

Dr. Janakarajan Ramkumar

Institute Ambassador, IIC IIT Kanpur
Satish Chandra Agarwal Chair Professor
Chief of Design Innovation Centre IIT Kanpur
FNAE, FIE(I), FETE, Chartered Engineer (India)
Chairman, Kanpur local Centre, Institute of Engineers (India)
Professor (HAG), Department of Mechanical Engineering & Design
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Citation:

Dr. J Ramkumar, Professor (HAG) in the Department of Mechanical Engineering and Design at Indian Institute of Technology Kanpur, has over two decades of experience in industry, research and academia. His expertise, supported IIT Kanpur to emerge as leader in translational research in micromachining, and manufacturing, through projects with ISRO, DRDO, HAL, NTPC & major PSUs. His expertise in material sciences developed revolutionary defence aids, transitioning to medical device development his innovations are a culmination of novel mechanical & design research. He has published over 390 articles in the peer-reviewed international journals and has delivered 100 plus lectures in the international conferences. He has developed MOOCs in niche areas of manufacturing and design supporting scholars all around the world. With an h-index of 43, 6700+ citations, and 100+ patents, he spearheads translational research, and commercialized five patents. He is reviewer for Elsevier, Wiley, Springer & other notable technical journals. At IIT Kanpur he has cumulatively secured grants of over 260 million INR pushing boundaries of research. Currently, he is the Chief for Design Innovation Centre and Principal Project Investigator for MedTech facility, Imagineering Laboratory and RuTAG facility at IIT Kanpur. As a serial innovator he has nurtured start-ups like E-Spin Nanotech, LCB Fertilizers, Sidd Labs, DeDzine, Saptkrishi, with their ground-breaking innovations. He now focuses on innovation in healthcare and agriculture building a sustainable society.

Area of Specialization:

Micro/Nano Manufacturing and New product/process development, Tribology, composite, Manufacturing Process modelling, Medical Device Development

Educational Qualifications (from bachelor's degree onwards):

S.No.	Degree	University	Year	Subjects	Percentage/GPA
1.	PhD	Indian Institute of Technology, Madras	2003	Mechanical Engineering	9.5/10
2.	MTech	Indian Institute of Technology, Madras	1999	Mechanical Engineering	10/10 Dr. S. Vaidyanathan Memorial Award for Best outgoing Master student
3.	BTech	National Institute of Technology, Trichy	1996	Production Engineering	89 % Best outgoing B.E. (Prod) student

Details of employment:

S.No.	Department	Position	Period
1.	Mechanical Engineering and Design program, Indian Institute of Technology Kanpur	HAG Professor	2022- till date
2.	Mechanical Engineering and Design program, Indian Institute of Technology Kanpur	Professor	2015 - 2022
3.	Mechanical Engineering and Design program, Indian Institute of Technology Kanpur	Associate Professor	2010 - 2015
4.	Mechanical Engineering, Indian Institute of Technology Kanpur	Assistant Professor	2003 - 2010

Details of professional training and research experience:

S.No.	Place of Training	Position	Period	Country
1.	Osaka University	Research Fellow	May-July, 2015	Japan
2.	Fraunhofer Institute	Research Fellow	May-July, 2012	Germany
3.	Tokyo Institute of Technology, Tokyo	Visiting Faculty	May-July, 2009	Japan
4.	University of Illinois, Urbana Champaign	Research Fellow	May-Dec, 2008	USA

Courses taught in the Institute:

S.No.	Courses	Designation & Institution	UG/PG
1	- TA 202 A: Manufacturing Processes II - ME 361 A: Manufacturing Science & Technology - ME 461 A: Manufacturing Systems - ME 661 A: Manufacturing Science I - ME 662 A: Manufacturing Science II - ME 761 A: Computer Aided Manufacturing - DES 602 A: Design Practice - I - DES 698 A: Project Courses in Design - ME 664 A: Fundamentals of Casting And Solidification - ME 670 A: Laser Assisted Additive Manufacturing	Professor, Indian Institute of Technology Kanpur 2015 – till date	UG-12 PG-9
2	- TA 202 A: Manufacturing Processes II - ME 361 A: Manufacturing Science & Technology - ME 461 A: Manufacturing Systems - ME 661 A: Manufacturing Science I - ME 662 A: Manufacturing Science II - ME 761 A: Computer Aided Manufacturing - DES 602 A: Design Practice - I - DES 698 A: Project Courses in Design - ME 664 A: Fundamentals of Casting And Solidification - ME 670 A: Laser Assisted Additive Manufacturing	Associate Professor, Indian Institute of Technology Kanpur 2010-2015	UG-8 PG-7

S.No.	Courses	Designation & Institution	UG/PG
3	- TA 202 A: Manufacturing Processes II - ME 361 A: Manufacturing Science & Technology - ME 461 A: Manufacturing Systems - ME 661 A: Manufacturing Science I - ME 662 A: Manufacturing Science II - ME 761 A: Computer Aided Manufacturing - DES 602 A: Design Practice - I - DES 698 A: Project Courses in Design - ME 664 A: Fundamentals of Casting And Solidification - ME 670 A: Laser Assisted Additive Manufacturing	Assistant Professor, Indian Institute of Technology Kanpur 2003-2010	UG-13 PG- 9

Instituting Department of Design and introduction of new courses:

- Applied Design Thinking DES-622A.
- Design for Sustainability DES-624A

Knowledge Dissemination via Book Chapters:

S.No.	Title	Authors	Publisher	Year of publi	ISBN 13
1.	Collaborative Robots in Operative Dentistry	Abhinav sharma, Rahul Sagwal, Deepak Mishra, J. Ramkumar	Springer India	2025	978-981-96-8605-6
2.	Advances in Digital Manufacturing Systems: Technologies, Business Models, and Adoption, Digital Manufacturing	Amandeep Singh, J. Ramkumar	Springer	2023	978-9811970702
3.	Unconventional Machining Processes (Book)	J. Ramkumar, Amandeep Singh, Vyom Sharma, Mahavir Singh	CBS Publishers	2022	978-9354664663
4.	Wire Electrical Discharge Machining	Mahavir Singh, J. Ramkumar, V. K. Jain,	CRC Press	2022	978-148-2211-092
5.	Magnetic Field Assistance in the EDM Process	Mahavir Singh, Vyom Sharma, J. Ramkumar	CRC Press	2022	978-100-3202-301
6.	Electrochemical Spark Machining Process.	Vyom Sharma, Mahavir Singh, J. Ramkumar,	CRC Press	2022	978-100-3202-301
7.	Numerical Simulation of Micro-EDM Process by Incorporating a Novel Approach of Multi-sparks.	Mahavir Singh, Devesh Kumar Chaubey, J. Ramkumar,	Springer Nature Singapore Pte Ltd.	2019	978-981-32-9425-7

8.	Experimental Investigations into Wire Electrical Discharge Machining Process for the Machining of Ti-6Al-4V.	Mahavir Singh, V. K. Jain, J. Ramkumar,	Springer Nature Singapore Pte Ltd.,	2019	978-981-32-9425-7
9.	Micro-electrical Discharge Milling operation	Mahavir Singh, Vijay K. Jain, J. Ramkumar	Springer Nature	2018	978-981-13-3074-2
10.	Electrochemical Grinding	Divyansh S. Patel, Vijay K. Jain, J. Ramkumar	CRC Press Taylor & Francis Group	2017	978-1-4987-4594-9
11.	Abrasive flow finishing process and modelling	Sachin Singh, M. Ravi Shankar, Vijay K. Jain, J. Ramkumar	CRC Press Taylor & Francis Group	2017	978-1-4987-4594-9
12.	Fabrication of Micro Lens Array by Excimer Laser Micromachining	Akhtar, Syed Nadeem, Shashank Sharma, and J. Ramkumar	Springer India	2014	978-81-322-2352-8
13.	Ionic polymer metal composites	J. Ramkumar, Syed Nadeem Akhtar, Jayesh Cherusseri, and Kamal K. Kar	Research Publishing Services	2014	978-981-08-3713-6

Knowledge Dissemination via courses:

Developed courses (as instructor) on NPTEL (National Program on Technology Enhanced Learning) portal:

Name of the Course	Timeline	Link
Manufacturing of Composites <i>Over 5,20,000+ views online</i>	Jul-Dec 2019	Course
Social Innovation in Industry 4.0	Jul-Oct 2023	Course
	Jul-Aug 2024	Course
Product Design & Manufacturing <i>Over 40,000+ views online</i>	Feb-Mar 2018	Course
	Jan-Apr 2019	Course
	Jan-Apr 2020	Course
	Jan-Apr 2021	Course
	Jan-Apr 2022	Course
	Jan-Apr 2023	Course
	Jan-Apr 2024	Course
	Jan-Apr 2025	Course
	Jan-Apr 2026	Course
Computer Integrated Manufacturing <i>Over 95,000+ views online</i>	Jan-Apr 2020	Course
	Jan-Apr 2021	Course
	Jan-Apr 2022	Course
	Jan-Apr 2023	Course
	Jan-Apr 2024	Course
	Jan-Apr 2025	Course
	Jan-Apr 2026	Course
Engineering Metrology <i>Over 91,330+ views online</i>	Jul-Oct 2018	Course
	Jul-Oct 2019	Course
	Sep-Dec 2020	Course
	Jul-Oct 2021	Course
	Jul-Dec 2022	Course
	Jul-Oct 2023	Course
	Jul-Oct 2024	Course
Rapid Manufacturing <i>Over 26,000+ views online</i>	Jul - Oct 2018	Course
	Jan-Apr 2019	Course
	Sep-Dec 2020	Course
	Jul-Oct 2021	Course
	Jul-Oct 2022	Course
	Jul-Oct 2023	Course
	Jul-Oct 2024	Course
Basics of Mechanical Engineering-1	Jul-Oct 2024	Course
Basics of Mechanical Engineering-2	Jan-Apr 2025	Course
Basics of Mechanical Engineering-3	Jul-Oct 2025	Course

Name of the Course	Timeline	Link
Metal Additive Manufacturing	Jul-Dec 2022	Course
	Jul-Dec 2023	Course
	Jul-Dec 2024	Course
Value Engineering Agricultural Plan <i>3400+ registrations globally</i>	Dec-Jan 2024	Course
Agricultural Statistics in Practice <i>5100+ registrations globally</i>	Jul-Aug 2023	Course
Statistical Techniques for Agriculturists <i>4000+ registrations globally</i>	May-Jul 2022	Course
Design Thinking for Agricultural Implements	Oct-Nov 2019	Course

- GIAN Course on Laser Materials Processing Fundamentals & Applications, Feb 2018
- GIAN Course on Fundamentals of Micromachining, Aug 2017
- 2 Terms of Workshop on Statistical Analysis for Engineers since Jul 2012 - May 2015
- 3 Terms of Workshop on Micro & Nano fabrication since Mar 2010 till Mar 2015

Details of positions in organisations inside institute:

- Dean of Infrastructure and Planning (DoIP), 2024 – 2027
- Chairman, Senate Post-Graduate Committee (SPGC), 2021 – 2023
- Chairman, Security Advisory & Executive Committee (SAEC), 2021 – 2024
- Head of Imagineering Lab, MedTech and Coordinator for RuTAG at Indian Institute of Technology Kanpur, 2019 – till date
- Coordinator for AICTE and IITK Sponsored Winter Internship Program for J&K students.
- Convener of “Ek Bharat Shreshtha Bharat – IIT Kanpur”
- Associate Dean, Student Affairs, 2015 – 19
- Chairman, Hall Allocation Administrative committee, 2014 – 15
- Chairman, Council of Warden, 2014 – 15
- Warden-in charge, Hall X, 2012 – 15
- Warden-in charge, Hall IX, 2009 – 2012

Details of positions in organisations outside institute:

- Chief of Design Innovation Centre, IIT Kanpur by Ministry of Education, Govt. of India
- Vice-Chairman GATE, 2024 & 2023
- President in the Selection Committee of faculties for IITs and NITs
- Subject Expert for IITs and NITs
- Member of:
 - Selection Committee, UPSC
 - Transportation Engineering Division Council of Bureau of Indian Standards
 - Task force on AI for India's economic transformation – Ministry of Commerce and Industry, Govt. of India
 - ISRO Committee on "Space robotics experiment for Gaganyaan program"
 - Production Engineering Division, Institute of Engineers (India)
 - Imprint Scheme
- Program Chair – International Conference "Advances in Robotics" 2021
- Secretary – Robotics Society of India
- Selection Committee for Professors in Mechanical Engg. at Indian Institute of Technology Guwahati
- Mechanical Engineering Research Advisor Board, UP Technical University
- Ex-Chairman for:
 - IEEE, UP Section

- The Institution of Engineers India, Kanpur
- Treasurer, Institution of Electronics and Telecommunication Engineers (IETE)
- Member of the advisory board/committees in:
 - Council of Science and Technology, Uttar Pradesh
 - Research & Development Council, Harcourt Butler Technological University, Kanpur
 - Academic Council, Harcourt Butler Technological University, Kanpur
 - Academic Council, Pandit Deendayal Energy University, Gandhinagar
 - Technology Innovation and Incubation Center at Atal Bihari Vajpayee, IIITM, Gwalior
 - Board of Studies, XLI, UIET, CSJM University, Kanpur
 - Atal Bihari Vajpayee Research Centre, AITH Kanpur
 - National Design and Research Forum
 - AICTE Innovation Council
 - AICTE NEP Committee
 - AKTU Restructuring Committee
- Honorary Professor for Amity University
- Elected Expert, DRDO Materials and Manufacturing Panel
- Elected Fellow in Leadership for Academicians Program (LEAP) at Tata Institute of Social Sciences (TISS)
- Project Investigator of various projects under the umbrella of Medical Aids, and Agricultural Innovations

Professional awards and recognitions:

S.No.	Name	Year	Donor organization
1.	Late GK Dubey Memorial Lifetime Achievement Award	2023	IEEE UP Section
2.	Recognition for Exemplary Contributions in Society	2023	IETE Kanpur
3.	Award for Contributions to the society as a scientist	2023	RDSS & SSSDPC Kanpur
4.	Anna University National Award for the Outstanding Academic Teacher	2023	Anna University and Indian Society for Technical Education
5.	Excellence in Academic, Research, Innovation & Invention, DAA	2023	National Institute of Technology, Tiruchirappalli
6.	Eminent Endurance Achiever	2023	Indian Society for Technical Education & GCET
7.	Fellow of INAE	2022	Indian National Academy of Engineering
8.	Satish Chandra Agarwal Chair Professor	2022	Indian Institute of Technology Kanpur
9.	Eminent Production Engineer Award	2022	Indian Institute of Production Engineering
10.	IETE- Shri Devi Singh Memorial Award	2021	Institution of Electronics and Telecommunication Engineers, India
11.	IEI BLC-FCRIT Excellence Award Research Excellence (Faculty-National)	2021	The Institution of Engineers (India) Belapur Local Centre & F. C. Rodrigues Institute of Technology, Vashi

S.No.	Name	Year	Donor organization
12.	SITARE GYTI Award (Students Innovations for Translation & Advancement of Research Explorations, Gandhian Young Technological Innovation Awards)	2020	Society for Research and Initiatives for Sustainable Technologies and Institutions
13.	Outstanding Volunteer Award	2019	Institute of Electrical and Electronics Engineers
14.	Eminent Engineer Award	2019	Indian Institute of Production Engineering
15.	Award of Excellence	2018	Indian Technology Congress
16.	Gandhian Young Technological innovation (GYTI) Award	2018	Society for Research and Initiatives for Sustainable Technologies and Institutions
17.	Outstanding Scientist for the contribution and achievement in the field of Mechanical Engineering.	2017	Venus International Foundation, India
18.	Bharat Vikas Award for the contribution in the field of developing new products for inclusive society	2017	Institute of Self Reliance, India
19.	Ram Tiwari chair Professor, I.I.T. Kanpur, 2017-2020	2017	Indian Institute of Technology, Kanpur
20.	Young Alumni Achiever Award	2017	National Institute of Technology, Tiruchirappalli
21.	Outstanding Achievement in Member Recruitment	2016	Institute of Electrical and Electronics Engineers
22.	Eminent Mechanical Engineer Award	2016	Indian Institute of Technology, Kanpur
23.	Gopal Das Bhandari Memorial Distinguished Teacher Award	2015	Indian Institute of Technology, Kanpur
24.	Eminent Mechanical Engineer Award	2015	Indian Institute of Production Engineering
25.	National Design Award in Mechanical Engineering	2015	The Institution of Engineers (India)
26.	“Prashamana: A smart hospital bed” Gandhian Young Technological Innovation (GYTI) appreciation certificate at the Rashtrapati Bhavan.	2015	Society for Research and Initiatives for Sustainable Technologies and Institutions
27.	Best paper award in Production Engineering Division prize	2015	The Institution of Engineers (India)
28.	Rajkumar Varshney Awards – System Society of India	2015	System Society of India
29.	JSPS short term research fellow 2014, 2013, 2012, 2009, 2005	-	Japan Society for the Promotion of Science
30.	Shield of Excellence in Mechanical Engineering	2012	KITS Warangal
31.	DAAD short term research fellow 2012, 2011, 2009	-	Deutscher Akademischer Austauschdienst (DAAD)

S.No.	Name	Year	Donor organization
32.	Class of 1984 fellowship award, 2012-2015	2011	Indian Institute of Technology, Kanpur
33.	IEI Young Engineers Award 2011	2011	The Institution of Engineers (India)
34.	Young Scientist Award – Engineering Science Division	2009	Indian Science Congress Association
35.	Innovation Potential of Student Projects Awards	2009	Indian National Academy of Engineering (INAE)
36.	Young Scientist Award	2008	Dept. of Atomic Energy, India
37.	Boyscast Fellowship – Dpt. of Science & Technology, India	2008	Dpt. of Science & Technology, India
38.	Fast Track DST Young Scientist Award	2007	Dept. of Science & Technology
39.	National University of Singapore, Short-Term fellowship	2007	National University of Singapore
40.	Monbusho Japanese Fellow	2001	Ministry of Education Culture, Sports, Science and Technology
41.	Dr. S. Vaidyanathan Memorial Award for best outgoing Master student	2000	Indian Institute of Technology, Madras
42.	Gold medalist in M. Tech	1999	Indian Institute of Technology, Madras
43.	Best outgoing B.E. (Prod) student	1996	National Institute of Technology, Tiruchirappalli

List of sponsored research projects (funding total worth Rs. 33,43,83,033):

