

Inderdeep Singh
PhD

Professor
Department of Mechanical & Industrial Engineering
Indian Institute of Technology Roorkee
Roorkee, Uttarakhand – 247667, INDIA
Ph: +91-1332-285614 (O), 285177 (R)
Email: inderdeep.singh@me.iitr.ac.in

Educational Details:

School/Institute	Board	Degree	Year
Indian Institute of Technology	IIT Delhi	Doctor of Philosophy	2004
Indian Institute of Technology	IIT Delhi	Master of Technology	2000
National Institute of Technology	NIT Hamirpur	Bachelor of Technology	1998

Work Experience:

	Designation	Institute/University	From	To
1.	Professor	Indian Institute of Technology Roorkee	December, 2019	Till date
2.	Associate Professor	Indian Institute of Technology Roorkee	October, 2012	December, 2019
3.	Assistant Professor	Indian Institute of Technology Roorkee	May, 2008	October, 2012
4.	Lecturer	Indian Institute of Technology Roorkee	Dec., 2005	May, 2008
5.	Lecturer	Punjab Engineering College, Chandigarh	August, 2005	December, 2005
6.	Lecturer	Institute of Technology, BHU, Varanasi	October, 2004	July, 2005

Important Achievements

- “Outstanding Teacher Award – 2013’** by Indian Institute of Technology Roorkee on Teachers Day, September 05, 2013
- Foundation for Innovation and Technology Transfer (FITT) Award for **Best Industry Relevant PhD Thesis** of the Year 2004-2005* by IIT Delhi
- 1st Position** in the Class of Mechanical Engineering of 1998 at REC (NIT) Hamirpur (H.P)
- ‘Outstanding Sportsperson of the Year - 2000’** by Board of Sports Activities, IIT Delhi
- ‘Roll of Honor - 2004’** by Vindhyachal House, IIT Delhi
- ‘Institute Blazer’** for Outstanding Performance in Field Hockey at Inter-IIT Sports Meet Held at IIT Bombay.
- 2 Gold, 6 Silver and 2 Bronze Medals** at Inter IIT Sports Meet in Hockey and Football (1998-2003).

Important Academic and Administrative Assignments

- **Coordinator**, E-Learning Centre, IIT Roorkee
- **Local Coordinator**, GIAN, IIT Roorkee
- **Coordinator**, NPTEL, IIT Roorkee

3.	Dr. A.K. Sharma Dr. A. Dvivedi	Finishing Machining: A State-of-the Art	AICTE	2-6 Sept., 2013
4.	Dr. A.K. Sharma	A Novel Approach to Processing of Green Composites	AICTE	9 March, 2013
5.	Dr. P. Kumar Dr. A.K. Sharma	Manufacturing Excellence Through Quality Assurance	AICTE	09-13 July 2012
6.	Dr. P. Kumar Dr. A. Dvivedi	Advanced Materials And Manufacturing	CEC	20-22 Jan. 2012
7.	Dr. P. Kumar	Processing Challenges And Newer Manufacturing Methods	AICTE	25-29 June 2011
8.	Dr. P. Kumar Dr. A.K. Sharma	Advanced Materials and Manufacturing	AICTE	14-18 June 2010
9.	Dr. A.K. Sharma	Composites: Design and Manufacturing	AICTE	07-11 July 2008
10.	Dr. A.K. Sharma	Advanced Processing of Composite Materials	AICTE	24-28 July 2006
11.	Dr. P. Kumar Dr. A.K. Sharma	Hands on Training on Manufacturing of Composite Materials	YMCA IE, Faridabad	06-08 March 2009

PhD Theses Evaluation		Journal Review Engagement (Major)	
<i>Sr.</i>	<i>Institute/ University</i>	<i>Sr.</i>	<i>Journals</i>
1	IIT Delhi, Delhi	1	Composites Part A: App Sci and Manu
2	IIT Madras, Chennai	2	Composites Part B: Engineering
3	NIT Rourkela	3	Journal of Composite Materials
4	NIT Surat	4	Journal of Reinforced Plastics and Composites
5	NIT Hamirpur	5	Proceedings of IMechE Part B
6	NIT Jalandhar	6	Proceedings of IMechE Part J
7	PEC, Chandigarh	7	Materials and Manufacturing Processes
8	Delhi University (NSIT)	8	International Journal of Mechanical Sciences
9	VTU, Bangalore	9	Journal of Polymer Composites
10	PTU, Jalandhar	10	Journal of Manufacturing Science and Engineering (ASME)

Advisory Committee of Various National/International Conferences/Seminars/Workshops

- Member**, International Advisory Committee, Asian-Australasian Conference on Composite Materials ACCM 11/ 2018- **Australia**, ACCM-10/ 2016- **South Korea**, ACCM-9/2014- **China**
- Conference Chair**, Twenty Fifth International Symposium on Processing and Fabrication of Advanced Materials (PFAM XXV-2017), University of Auckland, New Zealand
- Organizing Secretary**, Twenty Third International Symposium on Processing and Fabrication of Advanced Materials (PFAM XXIII-2014), IIT Roorkee
- Member**, National Advisory Committee, International Conference on Research and Innovations in Mechanical Engineering (ICRIME-2013), GNDEC Ludhiana.
- Member**, International Conference on Sustainable Manufacturing and Operations Management (ISOM-2013), University of Mauritius, Mauritius and Global Institutes, Amritsar (India)
- Member**, National Advisory Committee, Twenty First International Symposium on Processing and Fabrication of Advanced Materials (PFAM XXI-2012), IIT Guwahati
- Member**, International Advisory Committee, 3rd International Conference on Production and Industrial Engineering (CPIE-2013), NIT Jalandhar

List of Annexure

- Annexure I : Details of Ph.D Theses supervised
- Annexure II : Details of M. Tech. Theses supervised
- Annexure III : Details of Research Publications in Journals
- Annexure IV : Details of Research Publications in Conferences
- Annexure V : Details of Major Sponsored Projects
- Annexure VI : Details of Major Consultancy Projects

Annexure I
Details of Doctoral Theses Supervised

S. No.	Topic	Year	Name	Co-supervisor
1	Processing of Short Natural Fiber Reinforced Polymer Composites	2019	Manish Kumar Lila	---
2	Micro Electric Discharge Machining of Difficult-to-Machine Materials	2018	Ravinder Kumar	--
3	Studies on Short Fiber Reinforced Biocomposites	2017	Saurabh Chaitanya	---
4	Characterization and Machinability Study of Natural Fiber Reinforced Composites	2016	Temesgen Berhanu Yallew	Prof. Pradeep Kumar
5	Synthesis and Characterization of Ni-Mn-X (X: In, Sb) FSMA Thin Films	2015	Harish Sharma Akkera	Dr. Davinder Kaur
6	Machining Behavior of Fiber-Reinforced Polymer Composites	2015	Kishore Debnath	Dr. Akshay Dvivedi
7	Investigation on Electro Discharge Drilling and Hole Grinding of Metal Matrix Composites	2013	Abhishek Singh	Prof. Pradeep Kumar
8	Development and Characterization of Natural Fiber Reinforced Composites	2013	Pramendra Kumar Bajpai	Dr. Jitendra Madaan
9	Primary and Secondary Processing of Metal Matrix Composites	2013	Sarbjit Singh	Dr. Akshay Dvivedi
10	Development of Intelligent Knowledge Base for Machining of Composites	2013	Vikas Dhawan	Dr. Sehijpal Singh
11	Secondary Processing of Polymer Matrix Composites	2012	Pawan Kumar Rakesh	Prof. Dinesh Kumar
12	Development, Characterization, Friction and Sliding Wear Response of Vinylester Based Hybrid Composites	2011	Sant Ram Chauhan	Prof. Anoop Kumar
13	Electric Discharge Machining Of Al 6063-SiC MMC Produced by Stir Casting Process	2008	Akshay Dvivedi	Prof. Pradeep Kumar

Annexure II

Details of Masters Theses Supervised

S. No.	Title	Year	Name	Co-supervisor
1	Conceptualization, Design and Development of Non-structural Composites with waste Materials	2019	Anjali Kesarwani	
2	Design and Development of Bamboo/ Jute/ PLA Biodegradable Composites	2019	Pawan Rajani	
3	Microwave Welding of Polymer Matrix Composites	2019	Ravi Saukta	
4	Recyclability Analysis of Green Composites	2018	Anubhav Kumar	
5	Composting Behavior of Natural Fiber Reinforced Thermoplastic Composites	2018	Dharmendra Kumar	
6	Effect of Ceramic Based Coatings on Steel Welds	2017	Sonu Kanwal	Dr. Manas Mohan Mahapatra
7	Micro Electric Discharge Drilling in Carbon Fiber Reinforced Polymer Composites	2017	Ankita Kumar	
8	Mechanical Behavior of Green Composites used for Sustainable Structures	2017	Kartikeya	
9	Cold Mould Processing and Characterization of Short Fiber Reinforced Composites	2017	Sandeep Chaudhary	Dr. Dinesh Kumar
10	Effect of Fiber Characterization on Mechanical Behavior of Composites	2017	Anurag Singh Kachhwaha	
11	Micro-EDM of Hard to Cut Materials	2016	Pramod Kumar Agrawal	Dr. Akshay Dvivedi

12	Parametric Investigation and Optimization of Near Dry EDM	2016	Kuldeep Chaudhary	Dr. Akshay Dvivedi
13	Studies on Electric Discharge Machining of Metal Matrix Composites	2015	Kamaljit Singh	Dr. Akshay Dvivedi
14	Comparative Analysis of Polymer Matrix Composites Processed by Microwaves and Compression Molding, 2015,	2015	Prag Sharma	Dr. Apurbba Kumar Sharma
15	Experimental Investigation in Fabrication of Micro-Channels by using Electric Discharge Machining	2015	Vichare Jaychandra Chandrakant	Dr. Akshay Dvivedi
16	Machining of Hard to Cut Materials using ECDM	2015	Sachin Baghel	Dr. Apurbba Kumar Sharma
17	Advanced Composite Material for Earthquake Resistant URM Building	2014	Dipali Jindal	
18	Conceptualization, Design and Development of Injection Molding Process for FRPs	2014	Manish Kumar Lila	
19	Conceptualization and Development of Low Cost Natural Fiber Reinforced Polymer Composite	2014	Fanindra Kumar	Dr. Sanjay K. Sharma
20	Drilling of Metal Matrix Composite: A Finite Element Approach	2013	Vikas Kumar Doomra	Dr. Dinesh Kumar
21	Machinability Studies on Aluminum Based Metal Matrix Composites	2013	Rohit Singh	Dr. Pradeep Kumar Jha
22	Electric Discharge Hole Grinding in Metal Matrix Composites	2013	Ravinder Kumar	Dr. Dinesh Kumar
23	Development and Characterization of Natural Fiber Reinforced Composites	2013	Deepak Varshney	Dr. Dinesh Kumar
24	Development and Characterization of Sustainable Polymeric Composites using Microwaves	2013	Mali Akshay Atul	Dr. Apurbba Kumar Sharma

