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PhD

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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.	Associate Professor	Indian Institute of Technology Roorkee	October, 2012	Till date
2.	Assistant Professor	Indian Institute of Technology Roorkee	May, 2008	October, 2012
3.	Lecturer	Indian Institute of Technology Roorkee	Dec., 2005	May, 2008
4.	Lecturer	Punjab Engineering College, Chandigarh	August, 2005	December, 2005
5.	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

- Associate Dean of Students’ Welfare**, Indian Institute of Technology Roorkee (2013-2017)
- Coordinator, *Rethink-The Tinkering Lab***, since 2017
- Associate NCC Officer (ANO)** at 3 UK Composite Technical Regiment, NCC, IIT Roorkee

Sl.	Co-Coordinator	Course Title	Sponsors	Dates
1.	Dr. A.K. Sharma	Innovative Products: Conceptualization to Commercialization	AICTE	25- 29 June, 2018
2.	Dr. A.K. Sharma	Make in India: Dreams to Reality	AICTE	3-14 Jan., 2017
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)	
Sr.	Institute/ University	Sr.	Journals
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

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Annexure I
Details of Doctoral Theses supervised

S. No.	Topic	Year	Name	Co-supervisor
1	Micro Electric Discharge Machining of Difficult-to-Machine Materials	2018	Ravinder Kumar	---
2	Studies on Short Fiber Reinforced Biocomposites	2017	Saurabh Chaitanya	---
3	Characterization and Machinability Study of Natural Fiber Reinforced Composites	2016	Temesgen Berhanu Yallew	Prof. Pradeep Kumar
4	Synthesis and Characterization of Ni-Mn-X (X: In, Sb) FSMA Thin Films	2015	Harish Sharma Akkera	Dr. Davinder Kaur
5	Machining Behavior of Fiber-Reinforced Polymer Composites	2015	Kishore Debnath	Dr. Akshay Dvivedi
6	Investigation on Electro Discharge Drilling and Hole Grinding of Metal Matrix Composites	2013	Abhishek Singh	Prof. Pradeep Kumar
7	Development and Characterization of Natural Fiber Reinforced Composites	2013	Pramendra Kumar Bajpai	Dr. Jitendra Madaan
8	Primary and Secondary Processing of Metal Matrix Composites	2013	Sarbjit Singh	Dr. Akshay Dvivedi
9	Development of Intelligent Knowledge Base for Machining of Composites	2013	Vikas Dhawan	Dr. Sehijpal Singh
10	Secondary Processing of Polymer Matrix Composites	2012	Pawan Kumar Rakesh	Prof. Dinesh Kumar
11	Development, Characterization, Friction and Sliding Wear Response of Vinylester Based Hybrid Composites	2011	Sant Ram Chauhan	Prof. Anoop Kumar
12	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	Recyclability Analysis of Green Composites	2018	Anubhav Kumar	
2	Composting Behavior of Natural Fiber Reinforced Thermoplastic Composites	2018	Dharmendra Kumar	
3	Effect of Ceramic Based Coatings on Steel Welds	2017	Sonu Kanwal	Dr. Manas Mohan Mahapatra
4	Micro Electric Discharge Drilling in Carbon Fiber Reinforced Polymer Composites	2017	Ankita Kumar	
5	Mechanical Behavior of Green Composites used for Sustainable Structures	2017	Kartikeya	
6	Cold Mould Processing and Characterization of Short Fiber Reinforced Composites	2017	Sandeep Chaudhary	Dr. Dinesh Kumar
7	Effect of Fiber Characterization on Mechanical Behavior of Composites	2017	Anurag Singh Kachhwaha	
8	Micro-EDM of Hard to Cut Materials	2016	Pramod Kumar Agrawal	Dr. Akshay Dvivedi
9	Parametric Investigation and Optimization of Near Dry EDM	2016	Kuldeep Chaudhary	Dr. Akshay Dvivedi
10	Studies on Electric Discharge Machining of Metal Matrix Composites	2015	Kamaljit Singh	Dr. Akshay Dvivedi
11	Comparative Analysis of Polymer Matrix Composites Processed by Microwaves and Compression Molding, 2015,	2015	Prag Sharma	Dr. Apurbba Kumar Sharma