S.No.	Project Title	Year	Sanctioned Amount (Rs.)	Funding Agency
1.	Selective Heat Assisted Incremental Forming of Free Form Surface for Space Application	2024-2026	27,48,000	Space Technology Cell (STC IS RO)
2.	Design and Development of an Integrated Inspection Framework Comprising of UGVs (Unmanned Ground Vehicles) with Deployable UAVs (Unmanned Aerial Vehicles) for Critical Power Infrastructure Inspection	2024-2026	4,79,74,000	Central Power Research Institute (CPRI)
3.	Point-of-Care Devices in Healthcare Technologies	2024-2026	3,19,50,000	Ministry Of Human Resource Development (MHRD)
4.	Impacting the Learning Journey of Rural Students to Bring Societal Transformation for Viksit Bharat	2024-2027	5,00,000	Fashion Suitings Private Limited (FSPL)
5.	Centre for Excellance for Innovation in Basic Education (Stem Labs)	2024 - 2026	40,75,500	DoRA, IIT Kanpur
6.	Development of a new facility Maker's Space	2023 – 2025	2,50,00,000	DoRA, IIT Kanpur
7.	Development of Prototype Melt-Spinning Machine for manufacturing Tri-lobal Cross-section Bi-Component Fibers	2023 – 2026	99,31,680	Ministry of Textiles, Gol
8.	Imagineering Lab (C. Workshop, Tinkering, 4i, MedTech)	2023 – 2026	5,52,000	IIT Kanpur
9.	Low-cost Smart Dual Water Purification System for water supply from surface water or underground water sources	2023 – 2026	65,13,000	Ministry of Education, Gol
10.	Design and realization of an orthodontic robotic arm for dental surgery	2023 – 2025	49,61,304	Department of Science and Technology, Gol
11.	SIDBI Advisory Services	2023 – 2024	14,40,000	Small Industries Development Bank of India (SIDBI)
12.	Virtual Fluid Mechanics Lab Development	2023 – 2024	12,00,000	Ministry of Education, Gol

S.No.	Project Title	Year	Sanctioned Amount (Rs.)	Funding Agency
13.	Design and realization of an orthodontic robotic arm for dental treatment	2022 – 2024	50,00,000	Department of Science and Technology, Gol
14.	Smart India Hackathon 2022, Software Edition	2022 – 2023	6,72,000	Ministry of Education & AICTE
15.	Developing affordable and AI enabled hand-held X-ray device for TB diagnosis	2022 – 2023	4,60,34,643	Indian Council for Medical Research
16.	Design Development of Sabjikothe, a Preservative Setup for use for Vegetable/Fruit Vendors	2021 – 2023	33,16,800	Department of Science and Technology, Gol
17.	Establishment of a State of-the-Art Facility for Design and Fabrication of Medical Devices and Equipment with in House Quality Control System for Cultivating a Local Production Hub of Medical Grade	2019 – 2023	4,58,02,000	Biotechnology Industry Research Assistance Council
18.	Rural Technology Action Group (RUTAG)	2018 – 2023	1,41,03,840	Office of Principal Scientific Advisor, Gol
19.	Designing and Developing a Desktop Micro Wire ECM Machine	2018 – 2020	40,35,744	Department of Science and Technology, Gol
20.	Indigenization & Improvisation Of Puncher Gun For Manual Tissue Micro-Array Construction	2017 – 2022	3,56,08,515	Ministry of Education, Gol
21.	Indigenization & Improvisation Of Puncher Gun For Manual Tissue Micro-Array Construction	2017 – 2020	4,68,500	Ministry of Education, Gol
22.	Design And Development Of Dual Wavelength Led Based Phototherapy Unit	2017 – 2019	14,90,000	Ministry of Education, Gol
23.	Experimental And Theoretical Investigation In Nano-Finishing Of Freeform/Sculptured Surfaces	2017 – 2019	27,52,300	Aeronautics Research and Development Board, Gol
24.	Development Of Magnetic Abrasive Finishing (MAF) Technology For CNC Machined Diaphragms	2017 – 2019	9,84,000	Defence Research and Development Organization
25.	Surface Texturing On Biocompatible Titanium Alloy To Enhance Adhesion Interface Between Dissimilar Materials Using ECMM	2016 – 2018	36,32,000	Science and Technology Centres, Gol
26.	Modification Of Conventional Artillery Rocket To A Guided Rocket With Freely Spinning Tail	2016 – 2018	3,60,285	Science and Technology Centres, Gol

S.No.	Project Title	Year	Sanctioned Amount (Rs.)	Funding Agency
27.	RuTag: Development Of A Manually Operated Seed Drill	2016 – 2019	1,52,000	Office of Principal Scientific Advisor, Gol
28.	RuTAG Sub Project(Design And Development Of Amla Pricking Machine)	2015 – 2017	2,10,000	Office of Principal Scientific Advisor, Gol
29.	Dic -Pd Lab	2015 – 2018	77,00,000	Ministry of Education, Gol
30.	Surface Texturing On Biocompatible Titanium Alloy For Inducing Hydrophobicity Using ECMM	2015 – 2016	6,00,000	Science and Technology Centres, Gol
31.	An Independent Stair Climbing Wheel Chair (Manual) For Up/Down Climbing	2013 – 2015	49,23,312	Department of Science and Technology, Gol
32.	Fabrication Of Microchannel With Nano finish On Ss304	2012 – 2015	43,76,350	Bhabha Atomic Research Centre, Gol
33.	Utilization Of Wasted Groundnut Shell For The Development Of Natural Polymeric Composites And Their Mechanical Properties, Drilling And Tribological Studies	2012 – 2014	4,12,000	Department of Science and Technology, Gol
34.	Excimer Laser Micromachining For Mhmic	2012 – 2014	34,53,600	Science and Technology Centres, Gol
35.	Design And Fabrication Of Micro ECM Setup For Micro Channels	2011 – 2013	19,30,750	Aeronautics Research and Development Board, Gol
36.	3 -D Nanofabrication Using Electric Discharge Machining	2010 – 2013	34,90,000	Department of Science and Technology, Gol
37.	Fabrication Of U Channel On Aerospace Materials	2009 – 2011	25,42,500	Science and Technology Centres, Gol
38.	Boycast	2008 – 2009	7,57,000	Department of Science and Technology, Gol
39.	Nano Finishing Of Ultra High Speed Bearing	2008 – 2009	11,69,410	Bhabha Atomic Research Centre, Gol
40.	Development And Characterization Of Thin Sandwiched Structures Using Polymer Foam	2007 – 2010	7,86,000	Aeronautics Research and Development Board, Gol
41.	Online Monitoring Of Abrasive Flow Machining	2008 – 2005	7,74,000	Department of Science and Technology, Gol

List of consultancy research projects (funding total worth Rs. 1,67,38,986):

S.No.	Project Title	Year	Sanctioned Amount (Rs.)	Funding Agency
1.	Robofest-Gujarat 3.0	2023 – 2024	50,000	Council of Science & Technology, Gol

S.No.	Project Title	Year	Sanctioned Amount (Rs.)	Funding Agency
2.	Development of Substation Inspection Robot	2022 – 2023	1,07,89,920	Power Grid Corporation Of India Limited
3.	J.P. Constructions	2021 – 2021	2,00,000	JPC Infratech Pvt. Ltd.
4.	JPC Consultancy	2020 – 2020	2,00,000	JPC Infratech Pvt. Ltd.
5.	Finish Machining of Harsenes Laser Textured BN Tools	2018 – 2019	11,06,250	SECO Tools India Pvt. LTD.
6.	Design Feasibility Study And FEA Analysis Of Tether Aerostat Application Against Cars No.	2014 – 2015	9,97,195	Aerial Delivery Research and Development Establishment
7.	Design, Development And Primary Testing Of A Technology Demonstration Unit Of A Wheel Speed Transducer For Military Aircraft Applications Based On Hall Effect Sensor	2014 – 2017	9,97,195	Hindustan Aeronautics Limited
8.	The Development Of Prototype Of Magnetic Abrasive Finishing & Deburring Machine For Nano Finishing And Micro Deburring	2013 – 2017	5,00,000	Central Manufacturing Technology Institute
9.	Approval Of Pole & Tower Drawing	2013	82,932	J P Constructions
Others	Consultancy In 4i-Lab & SIDBI	2019 – 2022	18,15,494	SIDBI and IIT Kanpur

List of peer reviewed publications (authors, journal, and reference):

S.No.	Title	Author(s)	Year	Complete Reference of Journal
1.	Microstructural Tailoring for Enhanced Wear Resistance and Improved Mechanical Properties in High-Carbon Rail Steel	A Rajput, G Verma, AP Harsha, J Ramkumar, K Mondal, K Vishwanath	2025	Journal of Materials Engineering and Performance, 1-19
2.	Influence of Soaking Time on Microstructural, Machinability, and Mechanical Properties of Al-10Si-0.3 Mg Alloy Fabricated by Direct Powder Forging	A Dwivedi, M Singh, J Ramkumar, S Gangolu	2025	Journal of Materials Engineering and Performance 34 (5), 4039-4053
3.	Correlation of roughness with surface properties of SS 304 and Inconel 718 substrates processed by plasma electrolytic polishing	K Sushil, A Raj, SK Jha, J Ramkumar, C Chandraprakash	2025	Surface and Coatings Technology 497, 131770

S.No.	Title	Author(s)	Year	Complete Reference of Journal
4.	Fabrication of through-holes of different shapes using foil tool in EDM: Process development and analysis	BN Padhi, SK Choudhury, R Janakarajan	2025	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 239(1), pp. 140–150
5.	Surface roughness analysis: A comprehensive review of measurement techniques, methodologies, and modeling	K Sushil, J Ramkumar, C Chandraprakash	2025	Journal of Micromanufacturing, 25165984241305225.
6.	Incremental sheet forming of aluminum alloy using a hemispherical-end tool heated by electromagnetic induction	Bharat Bhushan, Janakarajan Ramkumar, Uday S Dixit	2025	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 09544089251335081
7.	Comprehensive investigation of the mechanical properties of 316L stainless steel processed via laser powder bed fusion	Pant, M., Nagdeve, L., Moona, G., Kumar, H., Rajput, A., & Ramkumar, J.	2025	Journal of Materials Engineering and Performance, 34(2), 1378-1391.
8.	Enhanced mechanical properties and microstructure of TiC reinforced Stellite 6 metal matrix composites (MMCs) via laser cladding additive manufacturing	Journal of Alloys and Compounds 1010, 17800	2025	V Tiwari, V Mandal, M Sarkar, A Kumar, J Bhagyaraj, MK Singh, J Ramkumar
9.	Identification of parameter-dependent machine learning models for tool flank wear prediction in dry titanium machining	P Sharma, HM Thulasi, SK Mishra, J Ramkumar	2024	Proceedings of the Institution of Mechanical Engineers, Part E
10.	Design and parametrization of TPMS lattice using computational and experimental approach	R Kumar, J Ramkumar, K Balani	2024	Engineering Research Express 6 (3), 035556
11.	Production and machinability evaluation of reduced graphene oxide	S Kesarwani, RK Verma, J	2024	Journal of the Brazilian Society of Mechanical

S.No.	Title	Author(s)	Year	Complete Reference of Journal
12.	Nanoparticles-reinforced polymer composites during abrasive water jet machining process	Ramkumar, SC Jayswal		Sciences and Engineering 46
13.	Laser treatment of (Zr-Ta-W-Ti) C-SiC based high entropy carbide ceramics reinforced with carbon nanotubes, graphite and graphene nanoplatelets	D Rana, J Ramkumar, K Balani	2024	Diamond and Related Materials 148, 111468
14.	Improving the Efficiency of Single Lap Riveted Joints in the Carbon Nanofiller Reinforced Laminated Polymer Composites	K Kumar, RK Verma, J Ramkumar, SC Jayswal	2024	Experimental Techniques, 1-19
15.	3-D Printed All-Dielectric Ultrabroadband Microwave Absorber	J Yadav, R Vishwakarma, M Saikia, KV Srivastava, J Ramkumar	2024	IEEE Transactions on Electromagnetic Compatibility
16.	Transparent ITO-Coated PET Based Wideband and Wideangle Microwave Absorber	J Yadav, KV Srivastava, J Ramkumar	2024	2024 IEEE International Symposium on Antennas and Propagation and INC/USNC-URSI Radio Science Meeting (AP-S/INC-USNC-URSI)
17.	Numerical simulation and experimental validation on the mechanism of crater evolution in electrical discharge micromachining	M Singh, S Sharma, J Ramkumar	2024	CIRP Journal of Manufacturing Science and Technology 51, 126-144
18.	Effect of process parameters on the roughness and wetting characteristics of SS304 surfaces using electrolytic and plasma electrolytic polishing techniques	K Sushil, V Sharma, SK Jha, C Chandraprakash, J Ramkumar	2024	J. Electrochem. Soc. 171 (6), 063508
19.	Tribological performance of steel-steel contact tribosurfaces by using nano-enhanced biolubricant	KS Kumar, A Muniyappa, S Tiwari, A Vardhaman, J Ramkumar	2024	The International Journal of Advanced Manufacturing Technology 132 (7)
20.	Comprehensive Analysis of Heavy Metal Aerosol Emissions and Health Risk from the Electrical Discharge Machining Process: A Control and Mitigation Approach for Green Manufacturing	GA Gupta, M Singh, J Ramkumar, T Gupta, S Patil	2024	International Journal of Precision Engineering and Manufacturing-Green
21.	Harmonic Engineering in Sub-Wavelength Cavities & Design of Ultrabroadband Microwave Absorbers by Reflection Phase Manipulation	NK Gupta, S Bhattacharya, A Bhardwaj, KV Srivastava, J Ramkumar	2024	IEEE Transactions on Electromagnetic Compatibility

S.No.	Title	Author(s)	Year	Complete Reference of Journal
22.	Development and characterization of fly ash-ground tire rubber-based abrasive flow finishing media and its performance assessment	IA Ansari, KK Kar, J Ramkumar	2024	Journal of the Brazilian Society of Mechanical Sciences and Engineering
23.	Influence of MWCNTs, ZnO, and boric acid nanomaterial blend on the tribological and thermal properties of lithium grease	DK Prasad, S Tiwari, M Amarnath, H Chelladurai, BSA Vardhaman, J Ramkumar	2024	Tribology International 192, 109197
24.	Influence of Soaking Time on Microstructural, Machinability, and Mechanical Properties of Al-10Si-0.3 Mg Alloy Fabricated by Direct Powder Forging	A Dwivedi, M Singh, J Ramkumar, S Gangolu	2024	Journal of Materials Engineering and Performance, 1-15
25.	Electrochemical turning operation: A state of the art review	N Sagathiya, V Sharma, J Ramkumar	2024	Journal of Manufacturing Processes 113, 131-151
26.	A study of surface fatigue wear and influence of contaminated lubricant in journal bearing system using tribological and vibration analyses	Perumalla Sateesh Kumar, Muniyappa Amarnath, Santosh Kumar Kamarapu, Gunasegaran Varatharajan, H Chelladurai, BS Vardhaman, Janakarajan Ramkumar	2024	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering
27.	A study of surface fatigue wear and influence of contaminated lubricant in journal bearing system using tribological and vibration analyses	Perumalla Sateesh Kumar, Muniyappa Amarnath, Santosh Kumar Kamarapu, Gunasegaran Varatharajan, H Chelladurai, BS Ajay Vardhaman, Janakarajan Ramkumar	2024	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering
28.	Experimental study and modeling of laser micro texturing of Nitinol	Prasenjit Sharma, Sangeeth Purushothaman, Meenu Sachdeva, M Shanmuka Srinivas, N Venkaiah, J Ramkumar,	2024	Journal of Micromanufacturing, 25165984231215886

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29.	Comprehensive Investigation of the Mechanical Properties of 316L Stainless Steel Processed via Laser Powder Bed Fusion	M Pant, L Nagdeve, G Moona, H Kumar, A Rajput, J Ramkumar	2024	Journal of Materials Engineering and Performance, 1-14
30.	Learning from socially driven frugal innovation to design the future of healthcare: A case of mobile Primary Health Center	MH Akhtar, J Ramkumar	2024	Health Care Science 3 (1), 19-31
31.	Design Evolution of an Exhaust After Treatment System Development for a High-Power Diesel Engine Adhering Global Emission Norms	S Kulkarni, J Ramkumar	2024	SAE Technical Paper
32.	A comprehensive study for improving the working parameters for the design of a PSA-based oxygen concentrator	S Shrivastava, A Verma, J Ramkumar, R Aryal	2024	Engineering Research Express 6 (1), 015025
33.	Does rural India need a new primary healthcare delivery model?	MH Akhtar, J Ramkumar	2024	Design for Health 8 (1), 93-112
34.	Mapping wheelchair functions and their associated functional elements for stair climbing accessibility: a systematic review	A Verma, S Shrivastava, J Ramkumar	2024	Disability and Rehabilitation: Assistive Technology 19 (1), 200-221
35.	Selective etching of ITO–PET using a dry film photoresist for large area metamaterial fabrication	Sudeb Bhattacharya, Kajal Chaudhary, J Ramkumar, Kumar Vaibhav Srivastava	2024	Journal of Materials Chemistry C
36.	Excimer Laser Micro-texturing on Silicon Wafer Using Mask Projection	Gaganpreet Singh Rajkumar, J Ramkumar	2024	PROCESSING AND FABRICATION OF ADVANCED MATERIALS, VOLUME 3: Proceedings of the
37.	Investigations into the interfacial characteristics of Inconel 718/stainless steel 316L fabricated by multi-material Laser Powder Bed Fusion	Moloy Sarkar, Vikas Tiwari, Sarvesh Kumar Mishra, Sudhanshu Shekhar Singh, Janakarajan Ramkumar	2024	Procedia CIRP 124, 78-81
38.	Surface integrity analysis on selective removal by EDM of near-circular shapes from deterministic lattice	Sumit Gusain, Sarvesh Kumar Mishra, Amaia Calleja, Janakarajan	2024	Procedia CIRP 123, 464-469