25	Design and Development of a Ultra-Light Weight Prosthetic Leg	2012	Gagandeep Singh Bedi	Dr. Dinesh Kumar
26	Prediction of Forces and Damage in Machining of Composites using Artificial Intelligence	2012	Hitesh Sharma	Dr. Dinesh Kumar
27	Development and Characterization of Natural Fiber Reinforced Thermoplastic Composites	2012	Anil Sharma	Dr. Apurbba Kumar Sharma
28	Microwave Processing of Partially and Fully Green Composites	2012	Sabir Ali	Dr. Apurbba Kumar Sharm
29	Development of Hybrid Process for Secondary Processing of Metal Matrix Composites	2012	Aditya Pal Yadav	Dr. Akshay Dvivedi
30	A Comparative Investigation of Adhesively Bonded and Temporarily Fastened Composite Joints	2011	Harpreet Singh	Dr. Pradeep Kumar
31	Microwave Joining of Polymeric Matrix Composites	2011	D. Malik	Dr. Pradeep Kumar
32	Mechanical Behavior of FRP Laminates with Drilled Holes	2011	Manish Kumar Niranjan	Dr. Jitender Madaan
33	Design and Development of Drill Point Geometry for Damage Free Holes in FRP Laminates	2011	Rahul Mahajan	Dr. Jitendra Madaan
34	Some Investigations on Joining of AA-6061 and Al Based MMC's	2011	Pawan Kumar	Dr. Navneet Arora
35	Behavior of Closed-Cell Aluminum Foam under Impact Loading as energy Absorber	2010	Vaidya Sudarshan Vishnurao	Dr. Apurbba Kumar Sharma
36	Investigation of the Mechanical Behavior of MMCs using Finite Element Method	2010	Tonge Pradeep Vasant	Dr. Pradeep Kumar
37	Drilling of Fiber Reinforced Plastics using FEM Approach	2010	Vikas Sharma	Dr. Jitendra Madaan
38	Forming of Polymer Matrix Composites: A Finite Element Approach	2010	Sutar Prasad Laxman	Dr. Jitender Madaan
39	Modeling and Simulation of the Deboning Behavior of Wire Reinforced Aluminum Matrix Composites	2009	Shashi Bhushan	Dr. Pradeep Kumar
40	Behavior of Polymer Matrix Composites under Ballistic Impact	2009	Sunil Kumar	Dr. Apurbba Kumar Sharma

41	Damage Behavior of Honeycomb under Impact Loading	2009	Gharge Milind Kumar M.	Dr. Apurbba Kumar Sharma
42	Investigation of the Adhesively Bonded Composite Joints using FEA	2009	P.L. Anand	Dr. Pradeep Kumar Jha
43	Analysis of Buckling Performance of Laminated Cylindrical Shell With Cutout	2008	Abhishek Pyasi	Dr. Pushparaj Mani Pathak
44	Investigation of the Effect of Interfacial Characteristics on the Mechanical Behavior of Metal Matrix Composites	2008	Pradeep Kumar	Dr. Pradeep Kumar
45	Numerical Simulation of Low Velocity and Ballistic Impact on Polymer Composite Laminated Structures	2008	D.S. Gupta	Dr. Apurbba Kumar Sharma
46	Investigation of the Effect of Process Parameters on the Surface Quality of High Speed Steel (T1) in Powder Mixed EDM	2008	Deepak Bora	Dr. Pradeep Kumar
47	Process Parametric Study of Machining of Metal Matrix Composite by EDM Process, 2007,	2007	Saurabh Kumar Singh	Dr. Pradeep Kumar
48	Process Parametric Study of Machining of Metal Matrix Composite by USM/D Process [Ultrasonic Machining/Drilling]	2007	Prateek Kala	Dr. Pradeep Kumar
49	Investigation of the Machining Characteristics of GFRP laminates	2007	A. Singh	Dr. S. Singh

Annexure-III

Details of Research Publications in Journals

International Journals

- [1] U. K. Komal, M. K. Lila, I. Singh, PLA/banana fiber based sustainable biocomposites: A manufacturing perspective, *Composite Part B: Engineering*, 180, 107535, 2020
- [2] S. Chaitanya, **I. Singh**, J.I. Song, Recyclability analysis of PLA/Sisal fiber biocomposites, *Composite Part B: Engineering*, 173, 106895, 2019
- [3] H. Sharma, **I. Singh**, J.P. Mishra, Mechanical and thermal behaviour of food waste (Citrus limetta peel) fillers–based novel epoxy composites, *Polymers and Polymer Composites*, 1-9, May 2019, <https://doi.org/10.1177/0967391119851012>
- [4] U. K. Komal, V. Verma, T. Ashwani, N. Verma, **I. Singh**, Effect of chemical treatment on thermal, mechanical and degradation behavior of banana fiber reinforced polymer composites, *Journal of Natural Fibers*, DOI: 10.1080/15440478.2018.1550461
- [5] R. Kumar, **I. Singh**, A modified electrode design for improving process performance of electric discharge drilling, *Journal of Materials Processing Technology*, 211- 219, 264, 2019
- [6] M. K. Lila, K. Shukla, U. K. Komal, **I. Singh**, Accelerated thermal ageing behaviour of bagasse fibers reinforced Poly (Lactic Acid) based biocomposites, *Composites Part B: Engineering*, 121-127, 156, 2019
- [7] R. Kumar, A. Kumar, **I. Singh**, Electric discharge drilling of micro holes in CFRP laminates, *Journal of Materials Processing Technology*, 150-158, 259, 2018
- [8] M. K. Lila, A. Singhal, S. S. Banwait, **I. Singh**, A recyclability study of bagasse fiber reinforced polypropylene composites, *Polymer Degradation and Stability*, 272-279, 152, 2018
- [9] R. Kumar, P. K. Agrawal, **I. Singh**, Fabrication of micro holes in CFRP laminates using EDM, *Journal of Manufacturing Processes*, 859-866, 31, 2018
- [10] T. B. Yallem, S. Aregawi, P. Kumar, **I. Singh**, Response of natural fiber reinforced polymer composites when subjected to various environments, *International Journal of Plastics Technology*, 1-17, 22(1), 2018
- [11] R. Kumar, **I. Singh**. Productivity Improvement of Micro EDM Process by Improvised Tool. *Precision Engineering*, 529- 535, 51, 2018
- [12] R. Kumar, A. Singh, **I. Singh**. Electric Discharge Hole Grinding in Hybrid Metal Matrix Composite. *Materials and Manufacturing Processes*, 127- 134, 32 (2), 2017
- [13] K. Debnath, **I. Singh**, Low-Frequency Modulation-Assisted Drilling of Carbon-Epoxy Composite Laminates, *Journal of Manufacturing Processes*, 262- 273, 25, 2017
- [14] A.V. Singhal, K. Debnath, **I. Singh**, B. S. S. Daniel, Critical Parameters Affecting Mechanical Behavior of Natural Fiber Reinforced Plastics, *Journal of Natural Fibers*, 640- 650, 13 (6), 2016
- [15] H.S. Akkera, **I. Singh**, D. Kaur, Room Temperature Magnetocaloric Effect in Ni-Mn-In-Cr Ferromagnetic Shape Memory Alloy Thin Films, *Journal of Magnetism and Magnetic Materials*, 194- 198, 424, 2017.
- [16] S. Singh, **I. Singh**, A. Dvivedi, Design and Development of Novel Cost Effective Casting Route for Production of Metal Matrix Composites, *International Journal of Cast Metals Research*, 356- 364, 30(6), 2017
- [17] S. Chaitanya, **I. Singh**, Ecofriendly Treatment of Aloe Vera Fibers for PLA based Green Composites, *International Journal of Precision Engineering and Manufacturing-Green Technology*, 2017 (In Press)
- [18] S. Chaitanya, **I. Singh**, Sisal Fiber Reinforced Green Composites: Effect of Ecofriendly Fiber Treatment, *Polymer Composites*, doi:10.1002/pc.24511 (In press)