12	Experimental Investigation in Fabrication of Micro-Channels by using Electric Discharge Machining	2015	Vichare Jaychandra Chandrakant	Dr. Akshay Dvivedi
13	Machining of Hard to Cut Materials using ECDM	2015	Sachin Baghel	Dr. Apurbba Kumar Sharma
14	Advanced Composite Material for Earthquake Resistant URM Building	2014	Dipali Jindal	
15	Conceptualization, Design and Development of Injection Molding Process for FRPs	2014	Manish Kumar Lila	
16	Conceptualization and Development of Low Cost Natural Fiber Reinforced Polymer Composite	2014	Fanindra Kumar	Dr. Sanjay K. Sharma
17	Drilling of Metal Matrix Composite: A Finite Element Approach	2013	Vikas Kumar Doomra	Dr. Dinesh Kumar
18	Machinability Studies on Aluminum Based Metal Matrix Composites	2013	Rohit Singh	Dr. Pradeep Kumar Jha
19	Electric Discharge Hole Grinding in Metal Matrix Composites	2013	Ravinder Kumar	Dr. Dinesh Kumar
20	Development and Characterization of Natural Fiber Reinforced Composites	2013	Deepak Varshney	Dr. Dinesh Kumar
21	Development and Characterization of Sustainable Polymeric Composites using Microwaves	2013	Mali Akshay Atul	Dr. Apurbba Kumar Sharma
22	Design and Development of a Ultra-Light Weight Prosthetic Leg	2012	Gagandeep Singh Bedi	Dr. Dinesh Kumar
23	Prediction of Forces and Damage in Machining of Composites using Artificial Intelligence	2012	Hitesh Sharma	Dr. Dinesh Kumar
24	Development and Characterization of Natural Fiber Reinforced Thermoplastic Composites	2012	Anil Sharma	Dr. Apurbba Kumar Sharma

25	Microwave Processing of Partially and Fully Green Composites	2012	Sabir Ali	Dr. Apurbba Kumar Sharm
26	Development of Hybrid Process for Secondary Processing of Metal Matrix Composites	2012	Aditya Pal Yadav	Dr. Akshay Dvivedi
27	A Comparative Investigation of Adhesively Bonded and Temporarily Fastened C2omposite Joints	2011	Harpreet Singh	Dr. Pradeep Kumar
28	Microwave Joining of Polymeric Matrix Composites	2011	D. Malik	Dr. Pradeep Kumar
29	Mechanical Behavior of FRP Laminates with Drilled Holes	2011	Manish Kumar Niranjan	Dr. Jitender Madaan
30	Design and Development of Drill Point Geometry for Damage Free Holes in FRP Laminates	2011	Rahul Mahajan	Dr. Jitendra Madaan
31	Some Investigations on Joining of AA-6061 and Al Based MMC's	2011	Pawan Kumar	Dr. Navneet Arora
32	Behavior of Closed-Cell Aluminum Foam under Impact Loading as energy Absorber	2010	Vaidya Sudarshan Vishnurao	Dr. Apurbba Kumar Sharma
33	Investigation of the Mechanical Behavior of MMCs using Finite Element Method	2010	Tonge Pradeep Vasant	Dr. Pradeep Kumar
34	Drilling of Fiber Reinforced Plastics using FEM Approach	2010	Vikas Sharma	Dr. Jitendra Madaan
35	Forming of Polymer Matrix Composites: A Finite Element Approach	2010	Sutar Prasad Laxman	Dr. Jitender Madaan
36	Modeling and Simulation of the Deboning Behavior of Wire Reinforced Aluminum Matrix Composites	2009	Shashi Bhushan	Dr. Pradeep Kumar
37	Behavior of Polymer Matrix Composites under Ballistic Impact	2009	Sunil Kumar	Dr. Apurbba Kumar Sharma
38	Damage Behavior of Honeycomb under Impact Loading	2009	Gharge Milind Kumar M.	Dr. Apurbba Kumar Sharma
39	Investigation of the Adhesively Bonded Composite Joints using FEA	2009	P.L. Anand	Dr. Pradeep Kumar Jha
40	Analysis of Buckling Performance of Laminated Cylindrical Shell With Cutout	2008	Abhishek Pyasi	Dr. Pushparaj Mani Pathak
41	Investigation of the Effect of Interfacial Characteristics on the Mechanical Behavior of Metal Matrix Composites	2008	Pradeep Kumar	Dr. Pradeep Kumar
42	Numerical Simulation of Low Velocity and Ballistic Impact on	2008	D.S. Gupta	Dr. Apurbba Kumar Sharma