S.No.	Title	Author(s)	Year	Complete Reference of Journal
	structures fabricated by LPBF	Ramkumar, Luis Norberto Lopez de Lacalle		
39.	A numerical study on the influence of workpiece rotational speed on process performance in electrochemical turning operation	Naisarg Sagathiya, Vyom Sharma, Janakarajan Ramkumar	2024	MATEC Web of Conferences 401, 04003
40.	Design of TPMS-based Uniform and Hybrid Graded Lattice Structures: A Fluid Flow Analysis	Rajkumar Rajkumar, Janakarajan Ramkumar, Kantesh Balani	2024	MATEC Web of Conferences 401, 11001
41.	Rethinking primary health centers (PHCs): designing for the post pandemic era	Md Haseen Akhtar, Janakarajan Ramkumar	2024	Sustainability, Agri, Food and Environmental Research
42.	AI in architecture: architects do not like AI. Is it?	MH Akhtar, J Ramkumar	2023	AI for Designers, 67-84
43.	AI in Product Design: Do Product Designers Use AI? What Do You Think?	MH Akhtar, J Ramkumar	2023	AI for Designers, 43-66
44.	AI for All: Who is AI? Our Future Friend?	MH Akhtar, J Ramkumar	2023	AI for Designers, 1-18
45.	AI in Interaction Design: AI Interacting Efficiently with the User. What?	MH Akhtar, J Ramkumar	2023	AI for Designers, 105-118
46.	AI in Visual Communication: AI Taking Down Graphic Designers. Scary?	MH Akhtar, J Ramkumar	2023	AI for Designers, 85-103
47.	AI for Designers: You Designers are Afraid of ML. Are We?	MH Akhtar, J Ramkumar	2023	AI for Designers, 19-41
48.	Thermal modeling and experimentation on discharge energy distribution and plasma flushing for a single discharge in EDM of D2 steel	Bibeka Nanda Padhi, Sounak Kumar Choudhury, and Ramkumar Janakarajan	2023	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering. 2023;0(0). doi:10.1177/09544089231194872
49.	Fabrication and Evaluation of Mechanical Properties of Biodegradable Groundnut Shell Composites	Bibeka Nanda Padhi, Sounak Kumar Choudhury, and Ramkumar Janakarajan	2023	Fabrication and Evaluation of Mechanical Properties of Biodegradable Groundnut Shell Composites, ISME Journal of Manufacturing and science, Vol 11 , No.1, 2022 , pp 01-07.
50.	Flexible Dielectric Spacer with Tunable Dielectric Properties for Metamaterial Absorber Application	Kajal Chaudhary,, Sudha Malik, Gaganpreet Singh, Sudeb Bhattacharya, J Ramkumar, S Anantha	2023	J. Phys. D: Appl. Phys. 57 05510110.1088/1361-6463/ad030e

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51.	A study of surface fatigue wear and influence of contaminated lubricant in journal bearing system using tribological and vibration analyses	Perumalla, Sateesh; Muniyappa, Amarnath; Kamarapu, Santhosh; V, Gunasegaran; Chelladurai, H; Vardhaman, BS AJay; Ramkumar, J	2023	Part E: Journal of Process Mechanical Engineering JPME-23-0015.R1
52.	An Investigation on Wettability Characteristics of Nanoparticle Enriched Cutting Fluid	Sarthak Singh, Vineet Dubey, Anuj Kumar Sharma, J. Ramkumar	2023	Materials Today Proceedings, doi.org/10.1016/j.matpr.2023.05.189
53.	Modeling and Prediction of Powered Parafoil Unmanned Aerial Vehicle Throttle and Servo Controls through Artificial Neural Networks	Kumar, Prashant; Choudhury, Bisheswar; Singh, Amandeep; Ramkumar, Janakarajan; Philip, Deepu; Ghosh, Ajoy	2023	The Journal Team, Drone Systems and Applications Canadian Science Publishing
54.	Fabrication of through-holes of different shapes using foil tool in EDM: Process development and analysis	Bibeka Nanda Padhi Sounak Kumar Choudhury, and Ramkumar Janakarajan	2023	Journal of Process Mechanical Engineering doi.org/10.1177/09544089231171467
55.	An investigation into alumina nanoparticle sizes on tribology, wettability and cutting performance of stainless steel	Dubey, Vineet; Sharma, Anuj Kumar; Ramkumar, J	2023	Journal of Process Mechanical Engineering
56.	Characterization of surface topography during multi-pass WEDM of MWCNT alumina composites	Meinam Annebushan Singh, Deba Kumar Sarma, Ondrej Hanzel, Pavol Sajgalik, Janakarajan Ramkumar	2023	CIRP Journal of Manufacturing Science and Technology
57.	Numerical simulation and experimentation to investigate the performance of powder mixed dielectric in electrical discharge micromachining	Mahavir Singh, VK Jain, Janakarajan Ramkumar	2023	Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture doi.org/10.1177/0954405423114770

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58.	Design and development of IV fluid warming system using TRIZ methodology	Siddhant Shrivastav, Abhishek Verma, Janakarajan Ramkumar	2023	IOP Science Engineering Research Express
59.	Making Primary Healthcare delivery robust for low resource settings – Learning from Mohalla Clinics	Md Haseen Akhtar, J Ramkumar	2023	Discover Social Science and Health
60.	Condition assessment of in-service SAE 10W-30 lubricating oil using spectroscopic and rheological analyses	Sangharatna M Ramteke, H Chelladurai, M Amarnath, B S Ajay Vardhaman, J Ramkumar, Juned A Siddiqui	2023	Sadhana (2022) 47:218 https://doi.org/10.1007/s12046-022-01988-y Sadhana(0123456789-vol V)
61.	Singh Characterization of surface topography during multi-pass WEDM of MWCNT alumina composites	Meinam Annebushan, J Ramkumar	2023	CIRP Journal of Manufacturing Science and Technology
62.	A Review of Smart Condition Monitoring System for Gearbox	Manvir Singh Lamba, Amandeep Singh, J Ramkumar	2023	Advances in Forming, Machining and Automation, Springer, 417 – 433
63.	Dynamic Topology Optimization of a Stair Climbing Spline Wheel	Aditya Dhankhar, Abhishek Verma, Janakarajan Ramkumar	2023	Advances in Simulation, Product Design and Development, Springer, 27 – 38
64.	Healthcare on wheels – mobilizing healthcare to the doorstep of the remotest population – a lesson learned from the covid-19 pandemic	Md Haseen Akhtar, J Ramkumar	2023	Springer Link, Discover Health Systems
65.	Tribological Performance Enhancement of Bronze Alloy through Microwave Irradiation: Fundamental Tribo-Tests and Real-Time Journal Bearing Applications	Perumalla Sateesh Kumar, Muniyappa Amarnath, Sonnappa Devaraj, B. S. Ajay Vardhaman, J. Ramkumar	2022	Journal of Materials Engineering and Performance DOI: 10.1007/s11665-022-07734-z
66.	Condition assessment of in-service SAE 10W-30 lubricating oil using spectroscopic and rheological analyses	Sangharatna M Ramteke, H Chelladurai, M Amarnath, Ajay Vardhaman, J Ramkumar, Juned A Siddiqui	2022	Sadhana Vol. 47, Issue 4, 1-14
67.	Large Area Surface Texturing Through Electrical Discharge Micromachining Process for Inducing Hydrophobicity	Mahavir Singh, Pragya Tripathi, J Ramkumar	2022	Advances in Modern Machining Processes DOI: 10.1007/978-981-19-7150-1_36

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68.	Enhancing the Hydrophobicity of Ti-6Al-4V through Multi-level Electrical Discharge Texturing	Mahavir Singh, Pragya Tripathi, J Ramkumar	2022	Surface Engineering, Taylor and Francis SUR7617R1 225502899
69.	Fabrication of micro-textured surfaces using Gravity-assisted EDM process with foil electrode to induce hydrophobicity on Cu surface	Bibeka Nanda Padhi, Sounak Kumar Choudhury, Janakarajan Ramkumar	2022	Material Today: Proceedings https://doi.org/10.1016/j.matpr.2022.10.095
70.	Analysis of Protective Coating for Optically Transparent Microwave Metamaterial Absorber	Kajal Chaudhary, Abhinav Bhardwaj, Rahul Vishwakarma, Kumar Vaibhav Srivastava, Anantha Ramakrishna, J Ramkumar	2022	IEEE MAPCON 2022 Proceedings
71.	Energy Optimization in Laser Micro-Machining of Transparent Metamaterial Absorber	Sudeb Bhattacharya, Rajkumar Rajkumar, Kajal Chaudhary, Kumar Vaibhav Srivastav, J Ramkumar	2022	IEEE MAPCON 2022 Proceedings
72.	Design of an Optically Transparent Wideband Absorber With 15 dB Absorption Bandwidth for C, X and Ku Band	Sudha Malik, Kumar Vaihav Srivastav, Gaganpreet Singh, Puneet K Mishra, J Ramkumar	2022	IEEE MAPCON 2022 Proceedings
73.	Enhancement of Oblique Incidence Performance of a Microwave Absorber Using Cylindrical Dielectric Resonator	Jyoti Yadav, Rahul Vishwakarma, Mondeep Saikia, Kumar Vaibhav Srivastav, J Ramkumar	2022	IEEE MAPCON 2022 Proceedings
74.	3-D fabrication using electrical discharge-milling: an overview	Mahavir Singh, J Ramkumar, V.K. Jain	2022	Materials & Manufacturing Processes
75.	Anti-bacterial and arsenic remediation insights in aqueous systems onto heterogeneous metal oxide (Cu _{0.52} Al _{0.1} Fe _{0.47} O ₄)/Rgo hybrid: an approach towards airborne microbial degradation	Yaswanth K Penke, Prem Anand Murugan, Sarvana Matheshwaran, Janakarajan Ramkumar, Kamal K. Kar	2022	Environmental Science and Pollutions Research Doi:10.1007/s11356-022-22169-8
76.	Electrical discharge micro-texturing using compound tool electrodes for tribological and wettability applications	Mahavir Singh, Pragya Tripathi & Janakarajan Ramkumar	2022	Surface Engineering doi: 10.1080/02670844.2022.2089801

S.No.	Title	Author(s)	Year	Complete Reference of Journal
77.	Material Selection for Ultrashort Pulsed Laser Textured Self-Cleaning Surfaces	KS Srin, J Ramkumar, R Bathe	2022	Journal of The Institution of Engineers (India): Series C, 1-7
78.	Large area fabrication of single micron features using two-photon polymerization with sub-nanosecond laser.	Singh G, Mishra D, Ramkumar J, Anantha Ramakrishna S.	2022	Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture. doi:10.1177/09544054221077781
79.	Analysis of circuit current in electrochemical micromachining process under the application of different waveforms of pulsed voltage	V Sharma, P Gupta, J Ramkumar	2022	Journal of Manufacturing Processes 75, 110-124
80.	A study on selective laser melting (SLM) of TiC and B4C reinforced IN718 metal matrix composites (MMCs)	V Mandal, P Tripathi, A Kumar, SS Singh, J Ramkumar	2022	Journal of Alloys and Compounds 901, 163527
81.	Effect of Vibratory Tip Amplitude on the Erosion Rate of Various Microstructures of High Carbon Steel	A Rajput, J Ramkumar, K Mondal	2022	Journal of Materials Engineering and Performance, 1-15
82.	Water attenuation enhances tribological damage resistance in laser peened steel	S Gowthaman, P Tripathi, S Ariharan, J Ramkumar, K Balani	2022	Materials Letters 308, 131175
83.	Numerical study on thermal analysis of square micro pin fins under forced convection	RS Niranjana, O Singh, J Ramkumar	2022	Heat and Mass Transfer 58(2), 263-281
84.	Effect of addition of strong oxidizer and temperature on the cavitation erosion resistance of different microstructures made from a high carbon steel	A Rajput, J Ramkumar, K Mondal	2022	Wear, 204245
85.	A low-profile consolidated metastructure for multispectral signature management	NK Gupta, G Singh, H Wanare, SA Ramakrishna, KV Srivastava, Ramkumar J	2022	Journal of Optics. J. Opt. 24 035102
86.	Facile synthesis of Al substituted Cu-Ferrite infused Reduced Graphene Oxide (rGO) nanohybrid for improving microwave absorption at gigahertz frequencies	SK Singh, YK Penke, J Ramkumar, MJ Akhtar, KK Kar	2022	Journal of Alloys and Compounds, 163659
87.	Laser Surface Texturing in Powder Bed Fusion: Numerical Simulation and	V Mandal, S Sharma, SS Singh, J Ramkumar	2022	Metals and Materials International 28 (1), 181-196 1

S.No.	Title	Author(s)	Year	Complete Reference of Journal
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88.	Cavitation Resistance of a Cr-Mn Stainless Steel, A Mild Steel, and A High-Carbon Steel Based on Rust Protectivity and Corrosion Behavior	A Rajput, J Ramkumar, K Mondal	2022	Journal of Materials Engineering and Performance 31 (1), 439-447
89.	Cavitation behavior of various microstructures made from a C-Mn eutectoid steel	A Rajput, J Ramkumar, K Mondal	2021	Wear 486, 204056 1
90.	Design and developmental approach aimed at polar solvent chemical sensor for biomedical application	KS Srin, J Ramkumar, R Bathe	2021	Materials Today: Proceedings. https://doi.org/10.1016/j.matpr.2021.11.191
91.	Perforated lightweight microwave metamaterial broadband absorber with discontinuous ground plane	G Singh, A Bhardwaj, KV Srivastava, J Ramkumar, SA Ramakrishna	2021	Applied Physics A 127 (11), 1-9
92.	Micro-texturing on flat and cylindrical surfaces using electric discharge micromachining	M Singh, VK Jain, J Ramkumar	2021	Journal of Micromanufacturing 4 (2), 127-137 2
93.	Polarization Insensitive Optically Transparent Microwave Metamaterial Absorber using Complementary Layer	A Bhardwaj, G Singh, KV Srivastava, J Ramkumar, SA Ramakrishna	2021	IEEE Antennas and Wireless Propagation Letters
94.	Micro-machining: An overview (Part II)	VK Jain, DS Patel, J Ramkumar, B Bhattacharyya, B Doloi, BR Sarkar	2021	Journal of Micromanufacturing, 25165984211045244
95.	Influence of laser surface texturing on the wettability and antibacterial properties of metallic, ceramic, and polymeric surfaces	I Singh, SM George, A Tiwari, J Ramkumar, K Balani	2021	Journal of Materials Research 36 (19), 3985-3999 1
96.	ORR performance evaluation of Al-substituted MnFe ₂ O ₄ /reduced graphene oxide nanocomposite	A Tyagi, YK Penke, P Sinha, I Malik, KK Kar, J Ramkumar, H Yokoi	2021	International Journal of Hydrogen Energy 46 (43), 22434-22445
97.	Impact of policy instruments on lead-acid battery recycling: A system dynamics approach	BV Joshi, B Vipin, J Ramkumar, RK Amit	2021	Resources, Conservation and Recycling 169, 105528
98.	Parametric Analysis of Laser Beam Percussion Drilling for Thin Titanium Alloy Sheet Using Yb: Yag Fiber Laser	M Singh, S Mishra, V Yadava, J Ramkumar	2021	Journal of Advanced Manufacturing Systems 20 (02), 317-340

S.No.	Title	Author(s)	Year	Complete Reference of Journal
99.	Level-one house agent-based decentralized resilient energy management	KKS Tomar, NV Srinath, J Ramkumar, SN Singh	2021	Electrical Engineering, 1-9
100	Impact of nanoclay filler reinforcement on CFRP composite performance during abrasive water jet machining	RK Thakur, KK Singh, J Ramkumar	2021	Materials and Manufacturing Processes, 1-10
101	Microscratching and fretting of electro-co-deposited Cr-based composite coatings with BN, graphene, and diamond reinforcements	P Tripathi, J Ramkumar, K Balani	2021	Journal of Materials Science 56 (10), 6148-6166
102	Insights of arsenic (III/V) adsorption and electrosorption mechanism onto multi synergistic (redox-photoelectrochemical-ROS) aluminum substituted copper ferrite impregnated rGO	YK Penke, AK Yadav, I Malik, A Tyagi, J Ramkumar, KK Kar	2021	Chemosphere 267, 129246
103	Effect of pearlitic morphology with varying fineness on the cavitation erosion behavior of eutectoid rail steel	A Rajput, J Ramkumar, K Mondal	2021	Ultrasonics Sonochemistry 71, 105399
104	Thermo-Hydraulic Performance of Square Micro Pin Fins under Forced Convection	S Onkar, J Ramkumar	2021	International Journal of Heat and Technology 39 (1), 170-178
105	A comprehensive review of free-form surface milling—Advances over a decade	RA Mali, TVK Gupta, J Ramkumar	2021	Journal of Manufacturing Processes 62, 132-167
106	Design Optimization of Lubrication System for a Four-Cylinder Diesel Engine	J Ramkumar, G Ranjit, V Sarath, V Vikraman, B Suresh, NP Babu, M Amit	2021	Advances in Automotive Technologies, 139-155
107	Rheological characterization of newly developed fly-ash mixed polymeric media and its finishing performance through abrasive flow machining	GA Gupta, IA Ansari, J Ramkumar, KK Kar	2021	Cleaner Engineering and Technology 2, 100085
108	Synergistic addition of yttria-stabilized zirconia and h-BN/graphene/diamond restricts multi-scale length wear of Cr-based hybrid coatings	P Tripathi, J Ramkumar, K Balani	2021	International Journal of Refractory Metals and Hard Materials, 99, p.105590.
109	Sustainable Electrochemical Micromachining Using Atomized Electrolyte Flushing	DS Patel, V Sharma, VK Jain, J Ramkumar	2021	Journal of The Electrochemical Society 168 (4), 043504

S.No.	Title	Author(s)	Year	Complete Reference of Journal
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111	Experimental investigation of abrasive waterjet hole cutting on hybrid carbon/glass composite	R.K. Thakur, K.K. Singh, J.Ramkumar	2020	Materials Today: Proceedings, 21, pp.1551-1558.
112	Delamination analysis and hole quality of hybrid FRP composite using abrasive water jet machining	R.K. Thakur, K.K. Singh, J.Ramkumar	2020	Materials Today: Proceedings, 33, pp.5653-5658.
113	The effects of graphene nanoplatelets on the tribological performance of glass fiber-reinforced epoxy composites	Santosh Kumar, KK Singh, Janakarajan Ramkumar	2020	Institution of Mechanical Engineers 10.1177/1350650120965756
114	Impact of nanoclay filler reinforcement on CFRP composite performance during abrasive water jet machining	R. K. Thakur, K. K. Singh & Janakarajan Ramkumar	2020	Materials and Manufacturing Processes https://doi.org/10.1080/10426914.2021.1906896
115	Comparative study of the influence of graphene nanoplatelets filler on the mechanical and tribological behavior of glass fabric-reinforced epoxy composites	Santosh Kumar, Kalyan K Singh, Janakarajan Ramkumar	2020	Polymer Composites Wiley DOI:10.1002/pc.25804
116	Experimental Investigation on Surface Topography of the Natural Ceramics in Abrasive Water Jet Cutting and Its Optimization Validation by Formulated Model	V Mandal, A Singh, GS Yadav, J Ramkumar, S Agrawal	2020	Advances in Unconventional Machining and Composites, 347-360
117	Experimental investigation of abrasive waterjet hole cutting on hybrid carbon/glass composite	RK Thakur, KK Singh, J Ramkumar	2020	Materials Today: Proceedings 21, 1551-1558
118	Experimental Modeling of EDMed Aluminum Metal Matrix Composite: A Review	RN Yadav, RK Porwal, J Ramkumar	2020	Emerging Trends in Mechanical Engineering, 511-518
119	Optically transparent protective coating for ITO-coated PET-based microwave metamaterial absorbers	K Chaudhary, G Singh, J Ramkumar, SA Ramakrishna, KV Srivastava,	2020	IEEE Transactions on Components, Packaging and Manufacturing Technology 10
120	Correlation of Three-Dimensional Roughness Parameters With the Crater Dimensions in μ ED-Milling	JM Jafferson, P Hariharan, J Ramkumar	2020	Journal of Micro and Nano-Manufacturing, 8(1).