- [19] M.K. Lila, G.K. Saini, M. Kannan, **I. Singh**, Thermal and Mechanical Behavior of Epoxy Based Composites, *Fibers and Polymers*, 806- 810, 18 (4), 2017
- [20] S. Chaitanya, **I. Singh**, Processing of PLA/Sisal Fiber Bio-composites Using Direct and Extrusion-Injection Molding, *Materials and Manufacturing Processes*, 468- 474, 32 (5), 2016
- [21] V. Dhawan, K. Debnath, **I. Singh**, and S. Singh. A Novel Intelligent Software-Based Approach to Predict Forces and Delamination during Drilling of Fiber-Reinforced Plastics, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials Design and Applications*, 603-614, 230 (2), 2015.
- [22] T.B. Yallem, P. Kumar, **I. Singh**, A Study about Hole Making in Woven Jute Fabric-Reinforced Polymer Composites, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, 888- 898, 230 (4), 2015.
- [23] R. Kumar, **I. Singh**, Electric Discharge Sawing of Hybrid Metal Matrix Composites, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 1775- 1782, 231 (10), 2017
- [24] A.P. Singh, M. Sharma, **I. Singh**, Optimal Control of Thrust Force for Delamination-Free Drilling in Glass-Fiber-Reinforced Plastic Laminates, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 2397- 2407, 231 (13), 2017
- [25] K. Debnath, **I. Singh**, T.S. Srivatsan, An Innovative Tool for Engineering Good Quality Holes in Composite Laminates, *Materials and Manufacturing Processes*, Page 952- 957, Vol 32 (9), 2017.
- [26] P.K. Bajpai, K. Debnath, and **I. Singh**, “Hole Making in Natural Fiber-Reinforced Polylactic Acid Laminates: An Experimental Investigation”, *Journal of Thermoplastic Composite Materials*, 30- 46, 30 (1), 2017.
- [27] K. Debnath, **I. Singh**, and A. Dvivedi, “On the Analysis of Force During Secondary Processing of Natural Fiber Reinforced Composite Laminates”, *Polymer Composites*, 164- 174, 38 (1), 2017
- [28] V. Dhawan, K Debnath, **I Singh**, S Singh, Prediction of Forces during Drilling of Composite Laminates Using Artificial Neural Network: A New Approach, *FME Transactions*, 36-42, 44 (1), , 2016.
- [29] T.B. Yallem, P. Kumar, **I. Singh**, Experimental Investigation of Damage During Drilling of Industrial Hemp Reinforced Polypropylene Composite Laminates, *Innovations in Corrosion and Materials Science (Formerly Recent Patents on Corrosion Science)*, 19-26, 6 (1), 2016.
- [30] S. Chaitanya, **I. Singh**, Kenaf Fiber Reinforced Polypropylene Composites Fabricated by Injection Molding, *Innovations in Corrosion and Materials Science (Formerly Recent Patents on Corrosion Science)*, 04-09, 6 (1), 2016.
- [31] K. Debnath, M Sisodia, A Kumar, **I Singh**, Damage-Free Hole Making in Fiber-Reinforced Composites: An Innovative Tool Design Approach, *Materials and Manufacturing Processes*, 1400-1408, 31 (10), 2016.
- [32] S. Chaitanya, **I Singh**, Novel Aloe Vera Fiber Reinforced Biodegradable Composites—Development and Characterization, *Journal of Reinforced Plastics and Composites*, 1411-1423, 35 (19), 2016.
- [33] TB Yallem, P Kumar, **I Singh**, Mechanical Behavior of Nettle/Wool Fabric Reinforced Polyethylene Composites, *Journal of Natural Fibers*, 610-618, 13 (5), 2016.
- [34] H.S. Akkera, **I. Singh**, and D. Kaur, “Martensitic Phase Transformation of Magnetron Sputtered Nanostructured Ni-Mn-In Ferromagnetic Shape Memory Alloy Thin Films”, *Journal of Alloys and Compounds*, 53-62, 642, 2015.
- [35] TB Yallem, P Kumar, **I Singh**, Sliding Behaviour of Woven Industrial Hemp Fabric Reinforced Thermoplastic Polymer Composites, *International Journal of Plastics Technology*, 347-362, 19 (2), 2015.
- [36] V.K. Doomra, K. Debnath, and **I. Singh**, “Drilling of Metal Matrix Composites: Experimental and Finite Element Analysis”, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 886-890, 229 (5), 2015.
- [37] K. Debnath, **I. Singh**, and A. Dvivedi, “Rotary Mode Ultrasonic Drilling of Glass Fiber-Reinforced Epoxy Laminates”, *Journal of Composite Materials*, 949-963, 49(8), 2015.

- [38] K. Debnath, **I. Singh**, and A. Dvivedi, "Drilling Characteristics of Sisal Fiber-Reinforced Epoxy and Polypropylene Composites", *Materials and Manufacturing Processes*, 1401-1409, 29 (11-12), 2014.
- [39] D. Varshney, K. Debnath, and **I. Singh**, "Mechanical Characterization of Polypropylene (PP) and Polyethylene (PE) Based Natural Fiber Reinforced Composites", *International Journal of Surface Engineering and Materials Technology*, 16-23, 4(1), 2014.
- [40] K. Debnath, **I. Singh**, and A. Dvivedi, "Evaluation of Surface Roughness during Rotary-Mode Ultrasonic Drilling of Glass/Epoxy Composite Laminates", *Journal of Production Engineering*, 16-20, 17(1), 2014.
- [41] K. Debnath, V. Dhawan, **I. Singh**, and A. Dvivedi, "Adhesive Wear and Frictional Behavior of Rice Husk Filled Glass/Epoxy Composites", *Journal of Production Engineering*, 21-26, 17(1), 2014.
- [42] A.P. Singh, M. Sharma, and **I. Singh**, "Optimal Control during Drilling in GFRP Composite Laminates", *Multidiscipline Modeling in Materials and Structures*, 611-630, 10(4), 2014.
- [43] A.P. Singh, M. Sharma, and **I. Singh**, "PID Control of Torque during Drilling in GFRP Laminates", *Multidiscipline Modeling in Materials and Structures*, 346-361, 10(3), 2014.
- [44] T.B. Yallem, P. Kumar, and **I. Singh**, "Sliding Wear Properties of Jute Fabric Reinforced Polypropylene Composites", *Procedia Engineering*, 402-411, 97, 2014.
- [45] V. Dhawan, S. Singh, and **I. Singh**, "Predicting Drilling Forces and Delamination in GFRP Laminates using Fuzzy Logic", *International Journal of Materials Forming and Machining Processes*, 32-43, 1(2), 2014.
- [46] S. Ali, P.K. Bajpai, **I. Singh**, and A.K. Sharma, "Curing of Natural Fibre-Reinforced Thermoplastic Composites Using Microwave Energy", *Journal of Reinforced Plastics and Composites*, 993-999, 33 (11), 2014.
- [47] S. Singh, **I. Singh**, and A. Dvivedi, "Design and Development of Abrasive-Assisted Drilling Process for Improvement in Surface Finish during Drilling of Metal Matrix Composites", *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 858-867, 228 (8), 2014.
- [48] P.K. Bajpai, **I. Singh**, and J. Madaan, "Development and Characterization of PLA based 'Green' Composites: A Review", *Journal of Thermoplastic Composite Materials*, 52-81, 27 (1), 2014.
- [49] S. Singh, **I. Singh**, and A. Dvivedi, "Multi Objective Optimization in Drilling of Al6063/10%SiC Metal Matrix Composite Based on Grey Relational Analysis", *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 1767-1776, 227 (12), 2013.
- [50] A. Singh, P. Kumar, and **I. Singh**, "Process Optimization for Electro-Discharge Drilling of Metal Matrix Composites", *Procedia Engineering*, 1157-1165, 64, 2013.
- [51] V. Dhawan, S. Singh, and **I. Singh**, "Effect of Natural Fillers on Mechanical Properties of GFRP Composites", *Journal of Composites*, 2013, <http://dx.doi.org/10.1155/2013/792620>.
- [52] V. Dhawan, S. Singh, and **I. Singh**, "Predictive Modeling of Delamination, Thrust Force and Torque in Drilling of GFRP using ANFIS", *International Journal of Advanced Manufacturing Systems*, 1-15, 4(1), 2013.
- [53] R. Kumar, **I. Singh**, and D. Kumar, "Electro Discharge Drilling of Hybrid MMC", *Procedia Engineering*, 1337-1343, 64, 2013.
- [54] A. Singh, P. Kumar, and **I. Singh**, "Electric Discharge Drilling of Metal Matrix Composites with Different Tool Geometries", *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 1245-1249, 227(8), 2013.
- [55] P.K. Bajpai and **I. Singh**, "Drilling Behavior of Sisal Fiber-Reinforced Polypropylene Composite Laminates", *Journal of Reinforced Plastics and Composites*, 1569-1576, 32(20), 2013.
- [56] P.K. Bajpai, D. Meena, S. Vatsa, and **I. Singh**, "Tensile Behaviour of Nettle Fiber Composites Exposed to Various Environments", *Journal of Natural Fibers*, 244-256, 10(3), 2013.
- [57] M. Gharge, P.K. Rakesh, **I. Singh**, and A.K. Sharma, "Crushing Behaviour of Metal Matrix Composites Honeycomb Under Impact Loading", *International Journal of Engineering Simulation*, 23-30, 14(1), 2013.

- [58] A.P. Singh, M. Sharma, and **I. Singh**, “A Review of Modeling and Control During Drilling of Fiber Reinforced Plastic Composites”, *Composites Part B: Engineering*, 118-125, 47, 2013.
- [59] P.K. Bajpai, **I. Singh**, and J. Madaan, “Tribological Behaviour of Poly Lactic Acid (PLA) based Green Composites”, *Wear*, 829-840, 297, 2013.
- [60] P.K. Bajpai, **I. Singh**, and J. Madaan, “Frictional and Adhesive Wear Performance of Natural Fiber Reinforced Polypropylene Composites”, *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, 385-392, 227(4), 2013.
- [61] A. Singh, P. Kumar, and **I. Singh**, “Design and Development of Electro-Discharge Drilling Process”, *Advanced Materials Research*, 607-611, 651, 2013.
- [62] P.K. Bajpai, **I. Singh**, and J. Madaan, “Comparative Studies of Mechanical and Morphological Properties of PLA and PP-based Natural Fiber Composites”, *Journal of Reinforced Plastics and Composites*, 1712-1724, 31(24), 2012.
- [63] V. Dhawan, S. Singh, and **I. Singh**, “Prediction of Delamination Factor in Drilling Glass Fiber Reinforced Epoxy Plastics Using Neural Networks”, *International Journal of Research in Engineering and Applied Sciences*, 155-168, 2(2), 2012.
- [64] P.K. Bajpai, **I. Singh**, and J. Madaan, “Finite Element Model for Microwave Heating of Thermoplastic Composites”, *International Journal of Materials Engineering Innovation*, 47-258, 3, 2012.
- [65] S. Singh, **I. Singh**, and A. Dvivedi, “Parametric Evaluation of Drilling of Metal Matrix Composites (MMCs) Using Taguchi Methodology”, *Journal of Manufacturing and Forming Technology*, 207-224, 4(34), 2012.
- [66] P.K. Rakesh, **I. Singh**, and D. Kumar, “Drilling of Composite Laminates with Solid and Hollow Drill Point Geometries”, *Journal of Composite Materials*, 3173-3180, 46(25), 2012.
- [67] P.K. Rakesh, **I. Singh**, and D. Kumar, “Compressive Behavior of Composite Laminates with Drilled Hole: A Finite Element Approach”, *International Journal of Engineering Simulation* 13(1), 2012.
- [68] A. Dvivedi, V.R. Rajeev, P. Kumar, and **I. Singh**, “Tribological Characteristics of Al 6063–SiC_p Metal-Matrix Composite under Reciprocating and Wet Conditions”, *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, 138-149, 226 (2), 2012.
- [69] P.K. Rakesh, **I. Singh**, and D. Kumar, “Flexural Behavior of Glass Fiber Reinforced Plastic Laminates with Drilled Hole”, *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, 149-158, 226(2), 2012.
- [70] S. Kumar, S.R. Chauhan, P.K. Rakesh, **I. Singh**, and J.P. Davim, “Drilling of Glass Fiber/Vinyl Ester Composites with Filler”, *Materials and Manufacturing Processes*, 314-319, 27(3), 2012.
- [71] P.K. Bajpai, **I. Singh**, and J. Madaan, “Joining of Natural Fiber Reinforced Composites using Microwave Energy: Experimental and Finite Element Study”, *Materials and Design*, 596-602, 35, 2012.
- [72] **I. Singh**, P.K. Bajpai, D. Malik, J. Madaan, and N. Bhatnagar, “Microwave Joining of Natural Fiber Reinforced Green Composites”, *Advanced Materials Research*, 102-105, 410, 2012.
- [73] P.K. Rakesh, **I. Singh**, and D. Kumar, “Compressive Behavior of Glass Fiber Reinforced Plastic Laminates with Drilled Hole”, *Advanced Materials Research*, 349-352, 410, 2012.
- [74] S. Singh, A. Singh, **I. Singh**, and A. Dvivedi, “Optimization of the Process Parameters for Drilling of Metal Matrix Composites (MMC) Using Taguchi Analysis”, *Advanced Materials Research*, 249-252, 410, 2012.
- [75] R.A. Kishore, R. Tiwari, P.K. Rakesh, **I. Singh**, and N. Bhatnagar, “Investigation of Drilling in Fiber Reinforced Plastics using Response Surface Methodology”, *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 453-457, 225(3), 2011.
- [76] J. Malik, R. Mishra, and **I. Singh**, “PSO-ANN Approach for Estimating Drilling Induced Damage in CFRP Laminates”, *Advances in Production Engineering and Management*, 95-104, 6(2), 2011.
- [77] P.K. Rakesh, V. Sharma, **I. Singh**, and D. Kumar, “Delamination in Fiber Reinforced Plastics: A Finite Element Approach”, *Engineering*, 549-554, 3, 2011.