	Polymer Composite Laminated Structures			
43	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
44	Process Parametric Study of Machining of Metal Matrix Composite by EDM Process, 2007,	2007	Saurabh Kumar Singh	Dr. Pradeep Kumar
45	Process Parametric Study of Machining of Metal Matrix Composite by USM/D Process [Ultrasonic Machining/Drilling]	2007	Prateek Kala	Dr. Pradeep Kumar
46	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, 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
- [2] 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
- [3] 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
- [4] R. Kumar, A. Kumar, **I. Singh**, Electric discharge drilling of micro holes in CFRP laminates, *Journal of Materials Processing Technology*, 150-158, 259, 2018
- [5] 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
- [6] R. Kumar, P. K. Agrawal, **I. Singh**, Fabrication of micro holes in CFRP laminates using EDM, *Journal of Manufacturing Processes*, 859-866, 31, 2018
- [7] 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
- [8] R. Kumar, **I. Singh**. Productivity Improvement of Micro EDM Process by Improvised Tool. *Precision Engineering*, 529- 535, 51, 2018
- [9] R. Kumar, A. Singh, **I. Singh**. Electric Discharge Hole Grinding in Hybrid Metal Matrix Composite. *Materials and Manufacturing Processes*, 127- 134, 32 (2), 2017
- [10] K. Debnath, **I. Singh**, Low-Frequency Modulation-Assisted Drilling of Carbon-Epoxy Composite Laminates, *Journal of Manufacturing Processes*, 262- 273, 25, 2017
- [11] 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
- [12] 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.
- [13] 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
- [14] 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)
- [15] S. Chaitanya, **I. Singh**, Sisal Fiber Reinforced Green Composites: Effect of Ecofriendly Fiber Treatment, *Polymer Composites*, doi:10.1002/pc.24511 (In press)
- [16] 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
- [17] 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
- [18] 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.

- [19] 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.
- [20] 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
- [21] 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
- [22] 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.
- [23] 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.
- [24] 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
- [25] 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.
- [26] 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.
- [27] 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.
- [28] 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.
- [29] 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.
- [30] TB Yallem, P Kumar, **I Singh**, Mechanical Behavior of Nettle/Wool Fabric Reinforced Polyethylene Composites, *Journal of Natural Fibers*, 610-618, 13 (5), 2016.
- [31] 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.
- [32] 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.
- [33] 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.
- [34] 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.
- [35] 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.
- [36] 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.
- [37] 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.

- [38] 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.
- [39] 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.
- [40] 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.
- [41] T.B. Yallow, P. Kumar, and **I. Singh**, "Sliding Wear Properties of Jute Fabric Reinforced Polypropylene Composites", *Procedia Engineering*, 402-411, 97, 2014.
- [42] 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.
- [43] 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.
- [44] 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.
- [45] 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.
- [46] 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.
- [47] A. Singh, P. Kumar, and **I. Singh**, "Process Optimization for Electro-Discharge Drilling of Metal Matrix Composites", *Procedia Engineering*, 1157-1165, 64, 2013.
- [48] 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>.
- [49] 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.
- [50] R. Kumar, **I. Singh**, and D. Kumar, "Electro Discharge Drilling of Hybrid MMC", *Procedia Engineering*, 1337-1343, 64, 2013.
- [51] 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.
- [52] 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.
- [53] 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.
- [54] 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.
- [55] 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.
- [56] P.K. Bajpai, **I. Singh**, and J. Madaan, "Tribological Behaviour of Poly Lactic Acid (PLA) based Green Composites", *Wear*, 829-840, 297, 2013.
- [57] 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.
- [58] A. Singh, P. Kumar, and **I. Singh**, "Design and Development of Electro-Discharge Drilling Process", *Advanced Materials Research*, 607-611, 651, 2013.

- [59] 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.
- [60] 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.
- [61] 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.
- [62] 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(3/4), 2012.
- [63] 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.
- [64] 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.
- [65] 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.
- [66] 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.
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Annexure-IV

Details of Research Publications Presented in Conferences

International Conferences

- [1] 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
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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
Microwave Processing of Biodegradable Automotive Parts of Natural Fiber Reinforced Nanocomposites (CRD/2018//000070) Submitted	DST (AISTDF)	2 years	25.10 Lakhs	India (Dr. A. K. Sharma), Singapore (Dr. S. Idapalapati), and Malaysia (Dr. M. Jaafar)
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
Conceptualization, Design and Development of Forest –Waste based Sustainable Composite Materials	MoEF (NMHS)	3 years	13.86 Lakhs	-
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
Project approved under Design Innovation Centre				
DIC Ph.D. Fellowship (DIC-1267-MID)	Ministry of Human Resources Development	3 Years	9.36 Lakhs	Dr. A. K. Sharma

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		Ongoing

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