S.No.	Title	Author(s)	Year	Complete Reference of Journal
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121	Continuous and ordered surface microtexturing on Cu and Ni-based alloys by novel electrochemical dissolution	HS Maharana, SVSN Murty, J Ramkumar, K Mondal	2020	Journal of Alloys and Compounds 817, 153263
122	Synergistic role of carbon nanotube and yttria stabilised zirconia reinforcement on wear and corrosion resistance of Cr-based nano- composite coatings	P Tripathi, PK Katiyar, J Ramkumar, K Balani	2020	Surface and Coatings Technology 385, 125381
123	Reducing overcut in electrochemical micromachining process by altering the energy of voltage pulse using sinusoidal and triangular waveform	DS Patel, V Sharma, VK Jain, J Ramkumar	2020	International Journal of Machine Tools and Manufacture 151, 103526
124	Optimization of process parameters in nano-finishing of Co-Cr-Mo alloy knee joint	L Nagdeve, VK Jain, J Ramkumar	2020	Materials and Manufacturing Processes, 1-8
125	Delamination analysis and hole quality of hybrid FRP composite using abrasive water jet machining	RK Thakur, KK Singh, J Ramkumar	2020	Materials Today: Proceedings, 33, pp.5653-5658.
126	An optically transparent and flexible microwave absorber for X and Ku bands application	Y Tayde, K Chaudhary, G Singh, A Dhumal, M Saikia, KV Srivastava, Ramkumar J	2020	Microwave and Optical Technology Letters 62 (5), 1850-1859
127	Fabrication of Al-Si controlled expansion alloys by unique combination of pressureless sintering and hot forging	E Saraswat, HS Maharana, SVSN Murty, S Shekhar, KK Kar, J Ramkumar	2020	Advanced Powder Technology, 31(7), pp.2820-2832.
128	Multi-spark numerical simulation of the micro-EDM process: an extension of a single-spark numerical study	M Singh, P Saxena, J Ramkumar, RV Rao	2020	The International Journal of Advanced Manufacturing Technology, 1-15
129	Arsenic remediation onto redox and photo-catalytic/electrocatalytic Mn-Al-Fe impregnated rGO: Sustainable aspects of sludge as supercapacitor	YK Penke, AK Yadav, P Sinha, I Malik, J Ramkumar, KK Kar	2020	Chemical Engineering Journal 390, 124000
130	Enhanced tribological performances of zinc Oxide/MWCNTs hybrid nanomaterials as the	BSA Vardhaman, M	2020	Materials Chemistry and Physics, 123447

S.No.	Title	Author(s)	Year	Complete Reference of Journal
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131	Micro-texturing on free- form surfaces using flexible-electrode through-mask electrochemical micromachining	DS Patel, V Agrawal, J Ramkumar, VK Jain, G Singh	2020	Journal of Materials Processing Technology, 282, 116644
132	Numerical Simulation of Melt-Pool Hydrodynamics in μ -EDM Process.	Mahavir Singh, Shashank Sharma, J. Ramkumar,	2020	Procedia CIRP, 95, 226-231, https://doi.org/10.1016/j.procir.2020.02.289 .
133	Numerical Simulation of Heat Transfer and Fluid Flow in Co-axial Laser Cladding of Ti6Al4V Alloys	V Mandal, S Sharma, J Ramkumar	2020	Advances in Simulation, Product Design and Development, 241-254
134	Investigations into Wire Electrochemical Machining of Stainless Steel 304	V Sharma, VK Jain, J Ramkumar	2020	Advances in Unconventional Machining and Composites, 41-52
135	An Optically Transparent Broadband Microwave Absorber Using Interdigital Capacitance	Sheokand, H., Singh, G., Ghosh, S., J Ramkumar., Ramakrishna, S. A., & Srivastava, K. V.	2019	IEEE Antennas and Wireless Propagation Letters, 18(1), 113-117
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245	GaN nanowires grown on silicon substrates engraved using stainless- steel micro-tip	S. Dhamodaran, D Sathish Chander, J. Ramkumar	2011	Materials Letters 65, 2398-2400
246	Simulation and experimental realization of micro-channels using a micro ED-milling process ..	G. Karthikeyan, K. Sambhav, J. Ramkumar, S. Dhamodaran	2011	Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, Vol.225, (12)pp.2206- 2219.
247	Rheological characterization and performance evaluation of a new medium developed for abrasive flow finishing	M. Ravi Sankar, V. K. Jain, J. Ramkumar, Kamal K. Kar	2010	International Journal of Precision Technology, Vol. 1, No. 3-4, PP 302-313
248	Micro ED-milling Process Performance: An Experimental Investigation	G. Karthikeyan, J. Ramkumar, S. Dhamodaran and S. Aravindan	2010	International Journal of Machine tools and Manufacture, Vol. 50, PP 718-727
249	The Effect of Process Parameters on Machining of Magnesium Nano Alumina Composite Through EDM	K. Ponappa, S. Aravindan, P. V. Rao, J. Ramkumar, M. Gupta	2010	The International Journal of Advanced Manufacturing Technology ,Vol 46 (9-12) , pp 1035-1042
250	XNBR Toughened Epoxy-Glass Fabric Composites: An Evaluation of their Static and Dynamic Mechanical Properties	A. K. Singhal, Rashmi R. Devi, Vivek Kumar, J. Ramkumar, R. K. Singh	2010	International Journal of Polymer Materials, Vol.27, (2),pp. 97-112
251	Experimental investigation of mechanical and tribological performance of XNBR rubber modified epoxy under dry sliding condition	A.K. Singhal, Vivek Kumar, J. Ramkumar, R. K. Singh and S. K. Malhotra	2010	International Journal of Plastic Technology, Volume 14, (1) ,pp 93-103.

S.No.	Title	Author(s)	Year	Complete Reference of Journal
252	Mechanical and Tribological Properties of Jute Sandwich Structures	V. Kumar, J. Ramkumar, P. Kumar, S. K. Malhotra	2010	Journal of Polymer Materials 27 (3), 267-281
253	Rotational abrasive flow finishing (R-AFF) process and its effects on finished surface topography	M. Ravi Sankar, V. K. Jain, J. Ramkumar	2010	International Journal of Machine tools and Manufacture, Vol. 50, pp 637-650
254	Controlling the nano-dot formation on GaAs surface during focused gallium ion beam processing	S. Dhamodaran, J. Ramkumar	2010	Radiation effects and defects in solids, Volume 165, (12), pp.889- 893.
255	Experimental investigation and mechanism of material removal in nano finishing of MMCs using abrasive flow finishing (AFF) process	Mamilla Ravi Sankar, J. Ramkumar and V. K. Jain,	2009	Wear, Vol. 266, (7-8), pp 688-698.
256	Experimental investigations into rotating workpiece Abrasive flow finishing	Mamilla Ravi Sankar, V. K. Jain and J. Ramkumar	2009	Wear, Vol. 267 (1-4), pp. 43-51
257	Preferential Media for Abrasive Flow Machining	Kamal K. Kar, N. L. Ravikumar, Piyushkumar B. Tailor, J. Ramkumar, D. Sathiyamoorthy	2009	J. Manuf. Sci. Eng. 131(1), p 011009 (pp 11)
258	Performance Evaluation and Rheological Characterization of Newly Developed Butyl Rubber Based Media for Abrasive Flow Machining Process	Kamal K. Kar, N. L. Ravikumar, Piyushkumar B. Tailor, J. Ramkumar, D. Sathiyamoorthy,	2009	Journal of Materials Processing Technology, Vol. 209, (4)pp. 2212-2221
259	Experimental Investigations and Modeling of Drill Bit Guided Abrasive Flow Finishing (DBG-AFF) Process	Mamilla Ravi Shankar, S. Mondal, J. Ramkumar, V. K. Jain	2009	International journal of Advanced Manufacturing Technology, Vol. 42, (7-8) pp. 678-688
260	The Measurement Of attogram mass Accumulation On nanostructures During e-Beam Scanning Using Carbon Nano Pillars in Resonant Mode	Amit Banerjee, TrunMankad, S. Dhamodaran, J. Ramkumar, V. N. Kulkarni	2009	Journal of Nano Technology, 20,(34)p 345501 (pp7).
261	Fabrication and Characterization of ABS Nano composite reinforced by Nano sized alumina particulates	Vivek Kumar, J. RamKumar , S. Aravindan , S. K. Malhotra, K. Vijai, Mukhul Shukla	2009	International Journal of Plastic Technology, Vol. 13, (2), pp. 133-149

S.No.	Title	Author(s)	Year	Complete Reference of Journal
262	Characterization of plasma in micro-EDM discharge using optical spectroscopy	Ramkumar J., Nick Glumacc, Shiv G. Kapoorc and Richard E. DeVor	2009	Journal of Manufacturing Technology, Vol. 11, PP 82-87
263	Defect controlled Water Jet Piercing of Continuous Fiber Reinforced Plastics	J. Ramkumar and T. Machida	2008	Journal of Advance Composite letters, Vol. 17(2), pp. 55-63.
264	TEM studies on recovery and recrystallisation in equal channel angular extrusion processed Al-3%Mg Alloy	Giribaskar, S., Gouthama, Prasad, R., Ramkumar J	2008	Transactions of the Indian Institute of Metals 61 (2-3), pp. 171-176
265	Laser based Surface Processing of Engineering Materials- State of the Art	I. A. Palani, S. Kanmani Subbu, N. J. Vasa, J. Ramkumar and M. Singaperumal	2008	International Journal on Design and Manufacturing Technologies, Vol. 2, No. 1, pp. 1-9, 2008
266	Pressure Distribution Analysis of Fiber Reinforced Plastic Components made by Rubber Pressure Molding Technique	K. K. Kar, S.D. Sharma, P. Kumar, J. Ramkumar, R. K. Appaji and K. R. N. Reddy	2007	Journal of Applied Polymer Science, Vol. 105(6) ,pp. 3333 -3354
267	Electro-discharge machining performance of TiCN-based cermets	B. V. Manoj Kumar, J. Ramkumar, B. Basu and S. Kang	2007	International Journal of Refractory Metals and Hard Materials, 25 392-399.
268	Crater Wear Mechanism of TiCN-Ni-WC Cermets during Dry Machining	B.V. Manoj Kumar, J. Ramkumar and Bikramjit Basu,	2007	International Journal of Refractory Metals & Hard Materials 25 (2007) 293-299.
269	Butt joining of similar & Dissimilar pipe material by cold joining process	J. Ramkumar, A. K. Singhal, Ritesh Kumar Singh and Prashant kumar	2007	Journal of Advanced Composite letters, Vol.16,(5), pp. 173-179.
270	Experimental investigation on effect of alumina filler in butyl through mechanical properties	P. B. Tailor, J. Ramkumar and K. K. Kar	2007	Journal of Engineering and technology, Vol. 20, 35-39
271	Erosion Wear behavior of TiC/Ni cermets containing secondary carbide (WC/NbC/TaC)	B.V. Manojkumar, Bikramjit Basu, S. Kang and J. Ramkumar	2006	Journal of American Ceramic Society, Vol. 89(12), pp. 3827-3831
272	Experimental Characterization of thin Sandwich Panel of Polymer Composite	Prasanth Kumar, Axay Kumar, Kamal. K. Kar and J. Ramkumar	2006	Journal of Advanced Composite letters, Vol. 15(3), pp. 89-98
273	Analysis of	K. K. Kar, S.D.	2006	Polymer Composites, Vol. 28, (5) pp. 637-649

S.No.	Title	Author(s)	Year	Complete Reference of Journal
	Rubber Pressure Molding Technique to Fabricate Fiber Reinforced Plastic components	Sharma, P. Kumar, J. Ramkumar, R.K. Appaji and K. R. N. Reddy		
274	A Mathematical Model for Determination of Limiting Blank Holding Force and Cavity Pressure in Hydromechanical Deep Drawing	Deep, K. S., Reddy, N. V., Agrawal, A., J. Ramkumar.	2006	Journal of Engineering Manufacture, Vol. 221 (2), pp. 155-162.
275	Effect of microwave treatment of WC inserts for drilling of GFRP composites	J. Ramkumar, Malhotra S.K., and R. Krishnamurthy	2005	Machining Science and Technology 9(2): 263-269
276	An enhancement of machining performance of GFRP by oscillatory assisted drilling	J. Ramkumar, Aravindan. S, S. K. Malhotra and R. Krishnamurthy	2004	International Journal of Advanced manufacturing technology, 23(3-4): 240-244
277	Effect of workpiece vibration on drilling of GFRP laminates	J. Ramkumar, S. K. Malhotra and R. Krishnamurthy,	2004	Journal of Materials Processing Technology, 152(3), 329-332
278	Enhancement of cutting performance of cemented carbide cuttings tools by microwave treatment	S. Aravindan, J. Ramkumar, S. K. Malhotra and R. Krishnamurthy	2003	Microwave and Radio Frequency Processing Ceramic Transactions, 199-206, 2003.
279	Microstructure and dry sliding wear of Ti-50Al alloy and Ti-47Al-3W/Ti2AlC composites produced by reactive arc-melting	J. Ramkumar, S. K. Malhotra, R. Krishnamurthy, Mabuchi. H, K. Demizu, K. Kakitsuji, H. Tsuda, T. Matsui and K. Morii	2003	Journal of Material Transactions, 44(9), 1861-1865
280	Mechanical and erosion behavior of Ti-47Al-3W/Ti2AlC composites by reactive arc melting	J. Ramkumar, A. Kaakitsuji. S.K. Malhotra, R. Krishnamurthy, H. Mabuchi, H. Tsuda, T. Matsui, and K. Morii	2003	Journal of Advanced composites letters, 12(4), 141-148
281	Studies on drilling of glass/epoxy laminates using coated high-speed steel drills	J. Ramkumar, S. K. Malhotra and R. Krishnamurthy	2002	Journal of Materials and Manufacturing Processes, 17(2), 313-322
282	Enhancing the metallurgical properties of WC insert (K-20) cutting tool through microwave treatment	J. Ramkumar, S. Aravindan, S. K. Malhotra, and R. Krishnamurthy	2002	Journal of materials letters, 53(3), 200-204.

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283	Synthesis of TiAl(Cr)/Ti ₂ AlC composites by reactive arc-melting	A. Kakitsuji, J. J Ramkumar. kinose, H. Mabuchi, H.Tsuda and K. Morii	2002	Journal of Materials Transactions, 43(10), 2589-2592
284	Microstructure and mechanical properties of Ti-B-N cast alloys prepared by reactive arc- melting	Morikawa. D, J. Ramkumar, H. Mabuchi, H. Tsuda, T. Matsui, and K. Morii,	2002	Journal of Material Transactions, 43(8), 2193-2196
285	Influence of tool status on flexural strength of machined CFRP components	J. Ramkumar, R. Krishnamurthy and S.K. Mal	2001	Journal of Advanced composites letters, 10(4), 178-187
286	Microwave Joining of Al ₂ O ₃ and SiC with Glass Inter layer	S. Aravindan, J. Ramkumar and R. Krishnamurthy	2000	Microwave and Radio Frequency Processing Ceramic Transactions Vol 3, 287-294
287	Online monitoring of oscillatory drilling of polymeric composites through acoustic emission	J. Ramkumar, SK Malhotra, R Krishnamurthy	2000	Indo-German Workshop on High Temperature Fibre Composite Materials, 231-242

List of peer reviewed conference publications:

S.No.	Title	Author(s)	Year	Name and Place of Conference
1.	Exploring the Efficacy of Feature Selection and Attention Enhanced Deep Learning in Multivariable Electricity Price Forecasting	Rahul Sagwal, Janakrajan Ramkumar, Sri Niwas Singh	2024	2024 IEEE PES Innovative Smart Grid Technologies-Asia (ISGT Asia), 1-6
2.	Transparent ITO-Coated PET Based Wideband and Wideangle Microwave Absorber	Jyoti Yadav, Kumar Vaibhav Srivastava, J Ramkumar	2024	2024 IEEE International Symposium on Antennas and Propagation and INC/USNC-URSI Radio Science Meeting (AP-S/INC-USNC-URSI), 1371-1372
3.	A numerical study on the influence of workpiece rotational speed on process performance in electrochemical turning operation	Naisarg Sagathiya, Vyom Sharma, Janakarajan Ramkumar	2024	MATEC Web of Conferences 401, 04003
4.	Design of TPMS-based Uniform and Hybrid Graded Lattice Structures: A Fluid Flow Analysis	Rajkumar Rajkumar, Janakarajan Ramkumar, Kantesh Balani	2024	MATEC Web of Conferences 401, 11001