- [78] **I. Singh**, P.K. Bajpai, D. Malik, A.K. Sharma, and P. Kumar, "Feasibility Study on Microwave Joining of Green Composites", *Akademeia*, 1-6, 1, 2011.
- [79] D.S. Gupta, B.K. Mishra, **I. Singh**, and A.K. Sharma, "Damage Behavior of Polymer Matrix Composite Plates under Low Velocity Impact: An FE Approach", *International Journal of Manufacturing Science and Engineering*, 21-24, 1(1), 2010.
- [80] S.R. Chauhan, A. Kumar, **I. Singh**, and P. Kumar, "Effect of Fly ash Content on Friction and Dry Sliding Wear Behavior of Glass Fiber Reinforced Polymer Composites: A Taguchi Approach", *Journal of Minerals & Materials Characterization & Engineering*, 365-387, 9(4), 2010.
- [81] S. Kumar, D.S. Gupta, **I. Singh**, and A.K. Sharma, "Behavior of Kevlar Epoxy Plates under Ballistic Impact", *Journal of Reinforced Plastics and Composites*, 2048-2064, 29(13), 2010.
- [82] R. Mishra, D. Khare, and **I. Singh**, "Adaptive Neuro-Fuzzy Inference System for Thrust Force Prediction in Drilling Of CFRP Laminates", *International Journal of Engineering Simulation*, 11(1), 2010.
- [83] R. Mishra, J. Malik, and **I. Singh**, "Prediction of Drilling Induced Damage in Uni-directional Glass Fibre Reinforced Plastic Laminates using an Artificial Neural Network", *Proceedings of Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 733-738, 224, 2010.
- [84] A. Dvivedi, P. Kumar, and **I. Singh**, "Effect of EDM Process Parameters on Surface Quality Al6063 SiC_p Metal Matrix Composite", *International Journal of Materials and Product Technology*, 357-377, 39(3-4), 2010.
- [85] P.K. Rakesh, **I. Singh**, and D. Kumar, "Failure Prediction in Glass Fiber Reinforced Plastics Laminates with Drilled Hole Under Uni-Axial Loading", *Materials and Design*, 3002-3007, 31(6), 2010.
- [86] S.R. Chauhan, A. Kumar, and **I. Singh**, "Sliding Friction And Wear Behavior Of Vinyl-Ester And Its Composites Under Dry And Water Lubricated Sliding Conditions", *Materials and Design*, 2745-2751, 31(6), 2010.
- [87] R. Mishra, J. Malik, **I. Singh**, and J.P. Davim, "Neural Network Approach For Estimating The Residual Tensile Strength After Drilling in Uni-Directional Glass Fiber Reinforced Plastic Laminates", *Materials and Design*, 2790-2795, 31(6), 2010.
- [88] P. Kumar, **I. Singh**, and P. Kumar, "Investigation of the Effect of Interfacial Characteristics on the Mechanical Behavior of Metal Matrix Composites", *Journal of Advanced Materials*, 13-21, 42(1), 2010.
- [89] S.R. Chauhan, A. Kumar, and **I. Singh**, "Study On Friction And Sliding Wear Behavior of Woven S-Glass Fiber Reinforced Vinyl-ester Composites Manufactured with Different Co-monomers", *Journal of Materials Science*, 6338-6347, 44, 2009.
- [90] R.A. Kishore, R. Tiwari, A. Dvivedi, and **I. Singh**, "Taguchi Analysis of Residual Tensile Strength after Drilling in Glass Fiber Reinforced Epoxy Composites", *Materials and Design*, 2186-2190, 30(6), 2009.
- [91] S.R. Chauhan, A. Kumar, A. Patnaik, A. Satapathy, and **I. Singh**, "Mechanical and Wear Characterization of GF Reinforced Vinyl Ester Resin Composites with Different Co-monomers", *Journal of Reinforced Plastics and Composites*, 2675-2685, 28(21), 2009.
- [92] R.A. Kishore, R. Tiwari, **I. Singh**, "Investigation of Drilling in [(0/90)/0]_s Glass Fiber Reinforced Plastics using Taguchi Method", *Advances in Production Engineering and Management*, 37-46, 4(1-2), 2009.
- [93] A. Dvivedi, P. Kumar, and **I. Singh**, "Machining Characteristics of Al 6063 SiC_p Metal Matrix Composite Using Electric Discharge Machining", *Journal of Manufacturing Technology Research*, 1(3/4), 2009.
- [94] **I. Singh**, N. Bhatnagar, and P. Viswanath, "Drilling of Uni-directional Glass Fiber Reinforced Plastics: Experimental and Finite Element Study", *Materials and Design*, 29(2), 546-553, 2008.
- [95] A. Dvivedi, P. Kumar, and **I. Singh**, "Experimental Investigation and Optimization in EDM of Al 6063 SiC_p Metal Matrix Composites", *International Journal Machining and Machinability of Materials*, 293-308, 3(3/4), 2008.

- [96] R.A. Kishore, R. Tiwari, and **I. Singh**, “Damage Free Drilling of Fiber Reinforced Plastics: A Knowledge Based Approach”, *International Journal of Mechanical Engineering and Materials Sciences*, 9-12, 1(1), 2008.
- [97] N. Bhatnagar, M.K. Jalutharia, and **I. Singh**, “Prediction of Thrust Force and Torque when Drilling Composite Materials”, *International Journal of Materials and Product Technology*, 213-225, 32(2-3), 2008.
- [98] **I. Singh** and N. Bhatnagar, “Drilling of Uni-Directional Glass Fiber Reinforced Plastic (UD-GFRP) Composite Laminates”, *International Journal of Advanced Manufacturing Technology*, 870-876, 27(9-10), 2006.
- [99] **I. Singh** and N. Bhatnagar, “Drilling Induced Damage in Uni-Directional Glass Fiber Reinforced Plastic (UD-GFRP) Composite Laminates”, *International Journal of Advanced Manufacturing Technology*, 877-882, 27(9-10), 2006.
- [100] D. Nayak, **I. Singh**, and N. Bhatnagar, “Chip Formation Mechanism in Fiber Reinforced Plastics (FRPs) Composites -A Finite Element Approach”, *Manufacturing Technology & Research: An International Journal*, 1-4, 1(2), 2005.
- [101] N. Bhatnagar, **I. Singh**, and D. Nayak, “Damage Investigation in Drilling of GFRP Composite Laminates”, *Materials and Manufacturing Processes*, 995-1007, 19(6), 2004.
- [102] N. Bhatnagar, D. Nayak, **I. Singh**, H. Chouhan, and P. Mahajan, “Determination of Machining Induced Damage Characteristics of FRP Composite Laminates”, *Materials and Manufacturing Processes*, 1009-1023, 19(6), 2004.

National Journals

- [1] K. Debnath, **I. Singh**, and A. Dvivedi, “Dry Sliding Wear Behaviour of Glass Fibre Reinforced Epoxy Composites Filled with Natural Fillers”, *Reason - A Technical Journal*, 61-68, XII, 2013.
- [2] A. Mali, **I. Singh**, and A.K. Sharma, “Microwave Curing of Natural Fiber and Synthetic Fiber Reinforced Polymer Matrix Composites,” *i-manager's Journal on Material Science*, 8-14, 1(1), 2013.
- [3] S. Singh, **I. Singh**, A. Dvivedi, and P. Kumar, “Experimental Investigation of Drill Point Geometry in Drilling of Metal Matrix Composites”, *VIVECHAN International Journal of Research*, 44-51, 2, 2011.
- [4] A. Agarwal, S. Garg, P.K. Rakesh, **I. Singh**, and B.K. Mishra, “Tensile Behavior of Glass Fiber Reinforced Plastics Subjected to Different Environmental Conditions”, *Indian Journal of Engineering and Material Sciences*, 471-476, 17, 2010.
- [5] S.R. Chauhan, A. Kumar, and **I. Singh**, “Evaluation of Mechanical and Tribological Properties of E-Glass Fiber Reinforced Vinylester Composites filled with SiC, Al₂O₃ and Fly-ash Particulates”, *Materials Science: An Indian Journal*, 483-496, 5(4), 2009.
- [6] A. Dvivedi, P. Kumar, and **I. Singh**, “Development of a New Stir Caster Design for the Production of Metal Matrix Composite”, *Indian Foundry Journal*, 21-27, 54(12), 2008.
- [7] A.P. Singh, M. Sharma, and **I. Singh**, “Drilling of Fiber Reinforced Plastic Composite: A Review”, *Manufacturing Technology Today*, 24-30, 7(6), 2008.
- [8] R.A. Kishore, R. Tiwari, A.P. Singh, and **I. Singh**, “A Knowledge Based Tool for Damage Free Drilling of Fiber Reinforced Plastics”, *Manufacturing Technology Today*, 3-10, 9(7), 2008.
- [9] D. Nayak, **I. Singh**, N. Bhatnagar, and P. Mahajan, “Finite Element Analysis of Effect of Machining Direction on the Fiber Orientation of FRP Composites”, *Journal of Institution of Engineers (India), IE (I) Journal-PR*, 64-67, 85, 2005.
- [10] **I. Singh**, D. Nayak, R. Saxena, and N. Bhatnagar, “Drilling Induced Damage in FRP Composite Laminates”, *Journal of Institution of Engineers (India), IE (I) Journal-MM*, 37-41, 85, 2004.

