4](https://doi.org/10.1007/978-3-030-79979-3_4)
4. Singh J., Thakur S., **Sehgal R.**, Dhaliwal A.S., Kumar V. (2021) Surface Engineering of Nanofiber Membranes via Electrospinning-Embedded Nanoparticles for Wastewater Treatment. In: Tiwari S.K., Sharma K., Sharma V., Kumar V. (eds) *Electrospun Nanofibers*. Springer Series on Polymer and Composite Materials. Springer, Cham.  
[https://doi.org/10.1007/978-3-030-79979-3\\_10](https://doi.org/10.1007/978-3-030-79979-3_10)
5. Mankotia P., Sharma K., Sharma V., **Sehgal R.**, Kumar V. (2021) Polymer and Ceramic-Based Hollow Nanofibers via Electrospinning. In: Tiwari S.K., Sharma K., Sharma V., Kumar V. (eds) *Electrospun Nanofibers*. Springer Series on Polymer and Composite Materials. Springer, Cham.  
[https://doi.org/10.1007/978-3-030-79979-3\\_9](https://doi.org/10.1007/978-3-030-79979-3_9)
6. Nath J., Sharma K., Kumar S., Kumar V., **Sehgal R.** (2022) Polymer/Carbon Nanocomposites for Biomedical Applications. In: Hasnain M.S., Nayak A.K., Alkahtani S. (eds) *Polymeric and Natural Composites. Advances in Material Research and Technology*. Springer, Cham.  
[https://doi.org/10.1007/978-3-030-70266-3\\_4](https://doi.org/10.1007/978-3-030-70266-3_4)
7. Choudhary, S., Sharma, K., Sharma, V., Kumar, V., **Sehgal, R.** (2022). Marine Collagen for Delivery of Therapeutics. In: Jana, S., Jana, S. (eds) *Marine Biomaterials*. Springer, Singapore.  
[https://doi.org/10.1007/978-981-16-5374-2\\_4](https://doi.org/10.1007/978-981-16-5374-2_4)
8. Nisar Hussain, Irfan Ayoub, Umer Mushtaq, Rishabh Sehgal, Seemin Rubab, **Rakesh Sehgal**, Hendrik C. Swart, Vijay Kumar, Introduction to phosphors and luminescence, Editor(s): Vikas Dubey, Neha Dubey, Marta Michalska Domańska, M. Jayasimhadri, Sanjay J. Dhoble, Rare-Earth-activated Phosphors, Elsevier, 2022, Pages 3-41, ISBN 9780323898560.  
<https://doi.org/10.1016/B978-0-323-89856-0.00008-0> 2021
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26. Jyotendra Nath, Kashma Sharma, Rishabh Sehgal, Shashiknat Kumar, Vishal Sharma, Rakesh Sehgal, Vijay Kumar, Polysaccharide based superabsorbent hydrogels, Shakeel Ahmed, Akbar Ali (Eds), Polysaccharides based Hydrogels, Publisher: Elsevier.
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### Patents Granted/Published: 04

S. No.	Title of the Patent/Invention	Name of Inventors	Status (Granted/ Published)
1.	Method to Improve the Performance of a Multipoint Clamped Inverter Fed Induction Motor by using a Closed Loop Controller	Dr. Obbu Chandra Sekhar Dr. Rakesh Sehgal Dr. Abdul Hamid Bhat	<b>Granted</b> Patent No. 506627 Date of Grant: 02/02/2024
2.	Wear Measurement Test Rig for Fabric Industry and System Thereof	Prof. M.F. Wani Prof. Rakesh Sehgal Dr. Vivek Dr. Seikh Shahid Saleem	Patent No. 568512 Date of Grant: 09/07/2025
3.	Development of nano Cedrus Deodarasawdust Based Biodegradable, Environment Friendly Water Lubricant for Tribological Applications	Prof. M.F. Wani Prof. Rakesh Sehgal Dr. Shahid Saleem	Published 03/06/2022
4.	Design and Manufacturing of Patient-Specific Titanium Mesh Cranial Prosthesis Using CAD/CAM and Conventional Bending	Dr. Mohd. Mursaleen Bhat Prof. (Dr.) Abrar Ahad Wani Prof. (Dr.) Rakesh Sehgal Dr. Sheikh Ghulam Mohd. Prof. (Dr. Sheikh Nazir Ahmed	Published 01/07/2022 Journal No.-26/2022 Appl. No. 20221032620

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### Strengths:

A **bright academic career** throughout School, UG, PG, Doctorate and Post Doctorate level from reputed Universities/Institutions and **37½ years of rich teaching, research, and administrative experience**. Contributed in establishing NIT Hamirpur (H.P.) as one of the premier NITs while working on various academic and administrative assignments such as Coordinator, Warden, Proctor, Deans, Head (Mechanical), Senate and Chairman/Member of various important committees. With a strong **National/International exposure and collaborations**, successfully established a new Govt. Engineering College at Kangra (H.P.) in 03 years as its founder Director. **A person with positive mindset and strong believer in team work**, re-established NIT Srinagar (J&K) during my five and half year's tenure in terms of good Human Resources, Civil, Laboratory and Research Infrastructure to improve its **positive visibility and Ranking at National/International level**.

(Prof. Rakesh Sehgal)