5.	Surface integrity analysis on selective removal by EDM of near-circular shapes from deterministic lattice structures fabricated by LPBF	S Gusain, SK Mishra, A Calleja, J Ramkumar, LNL de Lacalle	2024	Procedia CIRP 123, 464-469
6.	Miniaturized Metamaterial Absorber Using Lossy Effective Dielectric-Medium and Resistive Metasurface	Jyoti Yadav, Mondeep Saikia, Kumar Vaibhav Srivastava, J. Ramkumar	2023	Metamaterials, Photonic Crystals & Plasmonics Conference, META 2023, PARIS - FRANCE
7.	Excimer Laser Micro-texturing on Silicon Wafer Using Mask Projection	Gaganpreet Singh Rajkumar, J Ramkumar	2023	Processing and Fabrication of Advanced Materials, Volume 3: Proceedings of the 29th International Conference on Processing and Fabrication of Advanced Materials (29th PFAM) September 6–8
8.	Design of Signages and Information Boards for a Mobile Primary Health Center (mPHC)	MH Akhtar, J Ramkumar	2023	International Conference on Research into Design, 293-304
9.	Designing mobile Baby Feeding Cubicle (mBFC) for a mobile Primary Health Center (mPHC)	MH Akhtar, J Ramkumar	2023	International Conference on Research into Design, 549-559
10.	Design of an Exterior Collapsible System for a Mobile Primary Health Center (mPHC)	MH Akhtar, J Ramkumar	2023	International Conference on Research into Design, 493-504
11.	Comparative Study of Data-Driven Short-Term Forecasting Techniques in Electricity Price Prediction	R Sagwal, SN Singh, J Ramkumar, SK Rajput	2023	International Conference on Green Energy and Sustainable Technology, 215-232
12.	Substrate Engineering for Tuning the Absorption Response of Microwave Absorber	J Yadav, A Mishra, R Vishwakarma, KV Srivastava, J Ramkumar	2023	2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), 1-5
13.	Transparent Metamaterial Absorber Fabrication by Pulsed-DC Magnetron Sputtering	S Bhattacharya, H Bandhu, A Verma, J Ramkumar, KV Srivastava	2023	2023 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), 1-4

14.	Design Considerations of Foot-Pedal Switch Controller to Reduce Muscle-Fatigue in Industrial Workers	A Sharma, J Ramkumar	2023	2023 10th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), 925-930
15.	Stacked LSTM based Enhanced Data-driven Framework for Forecasting Day-ahead Electricity Prices	R Sagwal, J Ramkumar, SN Singh	2023	2023 10th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), 931-936
16.	Numerical Modeling of Incremental Sheet Metal Forming Process for Generating Complex Shapes on Ti6Al4V	Bharat Bhushan, Janakarajan Ramkumar, Uday Shanker Dixit	2023	International Conference on Processing and Fabrication of Advanced Materials, 425-435
17.	Finite Element Analysis on the Biomechanical Stability of TPMS-Based Scaffolds for Large Segmental Femur Bone Defect	Rajkumar, Abhishek Verma, Anupam Yadav, Janakarajan Ramkumar, Kantesh Balani	2023	International Conference on Processing and Fabrication of Advanced Materials, 437-451
18.	SLA-Printed Porous Acoustic Meta-Material	Prasenjit Sharma, J Ramkumar	2023	International Conference on Processing and Fabrication of Advanced Materials, 71-91
19.	Excimer Laser Micro-texturing on Silicon Wafer Using Mask Projection Technique	Rajkumar, G Singh, J Ramkumar	2023	International Conference on Processing and Fabrication of Advanced Materials, 41-58
20.	Plasma Electrolytic Polishing Process: Mechanism and Characteristics	Sushil Kumar, C Chandraprakash, J Ramkumar	2023	International Conference on Processing and Fabrication of Advanced Materials, 91-101
21.	Origami inspired deployable structures: Future mobile healthcare for low resource settings	Md Haseen Akhtar, Janakarajan Ramkumar	2023	Proceedings of the International Conference of Contemporary Affairs in Architecture and Urbanism-ICCAUA, 209-219
22.	Development of a Matrix-based Heating and Cooling Therapy Pad to Relieve Muscle Injury-Induced Body Pain	Siddhant Shrivastava, Janakarajan Ramkumar	2023	2023 IEEE International Symposium on Medical Measurements and Applications (MeMeA), 1-6

23.	Recent Advances in Mechanical Engineering	Sasmeeta Tripathy, Sikata Samantaray, J. Ramkumar, S. S. Mahapatra	2023	ICRAMERD: International Conference on Recent Advances in Mechanical Engineering Research and Development
24.	Design of an Optically Transparent Wideband Absorber with 15 dB Absorption Bandwidth for C, X and Ku Band	S Malik, G Singh, J Ramkumar, PK Mishra, KV Srivastava	2022	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), 336-340
25.	Energy optimization in laser micro-machining of transparent metamaterial absorber	S Bhattacharya, K Chaudhary, KV Srivastava, J Ramkumar	2022	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), 106-110
26.	Analysis of protective coating for optically transparent microwave metamaterial absorber	Kajal Chaudhary, Abhinav Bhardwaj, Rahul Vishwakarma, J Ramkumar, S Anantha Ramakrishna, Kumar Vaibhav Srivastava	2022	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), 89-92
27.	Enhancement of Oblique Incidence Performance of a Microwave Absorber using Cylindrical Dielectric Resonator	J Yadav, R Vishwakarma, M Saikia, KV Srivastava, J Ramkumar	2022	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), 770-773
28.	Covid-19 pandemic effect on education in developing and developed countries	Ranbir Kaur, Janakaraian Ramkumar, Amandeep Singh	2022	ARSSS - ICABS International conference on Agricultural and Biological Sciences(ICABS) 2022 Proceedings Toronto, Canada
29.	Multispectral Non-Hierarchical Metastructures for Radiation Management and Limits of Perfect Absorption	Nitish Kumar Gupta, Harshawardhan Wanare, Gaganpreet Singh, J Ramkumar, Kumar Vaibhav Srivastava, S Anantha Ramakrishna	2021	2021 IEEE MTT-S International Microwave and RF Conference (IMARC), 1-4
30.	An Optically Transparent Microwave Broadband Absorber using Resistive Sheet	H. Sheokand, G. Singh, S. Ghosh, M. Saikia, K.V. Srivastava, J. Ramkumar, S. Anantha Ramakrishna	2018	National Conference on Communication
31.	Numerical Simulation of the Micro-EDM Process	Mahavir Singh, Devesh Kumar Chaubey, J. Ramkumar	2018	Annual Technical Volume of Production Engg. Division Board:

S.No.	Title	Author(s)	Year	Name and Place of Conference
	using Multi-Spark Approach			The Institute of Engineers (India), Vol.III 2018
32.	Micromachining of Silicon using Excimer laser for MEMS applications	Gaganpreet Singh, J. Ramkumar, S. Anantha Ramakrishnan	2017	Proceedings of 10th international conference on Precision, Meso, Micro and Nano Engineering (COPEN 10)
33.	Redox active Mn-Al-Fe ternary metal oxide Nano adsorbent for Arsenic Remediation and Mitigation by Significant As (0) formation behavior	Y.K. Penke, G. Anantharaman, J. Ramkumar, K.K. Kar	2017	5th Nano Today Conference, December 6-10, 2017 (Hawaii, USA)
34.	Experimental investigation on the tribological behaviour of nano boric acid and FMWCNTs as oil additives on bronze alloy surface	B.S. Ajay Vardhaman, M. Amarnath, J. Ramkumar	2017	International Conference on Manufacturing Technology and Simulation (ICMTS), IIT Madras 2017
35.	Micro-wire electric discharge machining of Mg alloy used in biodegradable orthopaedic implants	T. U. Siddiqui, J. Ramkumar	2017	ICEMS 2017
36.	A review on work environment quality in shop floor: Impact of aerosols	Singh, A., Philip, D., J Ramkumar.	2017	IEEE Region 10 Humanitarian Technology Conference, R10-HTC 2017: Proceedings
37.	A review on NIOSH lifting equation applicability	Singh, A., Singh, S., Philip, D., J Ramkumar.	2017	IEEE Region 10 Humanitarian Technology Conference, R10-HTC 2017: Proceedings
38.	Experimental Investigations into nano-finishing of	Leeladhar Nagdeve, V. K. Jain and J. Ramkumar	2016	joint 18th CIRP International conference on Electro Physical and Chemical Machining (ISEM XVIII) (Accepted)
39.	Preliminary study of effect of surface texturing on hypodermic needles	Divyansh Patel, V. K. Jain, J. Ramkumar, Ankit Shrivastava	2016	International conference on nanotechnology for better living (Accepted)
40.	Micro/Nano Surface texture evaluation by reconstruction from images using approximated BRDF model	Hitendra Kumar, J. Ramkumar, K. S. Venkatesh	2016	International conference on nanotechnology for better living (Accepted)

S.No.	Title	Author(s)	Year	Name and Place of Conference
41.	Experimental investigation into international abrasive finishing of a helical grooves of a revolver barrel	Sahil Kajal , V.K Jain, J.Ramkumar, Leeladhar Nagdeve	2016	6th international & 27th all india manufacturing technology, design and Research (AIMTDR 2016)
42.	Micro-channels fabrication through pulsed Nd:YAG laser on Ti6Al4V	Abhilasha Singh, Divyansh Patel, J. Ramkumar, K. Balani	2016	International conference on nanotechnology for better living (Accepted)
43.	Optimization Study of Electric Discharge Trepanning Process on CP70	Vishal Kumar, J. Ramkumar, R. K. Gupta	2016	International conference on nanotechnology for better living (Accepted)
44.	Finite element analysis for shape prediction of micro-dimples produced through ECMM	Prashnath K, Divyansh Patel, V. K. Jain, J. Ramkumar	2016	International conference on nanotechnology for better living (Accepted)
45.	Magneto rheological finishing of Ti-4Al-6V disc	G. Parameswari Guides: Dr.V. K . Jain, Dr. J Ramkumar	2016	International conference on nanotechnology for better living (Accepted)
46.	A roadmap to account for potential uncertainties in non-destructive testing during structural health monitoring of composites	A.S. Milani, D. Frey, R. Seethaler, J. Ramkumar, B. Crawford, H. Teimouri, F. Islam, P. Pal	2016	(2016) 31st ASC Technical Conference and ASTM D30 Meeting, September 19-22, Williamsburg, USA
47.	Development of nano finishing technique for flat and curved plates	G.Parameswari, V.K.Jain, J. Ramkumar	2016	Proc. of the Intl. Conf. on Nanotechnology for Better Living, 2016.
48.	Experimental investigations into nano finishing technique for flat ti-6al-4v disc	G. Parameswari, V.K.Jain, J. Ramkumar	2016	Conference AIMTDR 2016
49.	A study on hydrodynamics of melt expulsion in Nd:YAG laser drilling of titanium	Sharma, S., Akhtar, S. N., Pachaury, Y., & J Ramkumar. (2015)	2016	Proceedings of COMSOL CONFERENCE 2015, Pune India
50.	Experimental investigation into nano-finishing of freedom surfaces using negative replica of the knee joint	Leeladhar Nagdeve, V. K. Jain, J. Ramkumar	2016	International conference on electro physical and chemical machining (ISEM XVIII)
51.	Experimental investigation into Nano finishing of micro-channels	Leeladhar Nagdeve, V. K. Jain, J. Ramkumar	2016	3rd international conference on Nanotechnology for better living
52.	Feasibility study of micromachining of silicon wafer with	Gaganpreet Singh, Shashank Sharma, Kartar Singh and J. Ramkumar	2016	Proc. Of the Intl. Conf. on Nanotechnology for Better Living, 2016

S.No.	Title	Author(s)	Year	Name and Place of Conference
	excimer Laser using COMSOL multiphysics			
53.	Viscosity Affecting Wettability of Laser Textured Surfaces	Abhilasha Singh, Divyansh Patel, J. Ramkumar, Kantesh Balani	2016	AIMTDR 2016, College of Engineering Pune
54.	Experimental Investigations into Turbulated Holes using Shaped Tube Electrochemical Machining	Mahavir Singh, V.K. Jain and J. Ramkumar	2016	AIMTDR 2016, College of Engineering Pune
55.	Nano-finishing of freeform surfaces a review	Leeladhar Nagdeve, V. K. Jain, J. Ramkumar	2016	Journal of institute of engineer, India (IEI), production Div 2016
56.	Preliminary investigation into Nano-finishing of freeform surface (femoral component) using novel finishing fixture	Leeladhar Nagdeve, V. K. Jain, J. Ramkumar	2016	6th international & 24th all India Manufacturing technology, design and research (AIMTDR 2016)
57.	Experimental Analysis of Wire Electrochemical Machining Process	Vyom Sharma, V.K. Jain and J. Ramkumar	2016	AIMTDR 2016, College of Engineering Pune
58.	Large area texturing of metal surfaces	J. Ramkumar, Syed Nadeem Akhtar and S. A. Ramakrishna	2015	3rd International Conference on Laser and Plasma Applications in Materials Science, Jan 2015, Kolkata.
59.	Nano-finishing of freeform/Sculptured surfaces: A review	Leeladhar Nagdeve, V. K. Jain and J. Ramkumar	2015	International conference on Precision, Meso, Micro and Nano Engineering (COPEN9)
60.	Experimental Investigations on Micro-hole EDM Drilling in γ -TiAl	Vishal Kumar, J. Ramkumar, R. K. Gupta	2015	International Conference on Precision, Meso, Micro and Nano Engineering (COPEN-9)
61.	Prediction and quantification of damage during milling of unidirectional carbon fiber reinforced plastics (CFRPs)	F. Islam, J. Ramkumar, A.S. Milani	2015	International conf. on manufacturing of advanced composites (ICMAC 2015), June 24-25, Bristol, UK
62.	A study on millisecond underwater laser ablation of thin titanium sheets	Sharma, S., Akhtar, S. N., & J Ramkumar.	2015	proceedings of COPEN15 IIT Bombay.
63.	Nano-finishing of freeform/sculptured surfaces	Leeladhar Nagdeve, V. K. Jain and J. Ramkumar	2015	International conference on precision , meso , micro and Nano Engineering (COPEN9 2015)

S.No.	Title	Author(s)	Year	Name and Place of Conference
64.	Examining the Role of Cutting Fluids in Machining AISI 1040 Steel Using Tungsten Carbide Insert under Minimal Quantity Lubrication Condition	Ajay Vardhaman B.S, DurweshJhodkar, J. Ramkumar, M. Amarnath, H. Chelladura	2015	Institute of Engineers (IIE Conferences), London (UK),2015.
65.	Modeling of Finishing Forces and Surface Roughness in Abrasive Flow Finishing (AFF) Process Using Rheological Properties	Sachin Singh, M. Ravi Sankar,V. K. Jain and J. Ramkumar	2014	5th International and 26th All India Manufacturing Technology, Design and Research Conference, IIT Guwahati, Dec 2014
66.	Application of Grey Relational Analysis for Geometrical Characteristics in Abrasive Water Jet Milled Channels	T. V. K. Gupta, J. Ramkumar, Puneet Tandon and N. S. Vyas	2014	5th International and 26th All India Manufacturing Technology, Design and Research Conference, IIT Guwahati, Dec 2014
67.	Effect of Layer Thickness in Micro Electric Discharge Milling: An Experimental Investigation	J.M. Jafferson, P. Hariharan and J. Ram Kumar	2014	5th International and 26th All India Manufacturing Technology, Design and Research Conference, IIT Guwahati, Dec 2014
68.	Fabrication of micro lens array by excimer laser micromachining	Syed Nadeem Akhtar, Shashank Sharma and J. Ramkumar	2014	5th International and 26th All India Manufacturing Technology, Design and Research Conference, IIT Guwahati, Dec 2014
69.	"State of the art on Abrasive Water Jet milling: Challenges ahead"	Gupta, T.V.K., Ramkumar J., Puneet Tandon and Vyas, N.S.	2014	ICMMM 2014 International Colloquium on Materials, Manufacturing and Metrology, August 8-9, 2014, IIT Madras. Ref No. ICM2586
70.	Tool wear assessment in turning AISI 1040 steel using cutting force signature analysis	Ajay Vardhaman B.S, DurweshJhodkar, J. Ramkumar, M. Amarnath, H. Chelladurai	2014	International Colloquium on Materials, Manufacturing and Metrology (ICMMM-14), IIT Madras. 2014
71.	Optimization of process parameters in the hole sinking electro discharge micromachining using GRA-PCA	Rajesh Kr. Porwal, Vinod Yadava and J. Ramkumar	2013	Proceedings of the International conference on Recent Advances in Material Processing Technology, (RAMPT-13).

S.No.	Title	Author(s)	Year	Name and Place of Conference
72.	Role of process parameters on pocket milling with Abrasive Water Jet Machining technique	T V K Gupta, J. Ramkumar, Puneet Tandon, N S Vyas	2013	International Conference on Aerospace, Mechanical, Automotive and Materials Engineering, ICAMAME 2013, Dubai, UAE. Published in Word Academy of Science, Engineering and Technology, Issue 82, October, 2013, pp.1374-1379.
73.	Influence of process parameters on the dimensions of the channels prepared using abrasive water jet machining	Gupta, T.V.K., Puneet Tandon, Ramkumar J. and N.S Vyas	2013	2013 ASME International Mechanical Engineering Congress and Exposition (IMECHE), November 15-21, 2013, San Diego, CA, USA, Ref No. IMECE-64063
74.	Fabrication of complex Micro-channels by micro EDM Milling	Vaibhav shukla, S. Nadeem, S. Kanmani Subbu and J. Ramkumar	2013	2013 ASME International Mechanical Engineering Congress and Exposition (IMECHE), November 15-21, 2013, San Diego, CA, USA, Ref No. IMECE-64031
75.	Microfeature edge quality optimization in excimer laser ablation of metallic film	Syed Nadeem Aktar, J. Ramkumar and S. Antharama krishnan	2013	2013 ASME International Mechanical Engineering Congress and Exposition (IMECHE), November 15-21, 2013, San Diego, CA, USA, Ref No. IMECE-64149
76.	Effect of magnetic field in single discharge dry micro EDM on Si and Stainless steel	Kanmani Subbu, J. Ramkumar & S. Damodharan	2013	2013 ASME International Mechanical Engineering Congress and Exposition (IMECHE), November 15-21, 2013, San Diego, CA, USA, Ref No. IMECE-67138
77.	EDM and μ -EDM Plasma Parameters Measurement: Overview	S. Kanmani Subbu, S. Dhamodaran, and J.Ramkumar	2013	A National Conference on Manufacturing: Vision for Future (MVF-2013), IIT Guwahati
78.	Multi Objective Optimization of EDM Parameters on	Ravi Kumar Dungroth J. Ramkumar, and S. Kanmani Subbu	2013	An International Conference on Precision, Meso, Micro