Annexure-IV

Details of Research Publications Presented in Conferences

International Conferences

- [1] M.K. Lila, U.K.Komal, **I. Singh***, Thermal post-processing of munja fiber reinforced polymer composite. *11th Canadian – International Conference on Composites (CANCOM-2019)*, Canada, July, 2019
- [2] M.K. Lila, U.K. Komal, S. Chaitanya, **I. Singh***, Natural fiber reinforced composites in furniture industry: A case study. *11th Canadian – International Conference on Composites (CANCOM-2019)*, Canada, July, 2019
- [3] M.K. Lila, U.K. Komal, **I.Singh**, Heat treatment of bagasse fiber reinforced polypropylene composites. *10th International Conference on Materials for Advanced Technologies (ICMAT-2019)*, Singapore, June 2019
- [4] M.K. Lila, U.K. Komal, **I.Singh**, Recyclability assessment of bagasse fiber based polypropylene composites. *10th International Conference on Materials for Advanced Technologies (ICMAT-2019)*, Singapore, June 2019
- [5] U. K. Komal, M.K. Lila, K. Gashu, **I. Singh**, Degradability analysis of pineapple fiber/PLA based biocomposites. *10th International Conference on Materials for Advanced Technologies (ICMAT-2019)*, Singapore. June 2019
- [6] M. K. Lila, U. K. Komal, **I. Singh**, Recyclability assessment of bagasse fiber based polyethylene composite. *International Conference and Exhibition on Reinforced Plastics (ICERP-2019)*, by FRP Institute at NESCO Centre, Mumbai. January, 2019.
- [7] U. K. Komal, M.K. Lila, **I. Singh**. Natural fiber reinforced sustainable composites for non-structural applications. *International Conference and Exhibition on Reinforced Plastics (ICERP-2019)*, by FRP Institute at NESCO Centre, Mumbai. January, 2019.
- [8] U.K. Komal, **I.Singh***, Product Development Based on Natural Fiber Reinforced Plastics, *International Conference and Exhibition on Reinforced Plastics (ICERP-2019)*, by FRP Institute at NESCO Centre, Mumbai. January, 2019.
- [9] U. K. Komal, M. K. Lila and **I. Singh**, “Thermal and Mechanical Characterization of Hemp and Coir Fibers Reinforced PLA based Green Composites” *Third International Conference on Composite Materials and Material Engineering (ICCMME2018)*, National University of Singapore, Singapore, 26-28th January, 2018
- [10] J. Kumar, U.K. Komal, K. Gashu and **I. Singh**, “Joining Behavior of Polymer Matrix Composites”, *International Conference on Research and Innovations in Mechanical Engineering (ICRIME-2017)*, GNE Ludhiana, India, 22 – 24th December, 2017.
- [11] R. Kumar and **I. Singh**, Finite Element Modelling of EDM Based on Single Discharge. *International Conference on Research and innovation in mechanical engineering (ICRIME-2017)*
- [12] U.K. Komal, V. Verma, T. Ashwani, N. Verma and **I. Singh**, “Effect of Chemical Treatment on Mechanical Behavior of Banana Fiber Reinforced Polymer Composites”, *Advances in Materials & Processing: Challenges & Opportunities (AMPCO 2017)*, IIT Roorkee, India, 30th Nov - 2nd December, 2017.
- [13] H. Sharma, U.K. Komal, **I. Singh** and D. Kumar, “Artificial Intelligence Based Tool for Predicting of Damage During Drilling of FRPs”, *Twenty First International Conference on Composite Materials (ICCM 21)*, Xi'an, China, 20 - 25th August, 2017.
- [14] M.K. Lila, B. Singh. B.S Pabla and **I. Singh**, “Effect of Environmental Conditioning on Natural Fiber Reinforced Epoxy Composites”, *Advances in Materials & Processing: Challenges & Opportunities (AMPCO 2017)*, IIT Roorkee, Uttarakhand, 30 Nov- 2 Dec, 2017.

- [15] R. Kumar, **I. Singh** and T. S. Srivatsan. "Use of Micro Electric Discharge Drilling to Achieve Improvement in Performance: A Design Approach". *International Conference on Processing and Fabrication of Advanced Materials*. 16-21 October 2017, Chonbuk National University. South Korea.
- [16] R. Kumar and **I. Singh**, "Design of Electrode for Assisting Removal of Debris during Micro Electric Discharge Drilling in Ti6Al4V". *3rd International Conference on Mechanical Engineering and Automation Science (ICMEAS 2017)*. 13-15 October 2017, University of Birmingham, United Kingdom.
- [17] S. Chaitanya and **I. Singh**, "Effect of Varying Fiber Treatment Time on Behavior of Novel Aloe Vera Fiber Reinforced Biocomposites", *The 10th Asian-Australasian Conference on Composite Materials (ACCM-10)*, 16- 19th Oct 2016, Busan, Korea
- [18] M. K. Lila, **I. Singh**, G. K. Saini, M. Kannan, "Mechanical Behavior of NFRPC: Effect of Fiber Type, The 10th Asian-Australasian Conference on Composite Materials (ACCM-10), *The 10th Asian-Australasian Conference on Composite Materials (ACCM-10)*, 16- 19th Oct 2016, Busan, Korea
- [19] U.K. Komal, M.K. Lila, **I. Singh** and P. Kumar, "Thermal and Mechanical Characterization of Woven Jute Fiber Reinforced Thermoset Composites", *Twenty Fifth International Conference on Processing and Fabrication of Advanced Materials*, The University of Auckland, Auckland, New Zealand, 22-25th January, 2017, pp 261-267.
- [20] M. K. Lila, S. Chaitanya, F. Kumar and **I. Singh**, "Mechanical Behavior of Injection Molded Bagasse Fiber Reinforced PP and PE Composites", *International Conference on Processing and Fabrication of Advanced Material (PFAM-XXV)*, The University of Auckland, Auckland, New Zealand, 22-25th January, 2017
- [21] R. Kumar and **I. Singh**, "Performance Improvement of Micro Electric Discharge Drilling Process Using Slotted Tool Electrode", *International Conference on Processing and Fabrication of Advanced Material (PFAM-XXV)*, The University of Auckland, Auckland, New Zealand, 22-25th January, 2017
- [22] U. K. Komal, **I. Singh**, P.K. Rakesh and K. Debnath, "Is Hole Making in Fiber Reinforced Polymers (FRPs) a Challenging Task?", *International Conference on Processing and Fabrication of Advanced Material (PFAM-XXV)*, The University of Auckland, Auckland, New Zealand, 22-25th January, 2017
- [23] K. Debnath, M. R. Choudhury, S. Chaitanya, **I. Singh** and T. S. Srivatsan, "Drilling Investigation of Injection Molded Short Sisal Fiber Reinforced Polypropylene Composites". *International Conference on Processing and Fabrication of Advanced Material (PFAM-XXV)*, The University of Auckland, Auckland, New Zealand, 22-25th January, 2017.
- [24] M. K. Lila, U. Komal and **I. Singh**, "Natural Fiber Reinforced Polymer Composites based on Indigenous Fibers: Sustainable Material for Green Production", *India International Science Festival (IISF-2016)*, National Physics Laboratory, New Delhi, 7-11th December, 2016.
- [25] R. Kumar and **I. Singh**. "Parametric Optimization for Micro Electric Discharge Drilling using Response Surface Methodology". *IVth International Conference on Production & Industrial Engineering (CPIE-2016)*. 19-21 December 2016. NIT Jalandhar, India.
- [26] P. K. Agrawal, R. Kumar and **I. Singh**. "Micro Electro Discharge Drilling in Carbon Fiber Reinforced Composites". *International Conference on Nanotechnology for Better Living*, 2016, Vol. 3, No. 1, pp. 254. ISBN: 978-981-09-7519-7.
- [27] R. Kumar, K. Singh, K. K. Dhakar, **I. Singh** and A. Dvivedi. "Parametric Investigation of Electric Discharge Sawing Process for MMCs". *Twenty Fourth International Conference on Processing and Fabrication of Advanced Materials*. 18-20 December 2015, Kansai University, Osaka, Japan, pp. 448–457.
- [28] S. Chaitanya and **I. Singh**, "Mechanical Behavior of Injection Molded Coir Fiber Reinforced Polypropylene Composites" *Twenty Fourth International Conference on Processing and Fabrication of Advanced Materials*. 18-20 December 2015, Kansai University, Osaka, Japan, pp. 104-111
- [29] K. Debnath, M. Sisodiya, **I. Singh** and T. S. Srivatsan, "Design and Development of Innovative Tool for Making Good Quality Holes in Composites Laminates, *Twenty Fourth International Conference on Processing and Fabrication of Advanced Materials*. 18-20 December 2015, Kansai University, Osaka, Japan, pp. 458-465.

- [30] A.P. Singh, M. Sharma, and **I. Singh**, “Control of Torque during Drilling in Composite Laminates”, *Twenty-Third International Conference on Processing and Fabrication of Advanced Materials (PFAM-XXIII)*, IIT Roorkee, Uttarakhand, 5-7th December, 2014, Vol. 1, pp. 40-48.
- [31] M. Lila and **I. Singh**, “Thermal and Crystalline Behavior of Injection Moulded Bagasse Fiber Reinforced Polypropylene”, *Twenty-Third International Conference on Processing and Fabrication of Advanced Materials (PFAM-XXIII)*, IIT Roorkee, Uttarakhand, 5-7th December, 2014, Vol. 1, pp. 78-84.
- [32] T.B. Yallem, P. Kumar, and **I. Singh**, “Sliding Behavior of Jute Fabric Reinforced Polypropylene Composites”, *Twenty-Third International Conference on Processing and Fabrication of Advanced Materials (PFAM-XXIII)*, IIT Roorkee, Uttarakhand, 5-7th December, 2014, Vol. 1, pp. 129-140.
- [33] R.S. Joshi, H. Singh, and **I. Singh**, “Experimental Investigations of Thrust Force and Delamination in Conventional and Modulation Assisted Drilling of Glass Fiber Reinforced Plastics”, *Twenty-Third International Conference on Processing and Fabrication of Advanced Materials (PFAM-XXIII)*, IIT Roorkee, Uttarakhand, 5-7th December, 2014, Vol. 1, pp. 157-169.
- [34] S. Chaitanya and **I. Singh**, “Mechanical and Morphological Characterization of Short Kenaf Fiber Reinforced Polypropylene Composites”, *Twenty-Third International Conference on Processing and Fabrication of Advanced Materials (PFAM-XXIII)*, IIT Roorkee, Uttarakhand, 5-7th December, 2014, Vol. 1, pp. 179-184.
- [35] H.S. Akkera, **I. Singh**, and D. Kaur, “Martensite Phase Transformation and Magnetocaloric Effect in Magnetron Sputtered Ni₅₀Mn₃₇Sb₁₃ Heusler Alloy Thin Film”, *Twenty-Third International Conference on Processing and Fabrication of Advanced Materials (PFAM-XXIII)*, IIT Roorkee, Uttarakhand, 5-7th December, 2014, Vol. 1, pp. 330-336.
- [36] K. Debnath, **I. Singh**, and A. Dvivedi, “Analysis and Modelling of Forces in Drilling of Nettle/Epoxy Composite Laminates”, *9th Asian-Australasian Conference on Composite Materials (ACCM-9)*, Suzhou, China, 15-17th October, 2014.
- [37] K. Debnath, **I. Singh**, and A. Dvivedi, “Comprehensive Analysis of Forces during Drilling of Nettle/Polypropylene Bio-Composites”, *International Symposium on Green Manufacturing and Applications (ISGMA 2014)*, Busan, South Korea, 24-28th June, 2014.
- [38] K. Debnath, **I. Singh**, and A. Dvivedi, “Drilling Behavior of Natural Fiber Reinforced Polymer (Thermosetting and Thermoplastic) Composites,” *Twenty-Second International Conference on Processing and Fabrication of Advanced Materials (PFAM XXII)*, National University of Singapore, Singapore, 18-20th December, 2013, pp. 685-690.
- [39] K. Debnath, **I. Singh**, and A. Dvivedi, “Vibration-Assisted Drilling of Carbon Fiber Reinforced Composites”, *Twenty-Second International Conference on Processing and Fabrication of Advanced Materials (PFAM XXII)*, National University of Singapore, Singapore, 18-20th December, 2013.
- [40] A. Mali, A. Bansal, A.K. Sharma, and **I. Singh**, “Simulation of Microwave Heating for Materials with Different Dielectric Properties”, *International Conference on Smart Technologies for Mechanical Engineering (STME-2013)*, DTU, Delhi, 25-26th October, 2013.
- [41] R. Singh, **I. Singh**, and P.K. Jha, “Drilling of Hybrid Metal Matrix Composites”, *International Conference on Smart Technologies for Mechanical Engineering (STME-2013)*, DTU, Delhi, 25-26th October, 2013.
- [42] K. Debnath, V. Dhawan, **I. Singh**, and A. Dvivedi, “Effect of Natural Fillers on Wear Behavior of Glass Fiber Reinforced Epoxy Composites,” *International Conference on Research and Innovations in Mechanical Engineering (ICRIME-2013)*, GNDEC, Ludhiana, 24-26th October, 2013.
- [43] V. Dhawan, K. Debnath, **I. Singh**, and S. Singh, “Drilling of Glass Fibre Reinforced Epoxy Laminates with Natural Fillers: Thrust Force Analysis”, *International Conference on Research and Innovations in Mechanical Engineering (ICRIME-2013)*, GNDEC, Ludhiana, 24-26th October, 2013.
- [44] S. Singh, **I. Singh**, A. Dvivedi, and J.P. Davim, “SiCp Reinforced Al-6063 MMCs: Mechanical Behavior and Microstructural Analysis”, *International Conference on Research and Innovations in Mechanical Engineering (ICRIME-2013)*, GNDEC, Ludhiana, 24-26th October, 2013.

- [45] K. Debnath, **I. Singh**, and A. Dvivedi, "Rotary Ultrasonic Drilling of Glass/Epoxy Composite Laminates," *International Conference and Exhibition on Reinforced Plastics (ICERP 2013)*, Bombay Exhibition Center, Mumbai, 4-6th April, 2013.
- [46] D. Varshney, **I. Singh**, and D. Kumar, "Mechanical Characterization of Natural Fibre Reinforced Polypropylene Composites", *International Conference and Exhibition on Reinforced Plastics (ICERP 2013)*, Bombay Exhibition Center, Mumbai, 4-6th April, 2013.
- [47] K. Debnath, **I. Singh**, and A. Dvivedi, "Development and Tribological Characterization of GFRP Laminates with Natural Fillers," *4th International and 25th All India Manufacturing Technology, Design and Research Conference (AIMTDR 2012)*, Jadavpur University, Kolkata, 14-16th December, 2012, Vol. II, pp. 771-775.
- [48] K. Debnath, **I. Singh**, and A. Dvivedi, "Ultrasonic Vibration Assisted Hole Making in Glass-epoxy Laminates," *Twenty-First International Symposium on Processing and Fabrication of Advanced Materials (PFAM XXI)*, IIT Guwahati, Assam, 10-13th December, 2012, Vol. II, pp. 969-974.
- [49] S. Singh, **I. Singh**, and A. Dvivedi, "Prediction of Surface Roughness in Drilling of Metal Matrix Composites using ANFIS", *Twenty-First International Symposium on Processing and Fabrication of Advanced Materials (PFAM XXI)*, IIT Guwahati, Assam, 10-13th December, 2012.
- [50] A. Singh, P. Kumar, and **I. Singh**, "Multi-Response Optimization for Quality Features in ED-Drilling on Hybrid Metal Matrix Composite", *Twenty-First International Symposium on Processing and Fabrication of Advanced Materials (PFAM XXI)*, IIT Guwahati, Assam, 10-13th December, 2012.
- [51] P.K. Bajpai, **I. Singh**, and J. Madaan, "Secondary Processing of Natural Fiber Reinforced Thermoplastic Composite Laminates", *8th Asian-Australasian Conference on Composite Materials (ACCM 8)*, Kuala Lumpur Convention Centre, Malaysia, 6-8th November, 2012.
- [52] S. Ali, **I. Singh**, and A.K. Sharma, "Alternate Method of Curing of Natural Fiber Reinforced Composites", *Third International Multi-Component Polymer Conference (IMPC)*, Mahatma Gandhi University, Kottayam, 23-25th March, 2012.
- [53] K. Debnath, A. Dvivedi, and **I. Singh**, "Wear Behavior of Glass/ Epoxy Composites Filled with Rice Husk," *Third International Multicomponent Polymer Conference (IMPC-2012)*, Mahatma Gandhi University, Kottayam, 23-25th March, 2012.
- [54] P.K. Bajpai, D. Malik, **I. Singh**, J. Madaan, and A.K. Sharma, "Investigation for Microwave Joining of Green Composites using Finite Element Approach", *Proceedings of the International Conference on Computational Methods in Manufacturing (ICMCM 2011)*, IIT Guwahati, Assam, 15-16th December, 2011.
- [55] A. Singh, P. Kumar, **I. Singh**, S. Mahata, and D. Bose, "Prediction of Optimal Process Parameters for WEDM of Tungsten Carbide Using Taguchi's Robust Methodology", *International Conference on Computational Methods in Manufacturing (ICMCM-2011)*, IIT Guwahati, Assam, 15-16th December, 2011, pp. 407-415, 2011.
- [56] A. Singh, P. Kumar, and **I. Singh**, "A Study of EDD Process on Developed Hybrid Metal Matrix Composite," *International Conference on Agile Manufacturing Systems*, IIT BHU, 2012.
- [57] **I. Singh**, N. Bhatnagar, P.K. Rakesh, and V. Sharma, "A Simulation Approach to Characterize the Machining Behavior of Polymer Matrix Composites," *Processing and Fabrication of Advanced Materials (PFAM XIX)*, University of Auckland, New Zealand, 14-17th January, 2011, pp-366-380.
- [58] P.K. Rakesh, **I. Singh**, and D. Kumar, "Bending Behavior of Fiber Reinforced Plastic Laminates with Drilled Hole", *Proceedings of International Conference on Theoretical, Applied, Computational and Experimental Mechanics (0273)*, IIT Kharagpur, 27-29th December, 2010.
- [59] A. Singh, D. Bose, P. Kumar, **I. Singh**, and S. Mahata, "Experimental Study on WEDM of Mild Steel Using Taguchi's Robust Methodology", *Proceedings of 2nd International Conference on Production And Industrial Engineering (CPIE-2010)*, NIT Jalandhar, 3-5th December, 2010, pp.720-724 .
- [60] P.L. Sutar, P.K. Rakesh, **I. Singh**, and P. Kumar, "Forming of Polymer Matrix Composites: A Finite Element Approach", *Proceedings of 2nd International Conference on Production and Industrial Engineering (CPIE-2010)*, NIT Jalandhar, 3-5th December, 2010, pp. 198-202.