S.No.	Title	Author(s)	Year	Name and Place of Conference
	Machining Carbon-Carbon Composites using RSM-GRA Approach			and Nano Engineering (COPEN-8)
79.	A Preliminary Investigation on the forces generated with process parameters during Abrasive Water Jet Milling on SS304	T. V. K. Gupta, J. Ramkumar, S. Nalinaksh, Vyas and Puneet Tandon	2012	International Conference on Innovations in Design and Manufacturing (InnDeM 2012), PDPM IITDM J, Dec.05-07, 2012 (paper No. 2032).
80.	Material removal rate prediction for blind pocket milling of SS304 using Abrasive Water Jet Machining Process	T. V. K. Gupta, J. Ramkumar, S. Nalinaksh Vyas and Puneet Tandon	2012	Hong Kong International Conference on Engineering and Applied Science (HKICEAS) Hong Kong, (Paper No. 411)
81.	Investigating of Single Discharge Dry Micro EDM on Different Planes of Silicon	S. Kanmani Subbu, S. Dhamodaran, and J. Ramkumar	2012	4th International & 25th (AIMTDR-2012), Jadhavpur university, Kolkata, India
82.	Micro-electric Discharge Plasma: Characterization and Applications	S. Kanmani Subbu, S. Dhamodaran, and J. Ramkumar	2012	International conference on Microactuators and Micromechanisms (MAMM-2012), CSIR-CMERI, Durgapur, India
83.	Multi-Objective Optimization of Hole Drilling Electro Discharge Micromachining Process	Rajesh Kr. Porwal, Vinod Yadava, J. Ramkumar	2011	Proceedings of the International conference on precision, Meso, Micro and Nano engineering (COPEN-2011)
84.	Crater Diameter of Single Discharge Micro EDM: Modeling and Experimental Comparison	Omprakash Rawat , S. Kanmani Subbu, J. Ramkumar, and S.Aravindan	2011	International conference on Advanced Materials and Processing (ICAMP-2011), R M K Engineering College, Chennai, India
85.	Magnetic Field Assisted micro EDM–Simulation of Field Distribution and Experimental Investigation	Omprakash Rawat, S. Kanmani Subbu. J. Ramkumar, and S. Dhamodaran	2011	National Conference on Design and Manufacturing (NaConDM-2011), IITD&M (Kancheepuram) 27-28, May 2011, pp. 997-992
86.	Micro EDM on Silicon	S. Kanmani Subbu, J. Ramkumar, and S. Dhamodaran	2011	26th National Convention of Production Engineers and National Seminar on New Vistas Production

S.No.	Title	Author(s)	Year	Name and Place of Conference
				Technologies, Jaipur, Rajasthan, India , pp.79
87.	Fe-Cu Alloy Nano-particles Generation by Electric Discharge Machining	S. Kanmani Subbu, Jitendra Kumar Kateiyar, A. Chelvane, J. Ramkumar, and S. Dhamodaran	2011	6th International Conference on Micro Manufacturing (ICOMM-2011), Tokyo Denki University, Japan, March 7-10, 2011, pp. 213-218
88.	Plasma characteristics of dry EDM	S. Kanmani Subbu, J. Ramkumar, S. Dhamodaran	2010	RAMTM-2010, National conference on Recent Advances in Manufacturing Technology and Management, Jadavpur University, Kolkata, 19-20 Feb 10.
89.	Plasma and Crater characteristics of dry EDM	S. Kanmani Subbu, J. Ramkumar, S. Dhamodaran	2010	RDMT-2010, National convention on Recent Developments in Manufacturing Technology and Management, NIT, Agartala, 8-9 May 10.
90.	Effect of Humidity on Impact Behavior of Glass Fiber/Epoxy Sandwich Structures	Vivek Kumar and J. Ramkumar	2010	RDMT-2010, National convention on Recent Developments in Manufacturing Technology and Management, NIT, Agartala, 8-9 May 10.
91.	High Speed Hard Turning With Minimum Quantity Lubrication	M. Ravi Sankar, and J. Ramkumar	2010	RDMT-2010, National convention on Recent Developments in Manufacturing Technology and Management, NIT, Agartala, 8-9 May 10
92.	A Study on Tool Wear in Micro Electric Discharge Milling (Micro ED-milling) Process	G. Karthikeyan, J. Ramkumar and S. Aravindan	2010	RDMT-2010, National convention on Recent Developments in Manufacturing Technology and Management, NIT, Agartala, 8-9 May 10.
93.	Micro -manufacturing processes: A Brief Overview	Kumar pallav and J. Ramkumar	2010	RDMT-2010, National convention on Recent Developments in Manufacturing Technology and Management, NIT, Agartala, 8-9 May 10.
94.	Investigation of dry micro-EDM: single pulse discharge on silicon	S. Kanmani Subbu, J. Ramkumar, S. Dhamodaran	2010	International Forum on Micro Manufacturing (IFMM) 2010, Gifu,

S.No.	Title	Author(s)	Year	Name and Place of Conference
				Japan, 20-23 October '10
95.	Dry Micro-Electric Discharge Deposition of Copper on Die steel: Effect of Pulse on-time	S. Kanmani Subbu, Jitendra Kumar Kateiyar, J. Ramkumar,	2010	International Workshop on Micro Factories (IWFM) 2010, 7th International Workshop on Microfactories, Daejeon Convention Centre, Korea, 24-27 October '10
96.	Investigating Non Conventional Machining of Silicon	S. Kanmani Subbu, J. Ramkumar, S. Dhamodaran, and Sujith Sagar	2010	3rd International & 24th AIMTDR-2010, Andra Pradesh, India, 13-15 December '10
97.	Numerical Simulation of the Laser Induced Plasma Micro-machining Process (LIP-MM)	Kumar Pallv, J. Ramkumar, Nagahanumaiah, and Kornel F. Ehmann	2010	(IWFM) 2010, 7th International Workshop on Microfactories, Daejeon Convention Centre, Korea, 24-27 October '10
98.	Comparative Assessment of the Laser Induced Plasma Micro-machining (LIP-MM) and the Micro-EDM Process	Kumar Pallv, J. Ramkumar, Nagahanumaiah, and Kornel F. Ehmann	2010	International Forum on Micro Manufacturing (IFMM) 2010, Gifu, Japan, 20-23 October '10
99.	Dependence of AFF process on Rheological Characteristics of Soft styrene based organic polymer abrasive medium	M. Ravi Sankar, V. K. Jain and J. Ramkumar	2010	3rd International and 24th All India Manufacturing Technology Design and Research Conference, Andhra University, Visakhapatnam, December 13-15, 2010.
100.	CAD Based Modeling and Prediction of Tool Wear in μ ED-milling	G. Karthikeyan, K. Sambhav, D. Santhosh and J. Ramkumar	2010	3rd International and 24th All India Manufacturing Technology Design and Research Conference, Andhra University, Visakhapatnam, December 13-15, 2010.
101.	Investigation on Laser Shot Peening (LSP) of Ti alloys	S. Kanmani Subbu, J. Ramkumar, N. J. Vasa	2009	International Conference on Emerging Research and Advances in Mechanical Engineering, Chennai, India

S.No.	Title	Author(s)	Year	Name and Place of Conference
102.	Micro Fabrication through micro EDM	G. Karthikeyan, J. Ramkumar	2009	International Conference on Advanced Manufacturing And Automation Incama WHERE?
103.	Parametric investigation on Laser shock processing (LSP) parameters using Dimensional Analysis, Design and Manufacturing Issues Relevant to Automotive and Allied Industries	S. Kanmani Subbu, J. Ramkumar, N. J. Vasa	2009	IPRoMM-2009, Chennai, India
104.	Estimation of diameter during machining of Tungsten electrode by micro Block EDG process, Design and Manufacturing Issues Relevant to Automotive and Allied Industries	G. Karthikeyan, J. Ramkumar, Shalabh	2009	IPRoMM-2009, Chennai, India
105.	Dynamic Characterization of Nano Composite Pillars	Tarun Mankad, Amit Banerjee, S. Dhamodaran, J. Ramkumar and V. N. Kulkarni	2009.	ME Department Poster Presentation, IIT Kanpur,
106.	Experimental investigations into rotating workpiece abrasive flow finishing	Mamilla Ravi Sankar, V. K. Jain and J. Ramkumar	2009	International conference on Wear of Materials (WOM-09), Las Vegas, 2009.
107.	Exploring vibration aptitude and atto-gram mass sensing ability of FIB fabricated nano-pillars	Amit Banerjee, Trun Mankad, S. Dhamodaran, J. Ramkumar, V. N. Kulkarni	2009	International coference cum workshop on nanosciece and nanotechnology, Ansal institute of technolgy, Gurgaon
108.	Focused ion beam fabricated nano structures: Mass sensor to opto-electronics	S. Dhamodaran, J. Ramkumar, V. N. Kulkarni	2009	Theme meeting on quantum structures, BARC, Mumbai,
109.	Dimensional Analysis of Tool Wear Rate in u-EDM Milling Process	G. Karthikeyan, J. Ramkumar and S. Aravindan	2009	COPEN 6, International Conference on Precision, Meso, Micro and Nano Engineering, Coimbatore
110.	Nano-finishing of metal matrix composites using polymer rheological abrasive medium	Mamilla Ravi Sankar, J. Ramkumar and V. K. Jain	2009	Processing and fabrication of advanced materials (PFAM18), Tohoku University, Sendai, Japan
111.	Mechanical and Tribological behavior of Glass-Epoxy	Vivek Kumar , A. K. Singhal, J. RamKumar , S. Aravindan, S. K. Malhotra	2009	TRIBO-INDIA Conference on Tribology of

S.No.	Title	Author(s)	Year	Name and Place of Conference
	Composites Modified using XNBR Elastomer			Automotive Systems, IIT Delhi
112.	A study on the effect of process parameters in blind pocket milling using Abrasive Water Jet Machining	T. V. K. Gupta, J. Ramkumar, N. S. Vyas	2009	6th International Conference on Precision, Meso, Micro and Nano Manufacturing (COPEN6), 11-12 Dec. 2009, PSG College of Engineering, Coimbatore, pp. B28-32
113.	State of the art Magnetic Abrasive Finishing	Sandeep Nair and J. Ramkumar	2008	14th International Conference on Frontiers in Design and Manufacturing Engineering (ICDM), India.
114.	Tribological Performance of Nano Alumina Composites	S. Aravindan and J. Ramkumar	2008	International Conference on Sintering 2008, California, USA.
115.	Rubber Composite: a Deformable Nano Finishing Tool for Viscoelastic Flow Finishing Process	Piyushkumar B Tailor, J. Ramkumar, Kamal K. Kar	2008	ICCE, KUNMING CHINA.
116.	Characterization of plasma in Micro-EDM discharge using Optical Spectroscopy	Nagahanumaiah, J. Ramkumar, Nick Glumac, S. G. Kapoor, R. E. De vor	2008	ICOMM – 08, September 2008 Carnegie Mellon, US
117.	Understanding Gap Phenomena in Micro EDM process using underwater acoustics	Anuj Kumar Garg, Nagahanumaiah, J. Ramkumar, Nick Glumac, S. G. Kapoor, R.E. De vor	2008	IWMF, Chicago, US
118.	Rheological characterization and performance evaluation of a new medium developed for abrasive flow finishing	M. Ravi Sankar, V. K. Jain, J. Ramkumar, Kamal K. Kar	2008	2nd International and 23rd All India Manufacturing Technology, Design and Research conference, IIT Madras (India)
119.	Development of MAF setup for finishing of ultra high speed shafts	R. Sandeep Nair, G. Karthikeyan, J. Ramkumar, Sunil Jha, Anil Varghese	2008	2nd International and 23rd All India Manufacturing Technology, Design and Research Conference WHERE?
120.	High Strength joints using GRPF: An experimental Study	Prasanth Kumar, Rajeev Kumar and J. Ramkumar	2007	Engineering Design IN-2007, Bangalore, India.
121.	“Rheological Characterization of Uncured Alumina Filled Butyl Composite	Piyushkumar B. Tailor, J. Ramkumar and Kamal K. Kar	2007	ICADM, Madurai, India.

S.No.	Title	Author(s)	Year	Name and Place of Conference
122.	Composite: A Deformable Nano finishing tool	Piyushkumar B. Tailor, J. ramkumar and Kamal. K. Kar	2007	International and INCCOM-6 conference on future trends in composite materials and processing, India.
123.	Effect of electrode shape and rotation on EDM performance of Inconel 718	R. S. Pawade, S.S. Joshi, P.K. Bramankar and J. Ramkumar	2007	International and INCCOM-6 conference on future trends in composite materials and processing, India.
124.	TEM Studies on Recovery and Recrystallisation in SPD Processed Al-3%Mg Alloy	S. Giribaskar, Gouthama, J. Ramkumar and R. Prasad	2007.	International Conference on Metals And Alloys: Past, Present And Future (METALLO-2007), Indian Institute of Technology, Kanpur,
125.	Role of SiCP on the Microstructural Evolution of ECAE Processed Al-10%SiCP	S. Giribaskar, Gouthama and J. Ramkumar	2007	MMC International and INCCOM-6 Conference on Future Trends in Composite Materials and Processing (IINCCOM- 6), Indian Institute of Technology, Kanpur
126.	Influence of process parameters of electroless Ni-P coating on carbon fibers	Prabhat Agnihotri, Ariful Rahaman, Niranjana patra, J. Ramkumar, S. Basu and Kamal. K. Kar	2006	APMC, Chennai, India
127.	Fabrication of ABS-Alumina Nanocomposites", Indo-Japan Workshop on Nanotechnology composites	S. Srivastava, J. Ramkumar and Kamal. K. Kar	2006	IIT Kanpur.
128.	Abrasive Flow Machining of Carbon-Carbon Composites using Styrene Butadiene Rubber	Piyush B Tailor, Ahankari S. Suresh Rao, Ramkumar J. and Kamal K. Kar	2006	Nano Finishing, IRIkerala 2006, India
129.	Ultra-fine grained Metallic Materials by Severe Plastic Deformation	Sivaswamy Giribaskar, Gouthama, J. Ramkumar and Rajesh Prasad	2006	International Conference on Recent Advances in Materials and Processing), PSG College of Technology, Coimbatore
130.	Role of microwave in manufacturing	S. Aravindan, J. Ramkumar and A. K. Sharma	2004	CAMMT, India
131.	Damage Tolerancing of Drilling of GFRP composites	J. Ramkumar, S. K. Malhotra and R. Krishnamurthy	2004	CAMMT, India
132.	Modelling of Left over strength in Drilling of Composites Laminates	S. K. Malhotra, R. Krishnamurthy and J. Ramkumar	2004	COMPTEST, Bristol.

S.No.	Title	Author(s)	Year	Name and Place of Conference
133.	Indo-Japan Workshop on Nanotechnology	J. Ramkumar, "Microwave towards Nanomanufacturing	2004	Tokyo, Japan.
134.	Effect of workpiece vibration on drilling of GFRP laminates	J. Ramkumar, S. K. Malhotra and R. Krishnamurthy	2003	ISAMPE, India.
135.	Effect of Lay-up on drilling of GFRP composites	J. Ramkumar, S. K. Malhotra and R. Krishnamurthy	2003	ICCST- 2003, South Africa.
136.	Ultrasonic drilling of polymeric composites	J. Ramkumar, R. Krishnamurthy and S. K. Malhotra	2001	CANCOM 2001, Canada.
137.	On-line monitoring of material response of GFRP composites during ultrasonic machining through Acoustic Emission	J. Ramkumar, R. Krishnamurthy and S. K. Malhotra	2001	CAR & FOF 2001, South Africa.
138.	Response of High Frequency, low amplitude impact and Low frequency, High amplitude impact test on joining of SiC by microwave hybrid heating techniques	J. Ramkumar, S. Aravindan and R. Krishnamurthy	2000	International Seminar on Manufacturing technology beyond 2000, India.
139.	Online monitoring of oscillatory drilling of polymeric composites through acoustic emission	J. Ramkumar, S. Arul, S. K. Malhotra and R. Krishnamurthy	2000	High temperature Fiber composite materials-2000, India.
140.	Drilling of Fiber reinforced composites using microwave treated cutting WC inserts	J. Ramkumar, S. Aravindhnan, S.K. Malhotra and R. Krishnamurthy	2000	RAMP-2001, 358-365, India
141.	Defect Evaluation through online monitoring on Drilling of Carbon reinforced composites using brazed WC Inserted Drill	J. Ramkumar, R. Krishnamurthy and S. K. Malhotra	2000	Manufacturing Engineering in twenty first century-2001, 25-28, India.

Details and status of patents filed/accepted and commercialized (International, National):

S. No.	Title of the Invention	IPA No. / Patent No.
1	A Plunger to Remove Wax from Ear	368729-001
2	Therapy Exercise Gloves	397112-001
3	Ineosin Hybrid Graded Tpms-based Scaffold For Bone Tissue Engineering Applications	425532-001
4	IoT based Menstrual Teaching Doll	27921/2024-CO/L
5	Device For Soil Tilling And Method Thereof	202311073980
6	Device For Assisting in Intraoral Operations and Method Thereof	202311061542

S. No.	Title of the Invention	IPA No. / Patent No.
7	Method For Selective Etching of Indium Tin Oxide From Dielectric Substrates For Industrial Scale Manufacturing	202311054880
8	Ergonomic Arm Rest for Dental Clinicians and Hygienists	417647-001
9	Method For Selective Etching of Indium Tin Oxide From Dielectric Substrates For Industrial Scale Manufacturing	202311054880
10	JIVHAA' – A Prognostic Tongue Depressor for Paediatricians	420077-001
11	IWPrimsum Hybrid Graded TPMS Lattice for Bone Tissue Engineering: Potential for Various Fields of Applications	435729-001
12	Scaffold For Bone Tissue Engineering Applications And Method Of Fabrication Thereof	202511006122
13	Wearable Writing Assistant	445895-001
14	Self-operation Enema for Managing Constipation	450195-001
15	A Hybrid Assistive Device for Transfer, Mobility and Rehabilitation to Assist Frail Person	434785-001
16	Air Ventilation System for Personal Protective Sealed Garments	202411080374
17	Trolley/cart sanitization unit	423773-001
18	Retrofit for E-rickshaw for frontline health workers	425324-001
19	Wearable Device And Method For Providing Alert Signals To A User With Visual Impairments	202411017569
20	A Device For Guiding Cardiopulmonary Resuscitation With Audio Feedback	202411037719
21	Ergonomic Arm Rest for Dental Clinicians and Hygienists	417647-001
22	Stress Free Games	27032/2023-CO/L
23	Stair Climbing Wheel Chair Design	238758.00
24	Multicolor Interchangeable Flaps and Convertible Form of Bag	201611023368.00
25	Hand Pump Design	249921.00
26	A Novel Tube-well Hand Pump	2727/Del/2012
27	A Self Propelled Stair Climbing Wheel Chair	2097/DEL/2011
28	Protective Layer for Microwave Metamaterial Absorbers and Method Thereof	201911050380.00
29	A Wearable Device for Maintaining Body Temperature	201611031350.00
30	A Millimetre Level Measuring Ruler for Measuring by Touch	650/DEL/2013
31	Chair with Toilet Seat	376422-001
32	Multifunctional Chair	376421-001
33	Chair Walker	376423-001
35	Glass Ampoule Breaker Design	380841-001
36	A Thermally Stable and Reinforced Polypropylene-SiC Nanocomposite, A Method and Application Thereof	202011056116.00
37	Multipurpose Proctoscope: Hinge Type Design	325093-001
38	Multipurpose Proctoscope: Nested Type Design	325057-001
39	Indoor Box Cricket Game Design	379880-001

S. No.	Title of the Invention	IPA No. / Patent No.
40	Algorithm for the working of Home Based Oxygen Concentrator	10142/2023-CO/SW
41	Orthopedic Device for Alleviating Pain of A Body Part and Method Thereof	202311036298.00
42	Jaw Opening device for Diagnostic Inspection	202011057432.00
43	An Automatic Safety Gate System for Staircase	202011056117.00
44	SITOLIA-The Table Game Design	340094-001
45	Jaw Rehabilitation Device And Controlling Method Thereof	202311038942.00
46	Device For Breaking Ampules And Method Thereof	202311047382.00
47	Learn by Shapes Copyright	5346/2022-CO/L
48	Jaw Opening Device Design	355721-001
49	Gear Based Jaw Opening Device Design	355728-001
50	Spring Based Jaw Opening Device Design	355749-001
51	Matrix Based Electric Heating & Cooling Pad Design	356960-001
52	Smart, Multilingual Talking Bot for Learning & Educating Children for Child Abuse Copyright	9484/2022-CO/L
53	Multipurpose Heating System for Heating One or More Objects and A Method Thereof	202211059691.00
54	Multipurpose Extension Key to reduce human contacts in public Places Design	329190-001
55	Smart Biogas Plant Design	355718-001
56	A Medium for Nano-finishing of Complex Component's Internal/external Surfaces and a Method for Preparation Thereof	712/DEL/2013
57	Automatic Mechanical Pricking Machine	2898/DEL/2015
58	A Phototherapy Unit for Treatment of Hyperbilirubinemia or Neo-natal Jaundice of Multiple Babies	873/DEL/2014
59	A Sample Extraction Device and Operator Thereof	201811009657.00
60	A Plunger to Remove Wax from Ear Design	368728-001
61	Portable Medical Suction Device	202311028936.00
62	Samaritan (Phototherapy Unit) Design	287986.00
63	Interactive Board Game Design	249922.00
64	Weight Training Device for Cramps, Medical Injury & Exercise in Leg Design	327146-001
65	Lotus Shaped Holding Device Design	355860-001
66	Seed Oil Extractor Design	355861-001
67	Tool for Measuring and Drawing Quadrilateral Design	258028.00
68	Angular Clock for Measuring Time and Angle Design	258030.00
69	Tool for Measuring and Drawing Triangles Design	258029.00
70	Kurzo, A Chair for Staircase Design	373048-001
71	Respiratory Muscle Trainer Design	372698-001
72	Systems and Methods for Dry Processing Fabrication of Binary Masks with Arbitrary Shapes for Ultra-violet Laser Micromachining	US- 14/408,721
73	A Green Process for Fabrication of Binary Masks with Isolated Features for Micromachining and Photolithography	US - 14/760, 394
74	An Auxiliary System for Filtering Aerosol Particles Released from An Electrical Discharge Machining (EDM) Tool	202211076615.00
75	An Adjustable Air Filter Testing Device for Testing Performance of Air Filters	202211076672.00
76	Metal Cutting Device With Waste-Collection Mechanism	202311055721.00
77	A Metamaterial Based Wearable and A Method	201811038763.00

	Thereof	
78	Controlled Micro-texturing of Transparent Conducting Oxide Thin Films for Uniform Transparency	201811038031.00
79	Apparatus for Performing an Electrochemical Micro-machining Process	202011012055.00
80	Large Area Micro-Texturing on Free-Form Surfaces by Flexible-Electrode Through-Mask Electrochemical Machining	201911022950.00
81	Shoe Insole Heating System	202211041677.00
82	Light Weight Breathing Device for Virus and Pollution Protection Design	372611-001
83	Apparatus for Finishing of Ball using Abrasive Flow Finishing	201811016131.00
84	A Hanger to Hang a Plurality of Garments for Drying, Organizing and Exhibition/showcasing	3552/DEL/2013
85	Fountain Tower for Wastewater Treatment Design	355879-001
86	A Walking Device for Enhancing Capabilities of a Visually Impaired Person	202011026370.00
87	A Softening and Dilation Device for Cervix of Animals	202211077148.00
88	A Process for Making A House from Recycled Waste Materials	202111061685.00
89	Method and Apparatus for Manufacturing Furniture from Waste Material	202111061712.00
90	A Device for Magnetic Abrasive Finishing of Multiple Workpieces and Magnetic Abrasive Finishing Process	2309/DEL/2008
91	Microfluidic Devices and Methods for Their Preparation Use	2232/DEL/2014
92	Butt Joint using Reinforced Adhesives	679/DEL/2007
93	Polymeric Nanocomposite Films with Embedded Channels and Methods of Their Preparation and Use	US - 15/115, 263
94	Mn-Al-Fe Impregnated RGO Hybrid Composite for Arsenic Adsorption and its Sludge as Super- capacitor	201911002684.00
95	A Process for Synthesis of Nano Particles of $\text{LiNi}_{0.5}\text{Co}_{0.5}\text{PO}_4$ (LNCP) and Use Thereof	201911049732.00
96	Surface Finishing Composition For AFM Process and AFM Process Using the Same	201911029291.00
97	A Hydrogen/methanol Based Low Working Temperature Polymer Electrolyte Membrane Fuel Cell	1586/DEL/2015
98	A Novel Viscoelastic Media Used for a Nano-finishing of Materials Through Abrasive Flow Machining Process and a Method of Manufacture Thereof	591/DEL/2007
99	Parametric Anisotropic BRDF for 3D Surface Reconstruction and Micro Texture Evaluation	201711001182.00
100	A Machining Device for Turning and Boring of an Electrically Conducting Workpiece Using Electrochemical Machining	202211076892.00
101	Irilla (Lamp) Design	292052.00
102	Peltify Wearable Device for Thermoregulation Design	277649.00
103	Business Purpose Utility Vehicle-vegetable Cart Design	277648.00
104	Business Purpose Utility Vehicle-ironing Cart Design	277651.00
105	Business Purpose Utility Vehicle-saloon Design	277652.00
106	Bicycle for Carrying Food Articles Design	289821.00
107	Milkman Bicycle Design	289822.00
108	Bicycle for Vegetable Transport Design	289823.00
109	Rotatory Abrasive Flow Finishing Process for Finishing and Texturing of Internal and External	811/DEL/2009

	Surfaces of Hard and Composite Materials and an Apparatus Therefore	
110	Magnetic Float Levitative Finishing	883/DEL/2007
111	Grater Design	325203-001
112	Automated Subglottic Aspiration Device	201811016906.00
113	A Multipurpose Transporter with Modular Configuration Design	232708.00
114	A Multipurpose Transporter with Modular Configuration	3157/DEL/2010
115	The Drift-battery Operated Campus Vehicle Design	234987.00
116	Fabrication of Jute Fiber Sandwich Composites	1688/DEL/2008
117	Packaging System for Large Caliber Ammunition Design	280638.00
118	A Packing Case for One or More Large-caliber Ammunition Shells	201711043201.00
119	A Broncho training Device	920/DEL/2014
120	System, Method and Device for Responsive Advancement of Mandible	201811009344.00

127 Graduated Students in M. Tech, M. Des, MS and Ph. D:**- There are 16 students currently pursuing their Ph. D**

S.No.	Title	Name		Degree	Year
		Author	Supervisor		
1.	Integrated Product Design Methods for Manually Propelled Wheelchair	Verma, Abhishek	J Ramkumar	Ph.D	2024
2.	Holistic Approaches for Enhancing Patient Well-Being: Uniting Methodologies in Medical Innovation	Shrivastava, Siddhant	J Ramkumar	Ph.D	2024
3.	Mechanical, viscoelastic, and wear behavior of inorganic micro filler-filled polymeric composites: Effect of filler content and particle size	Naqvi, Shania Zehra	Ramkumar, J; Kar, Kamal Krishna	Ph.D	2024
4.	Experimental Investigation and Modeling of tool health monitoring system using multiple sensor data-fusion approaches in turning of hardened steel	Kane, Amarjit Prakashrao	Choudhury, Sounak; Ramkumar, J	Ph.D	2022
5.	Flexible Dielectric and Composite Materials for Microwave Metamaterial Applications	Chaudhary, Kajal	Ramkumar, J; Ramakrishna, S Anantha	Ph.D	2022
6.	Shape dependent electrochemical performance of Co-doped olivine phosphate (nano-sheet-, sphere-, plate and micro-brick-, leaf-, and cauliflower-like particles) for secondary, thin, and flexible Li-ion battery applications	S Kiran Kumar	J Ramkumar	Ph.D	2022
7.	Experimental investigation and modeling of tool health monitoring system using multiple sensor data-fusion approaches in turning of hardened steel	Kene, Amarjit Prakashrao	Choudhury, Sounak Kumar; Ramkumar, J	Ph.D	2022
8.	Effect of composition and microstructures on the cavitation behaviour of steels	Arun Rajput	J Ramkumar	Ph.D	2022
9.	Effect of composition and microstructures on the cavitation behavior of steels	Rajput, Arun	J Ramkumar; Mondal, Kallol	Ph.D	2021
10.	Fundamental Insights into the Electrical Discharge Micromachining Process for Performance Enhancement	Singh, Mahavir	J Ramkumar	Ph.D	2021
11.	A Study on the Process Fundamentals and Improvements in Wire Electrochemical Micromachining & its Application in Large Surface Area Texturing	Sharma, Vyom	J Ramkumar	Ph.D	2021

12.	Decentralized active power management and control of a microgrid using multi-agent based approach	Tomar, Krishna Kumar Singh	Singh, Sri Niwas; J Ramkumar	Ph.D	2021
13.	Tribological Performance and Characterization of Individual and Hybrid Nanomaterials as Lubricant Additives in SAE Automotive and Biodegradable Lubricants	Vardhaman, Ajay B S	J Ramkumar; Amarnath, M	Ph.D	2021
14.	Development of machining techniques for fabrication of large area metamaterial absorbers	Singh, Gaganpreet	J Ramkumar	Ph.D	2020
15.	Role of Ceramic and Carbonaceous Reinforcements on Mechanical, Tribological and Anticorrosive Properties of Electrodeposited Cr-based Coatings	Tripathi, Pragya	J Ramkumar; Balani, Kantesh	Ph.D	2020
16.	Large area micro-texturing for flat, curved and free-form metal surfaces using electrochemical micromachining	Patel, Divyansh	Jain, Vijay Kumar; J Ramkumar	Ph.D	2020
17.	Estimation of throttle and platform servo controls using artificial neural network for a powered parafoil unmanned aerial vehicle	Choudhury, Bisheshwar	J Ramkumar; Philip, Deepu; Shyam, Radhey	Ph.D	2019
18.	Differential Finishing of Freeform/Sculptured Surfaces using Inverse Replica in Rotational-Magnetorheological Abrasive Flow Finishing (R-MRAFF) Process	Nagdeve, Leeladhar	J Ramkumar; Jain, Vijay Kumar	Ph.D	2018
19.	Arsenic Remediation, Mitigation and Surface Complexation Study onto Ni, Co, Cu, and Mn Based Ternary Metal Oxide Adsorbents (M-Al-Fe)	Penke, Yaswanth Kumar	J Ramkumar; Kar, Kamal Krishna	Ph.D	2018
20.	Micromachining of thin films and surfaces of metals and polymers using excimer laser	Akhtar, Syed Nadeem	J Ramkumar; Ramakrishna, S Anantha	Ph.D	2015
21.	Optical spectroscopy and Microscopic Investigations of Dry Micro EDM: Fundamentals and Applications	S, Kanmani Subbu	J Ramkumar	Ph.D	2014
22.	In-Process Monitoring of Abrasive Water Jet Milling	GUPTA, T V K	J Ramkumar; Vyas, Nalinaksh S; Puneet, Tandon	Ph.D	2014

23.	Nano-finishing of Metal Matrix Composites using Rotational Abrasive Flow Finishing (R-AFF) Process	Mamilla, Ravi Sankar	Jain, Vijay Kumar; J Ramkumar	Ph.D	2012
24.	Micro Electric Discharge Milling (μ ed-Milling) Process For Fabrication Of Complex Micro-Features	Karthikeya n, G	J Ramkumar	Ph.D	2011
25.	Effect of milling parameters on the cavitation behaviour of medium carbon steel	Sheikh, Suhail	Ramkumar, J	M.Tech	2024
26.	Design and Development of a Fused Deposition Modeling Process through Application of Value Engineering Techniques	Chhetri, Tara	Ramkumar, J; Singh, Amandeep	M.Tech	2024
27.	Designing of Additively Built Acoustic Metamaterial to improve Acoustic Behaviour and Performance	Zeeshan, Mohd	Ramkumar, J	M.Tech	2023
28.	Improving Efficiency of Pneumonia Detection in Chest X-Rays Using Convolutional Neural Networks Based Deep Learning Model	Khan, Mohammad Shahid	Ramkumar, J	M.Tech	2023
29.	Permeation of air through a graphene sheet: a molecular dynamics study	Luwaria, Parth	Kar, Kamal Krishna; Basu, Sumit; Ramkumar, J	M.Tech	2023
30.	Generation of a textured surface using Wire Electrochemical Micromachining and analysis of the wetting behaviour	Yadav, Krishnakant	J Ramkumar	M.Tech	2022
31.	Influence of Zirconia ($ZrO_{2.8}Y_{2}O_3$) Coating on the Copper Tool in EDM Machining	Sahu, Rohit Kumar	Choudhury, Sounak Kumar; J Ramkumar	M.Tech	2021
32.	Analytical Modelling of Elliptical Vibration Cutting (EVC) to Predict Cutting Forces	Shivaji Shirale, Arvind	J Ramkumar	M.Tech	2019
33.	Automation of the Excimer Laser Micromachining and Two Photon Polymerization process for large area fabrication	Mishra, Deepak	J Ramkumar	M.Tech	2019

34.	Waste fly ash mixed polymeric media for surface finishing of industrial parts through abrasive flow machining process	Gupta, Gopal Ashok	Kar, Kamal Krishna; J Ramkumar	M.Tech	2019
35.	Investigations into Electrochemical Milling for the generation of complex 3D Microstructures	Dayal, Prabhu	J Ramkumar	M.Tech	2019
36.	End-of-Life Analysis of Automobile Lead-Acid Batteries: A System Dynamics Approach	Joshi, Brahmesh	J Ramkumar; B, Vipin	M.Tech	2019
37.	Theoretical and Experimental Analysis of Wire Electrochemical Micromachining (Wire-EMM) Process	Sharma, Vyom	J Ramkumar	M.Tech	2018
38.	Fabrication of flexible absorber using Screen Printing Technology	Singh, Gaganpreet	J Ramkumar	M.Tech	2018
39.	Thin Wall Micromachining of Ti-6Al-4V using Wire Electrical Discharge Machining Process	Singh, Mahavir	J Ramkumar	M.Tech	2018
40.	Numerical modelling of micro electric discharge machining using multi-spark approach	Chaubey, Devesh Kumar	J Ramkumar	M.Tech	2018
41.	Performance Enhancement Of Ti-6Al-4v Alloy In Minimal Quantity Lubrication Grinding Using Nanofluids	Kumar, Tarun	J Ramkumar	M.Tech	2017
42.	Study of thermally produced cuprous oxide as a low cost photovoltaic material with fabrication and characterization of Cu/Cu ₂ O Schottky junction and p-Cu ₂ O/n-ZnO heterojunction solar cell	Danayak, Somnath	Kar, Kamal Krishna	M.Tech	2017
43.	Finishing of Ball Using Abrasive Flow Finishing	Dubey, Dhananjay	J Ramkumar	M.Tech	2017
44.	Surface micro-channeling of metals via Electro-chemical dissolution	Kumar Ravi	J Ramkumar; Mondal, Kallol	M.Tech	2017

45.	Parametric optimization and experimental study of cryogenic treated and modified tool geometry in CFRP drilling	Pandey, Dibyanshu	J Ramkumar	M.Tech	2017
46.	Process Parameters Optimization in Wire Feed Metal and Polymer Additive Manufacturing	Raj, Ravi	J Ramkumar	M.Tech	2017
47.	Effect of Attenuating Medium on the Tribology of Laser Peened Armoured steel	S, Gowtham an	J Ramkumar; Balani, Kantesh	M.Tech	2017
48.	Design and development of mrf process for nanofinishing of ti6al4v discs	Gundavarapu, Parameshwari	Jain, Vijay Kumar; J Ramkumar	M.Tech	2017
49.	Modelling and Validation of micro feature generated on metal surface using Electro Chemical Micro Machining (ECMM)	Karupothula, Prashanth	J Ramkumar	M.Tech	2016
50.	Finishing of helical gears using abrasive flow finishing	Sharma, Dipti	Kar, Kamal Krishna; J Ramkumar	M.Tech	2016
51.	Development of experimental methodology to Determine the optimum Mechanical operating Pressure for an electrolyser	Parashtekar, Alhad	J Ramkumar	M.Tech	2016
52.	Experimental investigations on electric discharge trepanning of difficult-to-cut aerospace materials	Kumar, Vishal	J Ramkumar; Gupta, R K	M.Tech	2016
53.	Parametric Anisotropic BRDF for 3D Reconstruction and Micro-Texture Evaluation	Kumar, Hitendra	J Ramkumar; Venkatesh, K S	M.Tech	2016
54.	Design and Development of a Mobile Gamma CT Scanner	Srivastav, Abhishek	Munshi, Prabhat; J Ramkumar	M.Tech	2016
55.	Analysis of Mobile Gamma Ray CT Scanner	Dwivedi, Parul	Munshi, Prabhat; J Ramkumar	M.Tech	2016