- [61] S.R. Chauhan, A. Kumar, and **I. Singh**, "Study on Friction and Dry Sliding Wear Behavior of Polymer Matrix Composites using Taguchi Technique", *Proceedings of 2nd International Conference on Production And Industrial Engineering (CPIE-2010)*, NIT Jalandhar, 3-5th December, 2010, pp. 285-297.
- [62] P.K. Rakesh, V. Sharma, **I. Singh**, and D. Kumar, "Tool Design for Drilling of Fiber Reinforced Plastics", *Proceedings of 3rd International and 24th AIMTDR*, 13-15th December 2010, Vizag, pp. 471-476.
- [63] P.K. Rakesh, **I. Singh**, and D. Kumar, "Investigation of The Tensile Behavior of Composite Laminates With Drilled Hole Using Finite Element Method", *Proceeding of International Conference on Frontiers in Mechanical Engineering (FIME-2010)*, 20-22nd May 2010, NIT Surathkal, Karnataka, India.
- [64] R. Mishra, P.K. Rakesh, and **I. Singh**, "Prediction of Drilling Induced Damage in CFRP", *Proceedings of International Conference on Latest Trends in Simulation Modelling and Analysis (COSMA 2009)*, 17-19th December 2009, NIT Calicut, India, pp. 134-138.
- [65] **I. Singh**., A.G. Shankaramurthy, S. Jaiswar, and A. Dvivedi, " Experimental Investigation of Peel-up Type of Delamination in Drilling of Woven-GFRP Laminates", *Proceedings of Seventeenth International Symposium on Processing and Fabrication of Advanced Materials*, 15-17th December 2008, India Habitat Centre, New Delhi, India.
- [66] A. Dvivedi, P. Kumar, and **I. Singh**, "Electric Discharge Machining of A6063-15%SiC_p Metal Matrix Composite", *Proceedings of International Conference on Advances in Manufacturing Technology (ICAMT 2008) for Young Engineers*, 6-8th February 2008, Indian National Academy of Engineering, Department of Atomic Energy, IITM, Chennai, India.
- [67] D.S. Gupta, B.K. Mishra, **I. Singh**, and A.K. Sharma, "Damage Behavior of Polymer Matrix Composite Plates Under Low Velocity Impact: An FE Approach", *Proceedings of International and INCCOM-6 Conference on Future Trends in Composite Materials and Processing*, 12-14th December 2007, IIT Kanpur, India.
- [68] R.A. Kishore, R. Tiwari, and **I. Singh**, "Damage Free Drilling of Fiber Reinforced Plastics: A Knowledge Based Approach", *Proceedings of International and INCCOM-6 Conference on Future Trends in Composite Materials and Processing*, 12-14th December 2007, IIT Kanpur, India.
- [69] A. Dvivedi, P. Kumar, and **I. Singh**, "Electric Discharge Machining of A6063-10%SiC_p Metal Matrix Composite", *Proceedings of International Conference on Advanced Manufacturing Technologies*, 29-30th November 2007, Central Mechanical Engineering Research Institute, Durgapur, India, pp. 576-583.
- [70] A. Dvivedi, P. Kumar, and **I. Singh**, "Experimental Analysis in Ultrasonic Drilling of Titanium Using the Taguchi Technique", *Proceedings of first International and 22nd All India Manufacturing Technology Design And Research Conference (AIMTDR)*, 21-23rd December 2006, IIT Roorkee, India, pp. 917-922.
- [71] N. Bhatnagar, **I. Singh**, D. Nayak, and M. Kumar," Drilling of Fiber Reinforced Plastic Composite Materials", *Proceedings of First International Conference on Recent Advances in Composite Materials (ICRACM)*, 17-19th December 2004, Institute of Technology (IT), BHU, India.
- [72] N. Bhatnagar, D. Nayak, **I. Singh**, J. Bijwe, P. Mahajan, and Nishikant, "Effect of Coefficient of Friction on Machining of Composite Materials", *Proceedings of First International Conference on Recent Advances in Composite Materials*, 17-19th December 2004, Institute of Technology (IT), BHU, India.
- [73] N. Bhatnagar, D. Nayak, **I. Singh**, and P. Mahajan, "An Analysis of Machining Induced Damage in FRP Composites: A Micromechanics Finite Element Approach", *Proceedings of 8th International Conference on Numerical Methods in Industrial Forming Processes (NUMIFORM)*, 327-331, 13-17th June 2004, The Ohio State University, Columbus, USA.
- [74] **I. Singh**, and N. Bhatnagar, "Damage Investigation in Drilling of UD-GFRP Composite Laminates-A FE Approach", *Proceedings of 3rd International Conference on Advanced Manufacturing Technology (ICAMT-2004)*, 626-629, May 11-13, 2004, Kuala Lumpur, Malaysia.

- [75] **I. Singh**, D. Nayak, and N. Bhatnagar “Secondary Processing of Polymer Matrix Composites”, *Composites Processing 2004, Composites Processing Association, Bromsgrove, UK*.
- [76] N. Bhatnagar, **I. Singh**, D. Nayak, and R. Saxena, “Experimental Determination of Drilling Induced Damage in GFRP Composite Laminates”, *Proceedings of Sixth International Seminar on Experimental Techniques and Design in Composite Materials (6ETDCM)*; 161-162, June 18-20th 2003, University of Padova, Vicenza, Italy.
- [77] N. Bhatnagar, D. Nayak, **I. Singh**, and H. Chouhan; “ Determination of Machining Induced Damage Characteristics of FRP Composite Laminates”, *Proceedings of Sixth International Seminar on Experimental Techniques and Design in Composite Materials (6ETDCM)*, 163-164, 18-20th June 2003, University of Padova, Vicenza, Italy.
- [78] D. Nayak, **I. Singh**, P. Mahajan, and N. Bhatnagar, “FEM Model for Material Removal Mechanism in FRP Composite Laminates”, *Proceedings of 7th International Pacific Conference on Manufacturing and Management*; Vol. Two, 565-573, 27-29th November, 2002, Bangkok, Thailand.

National Conferences

- [1] V. Dhawan, K. Debnath, **I. Singh**, and S. Singh, “Prediction of Thrust Force during Drilling of Glass Fiber-Reinforced Composite Laminates using Artificial Neural Network”, *National Conference on Latest Developments in Materials, Manufacturing and Quality Control (MMQC-2015)*, Giani Zail Singh Punjab Technical University Campus, Bathinda, Punjab, 19-20th February, 2015, pp. 385-389.
- [2] D. Jindal, K. Debnath, and **I. Singh**, “Seismic Performance of an Unreinforced Masonry Building: Finite Element Analysis”, *National Conference on Latest Developments in Materials, Manufacturing and Quality Control (MMQC-2015)*, Giani Zail Singh Punjab Technical University Campus, Bathinda, Punjab, 19-20th February, 2015, pp. 380-384.
- [3] S. Chaitanya, Md. Zahir, S. Gupta, S. Jain, and **I. Singh**, “Comparative Analysis of Mechanical Properties of Natural Fiber Reinforced Composites and Wood”, *National Conference on Latest Developments in Materials, Manufacturing and Quality Control (MMQC-2015)*, Giani Zail Singh Punjab Technical University Campus, Bathinda, Punjab, 19-20th February, 2015, pp. 52-55.
- [4] V. Dhawan, S. Singh, **I. Singh**, and S. Wadhawan, “Predicting Modeling of Delamination Induced in GFRP Laminates using Fuzzy Logic”, *Proceeding of National Conference on Futuristic Trends in Computing Communication and Information System (FTCCIS-2013)*, 12-13th July 2013, YIET, Yamunanagar.
- [5] R. Kumar, **I. Singh**, and D. Kumar, “Electric Discharge Cutting of Metal Matrix Composites”, *Proceedings of National Conference on Advances in Manufacturing Technology (NCAMT)*, 23-25th May 2013, NITTTR, Chandigarh, pp. 230-233.
- [6] A. Singh, P. Kumar, and **I. Singh**, “Wire Electro-Discharge Machining of Different Work-Piece Materials: Experimental Study”, *Proceedings of National Conference on Advances in Manufacturing Technology (NCAMT)*, 23-25th May 2013, NITTTR, Chandigarh, pp.226-229.
- [7] V. Dhawan, S. Singh, and **I. Singh**, “Neural Networks: A Predictive Tool for Thrust Force in Drilling of GFRP”, *Proceeding of National Conference on Advancements in Mechanical Engineering and Energy Environment (AMEEE-2012)*, 6-7th January 2012, SLIET, Longowal.
- [8] A. Singh, P. Kumar, and **I. Singh**; “Casting of SiC/Gr/Al₂O₃ Reinforced Hybrid Metal Matrix Composite”, All India Seminar on Advances in Materials and Material Selection in Design (AMMSD-2012), HBTI Kanpur, pp. 20-24, 2012.
- [9] P.K. Bajpai, **I. Singh**, and J. Madaan, “Tribological Behaviour of Natural Fiber Reinforced Polypropylene Composite”, National Tribology Conference (NTC-2011), 8-9th December, 2011, MIED, IIT Roorkee.
- [10] P.K. Bajpai, **I. Singh**, and J. Madaan, “Natural-Fiber Reinforced Polymer Composites: An Alternative to Petroleum based composites”, 6th Uttarakhand State Science and Technology Congress (UCOST), 14-16th November, 2011, Kumaun University, S.S.J. Campus, Almora.

- [11] P.K. Bajpai, **I. Singh**, and J. Madaan, "Mechanical and Morphological Study of Natural Fiber Reinforced Green Composite" National Seminar, MICROSTRUCTURE-2011, 04-05th November, 2011, MMED, IIT Roorkee.
- [12] P.V. Tonge, A. Singh, S. Singh, **I. Singh**, and P. Kumar, "Interfacial Characterization of Tungsten Matrix Composites with Copper Coated Interface", *Advances in Materials and Product Design (AMPD-2010)*, 22-23th November 2010, NIT Surat.
- [13] R. Mishra, P.K. Rakesh, and **I. Singh** "Unconventional Machining of Fiber Reinforced Plastics Composites", *Advancements and Futuristic Trends in Mechanical and Industrial Engineering*, 12-13th November 2010, Ganpati Group of Institutes, Bilaspur, Haryana.
- [14] D. Malik, **I. Singh**, and P. Kumar "Processing of Thermoplastic Composites with Microwave Energy: A Review", *Advancements and Futuristic Trends in Mechanical and Industrial Engineering*, 12-13th November 2010, Ganpati Group of Institutes, Bilaspur, Haryana.
- [15] H. Singh, **I. Singh**, and P. Kumar "Three Dimensional Finite Element Analysis of Composite Lap Joints Under Compression", *Advancements and Futuristic Trends in Mechanical and Industrial Engineering*, 12-13th November 2010, Ganpati Group of Institutes, Bilaspur, Haryana.
- [16] P.K. Bajpai, **I. Singh**, and J. Madaan, "Mechanical Characterization of Green Composites", *Proceeding National Conferences on Futuristic Trends in Mechanical Engineering*, 29-30th October 2010, GNDEC, Ludhiana.
- [17] S. Singh, **I. Singh**, and V. Dhawan, "Tool Design for Drilling in Fiber Reinforced Plastics: A Review", *Proc. National Conferences on Futuristic Trends in Mechanical Engineering*, 29-30th October 2010, GNDEC, Ludhiana.
- [18] S. Singh, A. Singh, **I. Singh**, and P. Kumar, "Study of Tool Wear in Secondary Processing of Metal Matrix Composites", *Proc. National Conferences on Futuristic Trends in Mechanical Engineering*, 29-30th October 2010, GNDEC, Ludhiana.
- [19] P.K. Bajpai, **I. Singh**, and J. Madaan, "Natural Fiber Reinforced Poly Lactic Acid Composites: A Review", *National Conference on "Advances in Polymer Science and Technology (APST-2010)"*, 22-24th October 2010, NIT Hamirpur.
- [20] S.R. Chauhan, A. Kumar, and **I. Singh**, "Evaluation of Mechanical Properties, Friction, and Wear Behavior of E-glass Vinyl-ester Composites under Dry Sliding Conditions", *National Conference on "Advances in Polymer Science and Technology (APST-2010)"*, 22-24th October 2010, NIT Hamirpur.
- [21] A. Singh, P. Kumar, and **I. Singh**, "Modeling of Process Variables for MRR in EDM using Response Surface Methodology", *National Conference on Recent Advances in Manufacturing Technology and Management*, Jadavpur University, W.B., 19-20th February 2010, Vol.04, pp. 47-52.
- [22] V. Sharma, P.K. Rakesh, and **I. Singh**, "Damage Investigation in Drilling of Polymers Matrix Composites Using Finite Element Approach", *Proceedings of XVIth National Seminar on Aerospace Structures (NASAS)*, 19-20th November 2009, Department of Aerospace Engineering, IIT Bombay, India.
- [23] A. Pyasi, **I. Singh**, and P.M. Pathak, "Analysis of Buckling Performance of Laminated Cylindrical Shell with Cutouts", *Proceedings of the National Conference on Infrastructural Development in Civil Engineering (IDCE-2008)*, 16-17th May 2008, NIT Hamirpur, India, pp. 204 -212.
- [24] A. Dvivedi, P. Kumar, and **I. Singh**, "Optimization of EDM on A6063-15%SiC_p MMC Through Taguchi Method", *Proceeding of National Conference on Quality Reliability & Maintainability Aspects In Engineering Systems (RMAES-07)*, 27-28th December 2007, NIT Hamirpur, India, pp. 260-264 .
- [25] A. Dvivedi, S.K. Singh, P. Kumar, and **I. Singh**, "Electric Discharge Machining of Metal Matrix Composite", *Proceedings of All India Conference on Recent Developments in Manufacturing & Quality Management (RDMQM-2007)*, 5-6th October 2007, PEC Chandigarh, India, pp. 38-45.
- [26] A. Dvivedi, P. Kumar, and **I. Singh**, "Processing of Metal Matrix Composites by Unconventional Techniques", *Proceeding of National Conference on Recent Developments And Future Trends In Mechanical Engineering (RDFTME-2006)*, 03-04th November 2006, NIT Hamirpur, India, pp. 366-371.

- [27] S.K. Singh, P. Kala, **I. Singh**, and P. Kumar, "Development and Characterization of Stir Cast Metal Matrix Composites", *Proceeding of National Conference on Recent Developments and Future Trends In Mechanical Engineering (RDFTME-2006)*, 03-04th November 2006, NIT Hamirpur, India, pp. 360-365.
- [28] **I. Singh**, M.K. Chandel, D. Nayak, and N. Bhatnagar, "Fiber Reinforced Plastic (FRP) Composites in Construction Industry: Success Stories and Challenges", *National Conference on Materials Advancement in Civil Engineering (MACE-2004)*, 26-27th August 2004, NIT Hamirpur.
- [29] D. Nayak, **I. Singh**, N. Bhatnagar, and P. Mahajan, "Quantification of Damage in Machining of UD-GFRP Composites", *e-proceedings of National Conference on Advanced Manufacturing and Robotics (AMR-04)*, 10-11th January 2004, CMERI, Durgapur (West Bengal).
- [30] **I. Singh**, D. Nayak, and N. Bhatnagar, "Drilling Induced Damage in FRP composites: Causes and Remedies", *Proceedings of National Conference on Recent Developments in Mechanical Engineering (NCME-2003)*, Vol. 2, 576-582, 31st Oct - 1st Nov. 2003, TIET, Patiala (Punjab).
- [31] **I. Singh**, D. Nayak, and N. Bhatnagar, "Analytical Model of Drilling of FRP Composite Laminates: 1. Effect of Stacking Sequence"; *Proceedings of All India Seminar on Self Reliance in Materials and Machining (MATMACH-2003)*, 59-65, 21-22th March 2003, Institution of Engineers, Delhi.
- [32] **I. Singh**, D. Nayak, and N. Bhatnagar, "Drilling of FRP Composite Laminates: A FE Approach", *Proceedings of 20th All India Manufacturing Technology Design and Research Conference (20th AIMTDR)*, 13-15th December, 2002, BIT Ranchi (Jharkhand).
- [33] D. Nayak, **I. Singh**, N. Bhatnagar, and P. Mahajan, "Chip Formation Mechanism in Orthogonal cutting of FRP Materials using FEM", *Proceedings of 20th All India Manufacturing Design and Research Conference (20th AIMTDR)*, 13-15th December 2002, BIT Ranchi, Jharkhand.
- [34] **I. Singh**, D. Nayak, and N. Bhatnagar, "A Study of Drilling Induced Damage in FRP Composite Laminates" *ASM International Conference on Progress in Composite Materials (CPCM-2002)*, 18-19th October 2002, Hotel Leela, Mumbai.
- [35] **I. Singh**, M.K. Chandel, and N. Bhatnagar, "A Review of FRP Composite Materials in Construction Industry", *Proceedings of National Conference on Advances in Construction Materials*, 150-156, 8-9th April 2002, NIT Hamirpur (H.P.).
- [36] **I. Singh**, D. Nayak, and N. Bhatnagar, "Effect of Machining Direction on Chip Formation in UD-GFRP Composite Laminates", *Proceedings of XVIth National Convention of Production Engineers*, 401-404, 19-20th January 2002, Banaras Hindu University, Varanasi (U.P).
- [37] **I. Singh**, D. Nayak, and N. Bhatnagar, "A Numerical Model of Drilling of FRP Composite Laminates", *Proceedings of All India Seminar on Intelligent Processing of Advanced Materials*, 79-88, 21-22th December 2001, Bengal Engineering College, West Bengal.

Annexure V

Title	Funding Agency	Project Duration	Budget	Partner Countries/Institutes/ PI/Co- PI
International Collaborative Research Project				
Eco-Fire Resist Hybrid Composites (2018R1A6A1A03024509)	National Research Foundation of Korea, Korea	9 years	1.5 Million USD (for first 3 years)	India, USA, Sweden, Portugal, New Zealand, China and Japan
Funded Research Projects				
Hierarchically structured micro-nano pore nanocomposite membrane made of ferric oxide decorated titania activated carbon and fly-ash in carbonized epoxy resin as versatile filters for water purification	IMPRINT	3 years	250 Lakhs	IIT Kanpur, IIT BHU, IIT Ropar, IIT Guwahati, IIT Kharagpur, IIT Madras, University of Hyderabad
Investigation of Formation of MW Plasma During Drilling of Metallic Materials Through in-situ Monitoring	DST (SERB)	3 years	46.03 Lakhs	Dr. A. K. Sharma (PI)
A Resource Efficient Method for Producing Orthopedic Bone Plate using Microwave Energy	SPARC (MHRD)	2 years	67.22 Lakhs	Dr. A. K. Sharma (PI)
Investigation of Mechanical and Environmental Properties of Bamboo Fiber Reinforced Polymer Matrix Composites Fabricated by Compression Molding and Injection Molding	AICTE (TEQIP – III)	2 years	11.42 Lakhs	Mr. Anil Sharma (PI)
Conceptualization, Design and Development of Forest –Waste based Sustainable Composite Materials	MoEF & CC (NMHS)	3 years	16.14 Lakhs	-
Project approved under <i>Design Innovation Centre</i>				
DIC Ph.D. Fellowship (DIC-1267-MID)	Ministry of Human Resources Development	3 Years	11.64 Lakhs	Dr. A. K. Sharma (PI)

Summary of Projects Completed under NMEICT, MHRD, Government of India

	Title	Budget (in Lakhs)	Status
a)	Developing Suitable Pedagogy Tool for Courses on		
	I. Work System Design (PI)	21.5	Completed
	II. Principles of Industrial Engineering		Completed
b)	Development of NPTEL Phase-1 Courses on		
	i) Manufacturing Processes – I	6.40	Completed
	ii) Industrial Engineering		Completed
	iii) Processing of Non-Metals (Web and Video)		Completed
c)	Development and Execution of NPTEL Online Certification MOOC Courses on		
	i) Product Design and Development	46.0	Completed
	ii) Processing of Polymers and Polymer Composites		Completed
	iii) Operations Management		Completed
	iv) Work System Design		Completed
	v) Manufacturing Guidelines for Product Design		Completed
	vi) Product Design using Value Engineering		Completed

Performance of Projects Completed under NMEICT, MHRD, Government of India

S. No.	Course Name	No. of Lectures (Videos)	Number of Views (till 7th Nov.2018)	Number of Likes	Number. of Dislikes
1	Principles of Industrial Engineering	18	265,961	1,036	45
2	Manufacturing Processes- I	16	841,539	2,113	112
3	Processing of Non-Metals	40	322,873	1,846	131
4	Product Design and Development	20	149,243	1,116	45
5	Processing of Polymers and Polymer Composites	40	123,525	1,338	61
6	Operations Management	51	188,380	2,061	76
Total Views (Source: www.youtube.com)		18, 91,521			
Total Likes		9,510			
Total Dislikes		470			

Recorded a Series of Ten Lectures for Educational Multi-Media Research Centre on the Topic of Composite Materials. Lectures are being telecast on educational channels of Doordarshan.

Annexure VI

Details of Major Consultancy Projects

S.No.	Title of the Project	Funding Agency	Amount	Name of P.I. and Other Investigators	Year	Status
1.	Independent Engineer for Dharamshala-McLeodganj Passenger Ropeway Project	Government of Himachal Pradesh	17.7 Lakhs	Dr. I. Singh (PI)	2018	Ongoing
2.	Development of Natural Fiber Reinforced Composites	Godrej and Boyce Mfg. Co. Ltd.	3.93 Lakhs	Dr. I. Singh (PI)	2014	Ongoing
3.	Design Vetting of EOT Cranes	RCC Group of Companies Gurgaon	1.18 Lakhs	Dr. S. Upadhyay Dr. I. Singh (Co-PI)	2017	Completed
4.	Development of Pipe Joints	Kanha Plastics Private Limited	1.06 Lakhs	Dr. I. Singh (PI)	2017	Completed
5.	Feasibility Studies for Improvement of Overall Productivity of Fabrication and Painting Shops of Everest Industries Ltd	Everest Industries	5.00 Lakhs	Dr. J. Madan Dr. A. Dvivedi Dr. I. Singh (Co-PI)	2011	Completed