56.	Stress corrosion and alternate wear-corrosion effects on the degradation of low carbon steels	Murkute, Pratik	J Ramkumar; Mondal, Kallol	M.Tech	2016
57.	Surface Grinding of Duralumin using Minimum Quantity Lubrication	Mathur, Sudhanshu	J Ramkumar	M.Tech	2016
58.	Investigations into Internal Magnetic Abrasive Finishing of a Revolver Barrel	Kajal, Sahil	Jain, Vijay Kumar; J Ramkumar	M.Tech	2015
59.	Prediction and quantification of defect during machining of carbon fiber reinforced polymer (CFRP) composites	Islam, Faisal	J Ramkumar	M.Tech	2015
60.	Effect of carbon morphologies on friction stir deformation of Al 6061 alloy	Kumar, Binit	J Ramkumar; Balani, Kantesh	M.Tech	2015
61.	Laser Surface Texturing of Ti-6Al-4V under Confined Environment	Kumar, Ashwani	J Ramkumar	M.Tech	2015
62.	Precision machining of high aspect ratio holes in Ti-6Al-4V alloys using magneto-EDM process	Singh, Vijay Kumar	J Ramkumar	M.Tech	2014
63.	Multi-objective optimization of EDM parameters on machining carbon-carbon composites	Dungroth, Ravi Kumar	J Ramkumar	M.Tech	2014
64.	Nano finishing of micro channels for micro reactor	Singh, Neha	J Ramkumar	M.Tech	2014
65.	An Experimental Investigation on Surface Grinding of Ti6Al4V using MQL technique	Singh, Chandra Bhan	J Ramkumar	M.Tech	2014
66.	Vibration assisted Plasma Arc Machining of Mild Steel	Nandan, Devaki	J Ramkumar	M.Tech	2014

67.	Fabrication and Evaluation of Mechanical Properties, Tribology and Piercing Behaviour of Groundnut Shell-PVA/PP Composites	Shah, Randhir Kumar	J Ramkumar	M.Tech	2014
68.	Fretting Wear Behavior of Laser Peened Ti-6Al-4V	Kumar, Dharmesh	J Ramkumar	M.Tech	2014
69.	Edible Pulse Characterization Using IITK X-Ray Mini CT Scanner	Sharma, Rashmi	Munshi, Prabhat; J Ramkumar	M.Tech	2014
70.	Fabrication of Complex Circuit Using Electrochemical Micro Machining on Printed Circuit Board (PCB)	Singh, Jitendra	Jain, Vijay Kumar; J Ramkumar	M.Tech	2014
71.	Fault detection and classification in drilling using vibration analysis	Kumar, Adarsh	J Ramkumar	M.Tech	2013
72.	Design of Math products to impart spatial understanding in children	M, Jeyakumar	J Ramkumar	M.Tech	2013
73.	Fabrication and Flow Analysis of Micro- Channels for Bipolar Plate of Polymer Electrolyte Membrane Fuel Cell	Kumar, Charchit	Kar, Kamal Krishna; J Ramkumar	M.Tech	2013
74.	Data Error Analysis of In House Built Multi-Detector Gamma Ray CT scanner using first kanpur theorem	Shaikh, Rehan Ahmed	Munshi, Prabhat; J Ramkumar	M.Tech	2013
75.	Fabrication and Characterization of Complex Micro Channels by Micro Electric Discharge Milling (μ -ED Milling)	Shukla, Vaibhav	J Ramkumar	M.Tech	2012
76.	Numerical simulation and experiments of nano pulsed U.V. laser on metal and polymer	Choudhary, Hirendra	J Ramkumar	M.Tech	2012
77.	Design of multidetector system for gamma ray imaging and nuclear safety	Kanwal, Virendra Singh	Munshi, Prabhat; J Ramkumar	M.Tech	2011

78.	Magnetic abrasive finishing with a ball-end tool and force analysis	Sathua, Chandr a Sekhar	Jain, Vijay Kumar; J Ramkuma r	M.Tech	2011
79.	Modeling and Simulation of Magnetic Field Assisted Single Discharge Micro-EDM	Rawat, Omprakas h	J Ramkumar	M.Tech	2011
80.	Novel Synthesis of Micro- and Nano-Granular Fe-Cu alloy by Electric Discharge Machining	Katiyar, Jitendra Kumar	J Ramkumar; Dhamodara n, S	M.Tech	2010
81.	Investigation of optimizing parameters for Blind Pocket milling using Abrasive water jet machining	Cholla, S Chandra Bose	J Ramkumar; Kalra, Manjeet S	M.Tech	2009
82.	Theoretical Modeling on Magnetic Abrasive Finishing Process	Dutt Roy, Soumyajy oti	J Ramkumar	M.Tech	2009
83.	Exploring vibrational aptitude and atto-gram mass sensing ability of composite nano-pillars	Mankad, Tarun	J Ramkumar; Kulkarni, V N	M.Tech	2009
84.	Fabrication and performance evaluation of thin sandwich composites	Hemanth Kumar, P	Venkitanara yanan, P; J Ramkumar	M.Tech	2008
85.	Finishing of shafts for ultra high speed gas bearings	Nair R, Sandeep	J Ramkumar	M.Tech	2008
86.	Investigations into rotary assisted abrasive flow machining (ra-afm) process	Varghese, Anil	J Ramkumar	M.Tech	2008
87.	Experimental Investigation on Modified AFM Process	Mondal, Subrata	J Ramkumar	M.Tech	2007
88.	Experimental and numerical analysis of grp sandwich composite wall panels	Srinivas, Putta	Kumar, Prashant; J Ramkumar; Kishore, N N	M.Tech	2007

89.	Numerical simulation of the Degradation Behavior of Carbon-Carbon composites during Carbonization Process	Pandya, Chinmay	Kar, Kamal Krishna; J Ramkumar	M.Tech	2007
90.	Characterization of frp-joints	Singh, Jitendra Kumar	Kumar, Prashant; J Ramkumar	M.Tech	2007
91.	Fabrication and modeling of ionic polymer metal composites for use as actuators	Akhtar, Syed Nadeem	Kar, Kamal Krishna; J Ramkumar	M.Tech	2007
92.	Experimental study of a gfrp sandwich panel for earthquake-resistant buildings	Singh, Devesh	Kumar, Prashant; J Ramkumar	M.Tech	2006
93.	Microstructural Characterization of Deep Drawn Low Carbon Steel	Kumar, Rajesh	J Ramkumar; Gouthama	M.Tech	2006
94.	Performance Evaluation of Abrasive Flow Machining	Tailor, Piyushkumar B	J Ramkumar; Kar, Kamal Krishna	M.Tech	2006
95.	Experimental Investigation of Formability Enhancement Using Warm Deep Drawing	Kulkarni, Sumedh Suresh	J Ramkumar; Gouthama	M.Tech	2006
96.	Development and characterisation of jute sandwiched structure	Naveen, Gopal Voruganti	J Ramkumar; Kumar, Prashant	M.Tech	2005
97.	Determination of limiting blank holding force and cavity pressure in hydromechanical deep drawing	Deep, K S	J Ramkumar; Reddy, N Venkata	M.Tech	2005
98.	JIVHAA' – A Prognostic Tongue Depressor for Paediatricians	Pansee - Karkare, Amruta A	Roy, Satyaki; Ramkumar, J	M.Des.	2024
99.	Guiding Principles for AI Analytical Systems in Managing Unplanned Events in Supply Chain: A UX Perspective	Nupur, Nandita	Ramkumar, J	M.Des.	2024

100.	Designing an Interactive Kit for Teaching English Alphabet Writing to Preschoolers	Nishad, Kalpana	Ramkumar, J	M.Des.	2024
101.	Design and Development of Innovative Air Mattress to Reduce Pressure Ulcers	Tiwari, Arush	Ramkumar, J	M.Des.	2023
102.	Open-Interact-Birth: An interactive box for mothers in their prenatal journey	Oraon, Aditi	Ramkumar, J	M.Des.	2023
103.	Design for Pride : Empowering ASHA workers through a personalized bag	Usama, Ali	Ramkumar, J	M.Des.	2023
104.	Flip: Play : Release – Designing to reduce stress for Millennials through Game theory	Kakkar, Rohit	Ramkumar, J	M.Des.	2023
105.	Making Brainstorming Method Robust for Everyone	Sunil, Shreyansh	Ramkumar, J	M.Des.	2023
106.	Treat. Record. Share: Making Patient health record easy to manage by nurses through design thinking	Upadhyay, Shruti	Ramkumar, J	M.Des.	2023
107.	Designing Interactive Souvenir for IIT Kanpur	Sreshth, Anushka	Ramkumar, J	M.Des.	2023
108.	Designing animal stretcher system through prototyping from the early design stage - A design exploration	Perepu Kameswar a, Sriram	Ramkumar, J	M.Des.	2023
109.	Medical Emergency Support Application Design for Outstation Travelers	Rai, Madhavi Lata	Roy, Satyaki; Ramkumar, J	M.Des.	2023
110.	Indigenous Design and Development of a Low Cost Manual Tissue Micro-Aarrayer Device	Dey, Pushpal	J Ramkumar	M.Des	2017

111.	Design of a subglottic secretion drainage device and artificial inseminator for cattle	Sudheendran Kumar, Amal	J Ramkumar	M.Des	2017
112.	Design and development of a multi utility assistive device for people with mobility impairment	C, Vimal	J Ramkumar	M.Des	2017
113.	Design For Elderly: Passive Health Monitoring & Object Tracking	Lakhani, Kirit	J Ramkumar	M.Des	2016
114.	RogMitra : An economical, efficient and portable blood testing device for haemoglobin	Kothari, Rahul	J Ramkumar	M.Des	2016
115.	Ergonomical interior design for truck cabin	Kurade, Sushil Suresh	J Ramkumar	M.Des	2016
116.	Design and manufacturing of a medium altitude long endurance unmanned aerial vehicle	Kushwaha , Pankaj	J Ramkumar	M.Des	2015
117.	Products for Physically Challenged	Bhagath, Pagadala Paparao	J Ramkumar	M.Des	2015
118.	Peltify–wearable device for thermoregulation	Kumar M, Shiva	J Ramkumar; Racherla, Uday Shanker	M.Des	2015
119.	To Design the Exterior of a High- end Luxury Inter-state Bus	Mitra, Akash	J Ramkumar	M.Des	2013
120.	Interactive systems for visually challenged	Ayyavu, Madhavan	J Ramkumar	M.Des	2012
121.	Exploring Vehicular Movements and Behavior at T intersections	Ghongade , Abhitosh	J Ramkumar; Bhushan, Braj	M.Des	2011

122.	Design and Development of an Interactive Board Game, Taking Inspiration from Ideas of Indian Logics	Jagatani, Sairam	J Ramkumar; Guha, Nirmalya	M.Des	2011
123.	“DRIFT...” – three-wheeler for a green ride	Sekar, Sathish	J Ramkumar; Roy, Satyaki	M.Des	2011
124.	A novel method for selective boring of thin-walled tubes using electrochemical micromachining	Kumar, Naveen	Ramkumar, J; Singh, Amandeep	MS	2023
125.	Micro patterning of large surface area using multiple electrodes in micro-electrochemical machining process	Thalkar, Mahesh	J Ramkumar	MS	2018
126.	Numerical Study of Transient Thermo-Fluidic Behaviour of the Melt Pool during Laser Welding	Shah, Ambuj	Kumar, Arvind; J Ramkumar	MS	2017
127.	Theoretical and Experimental Study of Wire Electrochemical Turning Process	Tyagi, Aakash	J Ramkumar; Jain, Vijay Kumar	MS	2017

Research innovation achieved, work completed or being perused:

(i) Development in Defense Technology (protective textiles).

Currently, RF sensors are available in market that can detect movement of vehicles, human beings, animals, birds etc. Aircraft based RADAR, unattended ground sensors and short range battlefield surveillance RADAR are deployed in warfare areas, or National borders to monitor the movement of soldiers, vehicles / tanks etc. Here, the objective was to design and develop novel textile based metamaterial absorbers, which can be worn by soldiers (integrated into bullet-proof jackets, helmets) or can be wrapped around army vehicles/tanks, for RADAR Stealth. These textiles based metamaterials that are developed and integrated into present-day optical camouflage uniforms and skirting, to absorb most of the microwave energy and reflect negligible energy. This significantly reduces the range and efficacy of RADAR and enemy RF based surveillance systems. Specifically, the outcomes are:

1. Development of textile based metamaterial absorbers for C (4 - 8 GHz) and X (8 -12 GHz) bands that are thin and light weight.

2. Field trials were conducted to evaluate performance of the absorbers. The metamaterial based absorber clothes were worn by personnel wrapped around the vehicles and real time testing was performed using commercially available RADAR / RF security systems.

3. Ruggedization of the textile metamaterials for water resistance, wearable/breathable jackets, development of metamaterials for use in clothing in warm or cold conditions is carried out.

The technology is tested and proven by “National Security Advisor (NSA)” office. The field tests were conducted at Jaisalmer and Jodhpur, Rajasthan in March 2020 using radar camera.

(ii) **Design and development in Aerospace and Missile streams: a novel micro Wire-ECM process**

Surface texturing is a technique of imparting roughness of any shape and orientation on the surface for the purpose of inducing desired tribological, thermodynamic, and wettability properties. The science of surface texturing is inspired and abstracted from nature. One such example is the existence of micro pillars on lotus flower leaves which makes the surface hydrophobic. In the work reported herein, principles of **Electrochemical Micromachining (EMM)** are used for generating micro textures on flat and cylindrical surfaces of different engineering materials. Multiple electrodes are used for simultaneous machining so as to reduce the processing time and make the process economically exploitable.

1. Experiments were designed and conducted to test the applicability of the designed machining setup for machining micro textures on flat surface of different workpiece materials. Different types of micro textures namely, micro-pillars, micro-dimples, micro-channels, and sharklet patterns were successfully machined.

2. An empirical model based on the experimental results is developed to evaluate the influence of different process parameters on machining efficiency and accuracy.

3. To demonstrate the capabilities of the developed setup for machining on cylindrical surfaces as well, different types of micro patterns such as micro-grooves, and micro-threads were machined on three different workpiece materials. Characterization of these features was done using techniques such as SEM imaging, EDS, 3D profilometry.

Finally, using the same machining setup and optimum process parameters, texturing was done on different real life components, and for making aerospace and missile parts such as the components and shells used in Man Portable Anti-Tank Guided Missile (MPATGM), for which no other process could do the precision machining of low thickness parts.

(iii) **Development of the biomedical implants nano-finishing: establishing Magnetic Abrasive Finishing technology**

Among all the free-flowing abrasive finishing processes, Magnetic Abrasive Finishing (MAF) process has emerged as a viable alternative. Magnetic abrasive finishing process has been successful in replacing the conventional finishing processes because it is able to finish parts of different geometries, be it flat, curve, freeform surfaces, and other complex geometries with a high level of surface finish. A detailed research to develop the technology from the theoretical models and simulation to the physical machine setup was carried out:

1. Machine setup for nano-finishing of internal hemispherical cup surface using MAF Process was designed and fabricated.

2. Several combinations of flexible magnetic abrasive brush containing different compositions of Boron Carbide (B₄C) abrasive and iron particles were made. Brush containing more than 50% volume of the iron magnetic particles had magnetic field strength of more than 150 Gauss within a distance of 2 mm from the surface of the brush and hence, were selected for the experimentation.

3. The highest surface finish of 79 nm was obtained at a radial distance of 40 mm from the center of the cup with an overall average of 110 nm.

4. Although the developed setup finishes a particular geometry with high accuracy and surface finish, a newly developed reverse engineering technique discussed in this report for finishing of any type of surface geometry including curved and free-formed surfaces is the ideal methodology to approach the high-level finishing of metallic surfaces.

As the Magnetic Abrasive Finishing process involves the interaction of millions of abrasive cutting particles with the workpiece surface at any given time, tracking each particle and theoretical prediction through predictive analytical model is out of scope. Therefore, predictive numerical modelling inspired from collective research works was consolidated and was developed to predict the final surface roughness and material removal rate. The outcome of simulation results and its comparison indicated a strong validity of the developed model and is recommended for industry users to work on the predictive numerical model while dealing with machining or finishing processes involving large number of cutting edges.

The efficacy of the process is validated by using the concept on the biomedical products such as knee

(iv) Development in Medical Devices stream:

a) DeeScope, A Novel Integrated System for Gynaecological Examination.

The developed device is an invasive endoscope for vaginal and cervical examination. It helps in making a visual diagnosis of various discharges and lesions as well as allows collecting cytology sample for cervical cancer screening in the most optimal way. The below are the product features.

1. Device is useful for routine evaluation of lower genital tract.
2. Device with a light source and a camera attached to an external monitor screen.
3. Device also have a separate channel for inserting sampling cytobrush. This brush is used to collect cytology sample for cervical cancer screening under direct magnified vision.
4. Inflatable balloon to separate the vaginal walls circumstantially for better view.
5. Direct air into the lower vaginal tract to inflate the cavity, this air is released by itself when probe is removed from the tract.

The device is novel and is being used in the multiple hospitals and by many surgeons. The novel features being, a) this is a single device to provide both visibility and sample collection, b) it can be used for routine gynae check and cancer screening simultaneously, c) it assists in CaCx detection and more.

b) Assistive Technology Intervention for people with locomotion Disability for overcoming architectural barriers:

The focus of assistive technology development is on increasing propulsion efficiency while climbing through steps.

1. A detailed kinematic and dynamic study on device structure and mechanism is conducted for making it more comfortable for user while movement on ground as well as on steps.
2. Dedicated kinematic models for this wheelchair are developed as current step climbing technologies are different from this Y-wheel based technology.
3. Improvisation in design is based on a thorough understanding of the wheelchair-user-interface. Therefore, careful assessment of the wheelchair-user interface, as well as complete and standardized reports on the methods and results were strongly encouraged.
4. Modelling different structures for wheel chairs and simulating them under constraints of stability, structural integrity, vibrations and jerks on simulation software such as ANSYSTM contributed in generating data for best possible engineering design of wheel.
5. One of the most needed biomechanical study in this project is the force application strategy of the stair climbing wheelchair users in Indian context.
6. Improving propulsion efficiency, while at the same time minimizing the incidence of repetitive strain injuries, has been a logical consequence of understanding force application strategies under different external conditions.

Electromyography study and postural evaluation is conducted to verify the human comfort during wheel chair drive along straight and staircase paths.

Incubation of a technology company/ Creation of Start-up and any Technology demonstration (outline individual contribution):

(i) Development of Sabjikothe, a preservative setup for use for vegetable/fruit vendors

It is observed that a big chunk of the produce could not make it to the market at all and ends up getting wasted due to the extremely short shelf life of horticultural & floricultural produce and the underdeveloped storage, transportation, and cold chain facilities. This is not the challenge for just one village or state, but the whole nation.

This situation motivated the applicants to develop an optimum cost-effective and energy efficient portable solution for all storage and transportation needs of post-harvest produce, which motivated the applicants to come up with the idea of 'Sabjikothe/Preservator' along with a startup named Saptkrishi Scientific pvt. Ltd., Bhagalpur.

1. The team developed wheel-mountable, microclimate-based storage 'Sabjikothi', which is cost-effective, portable, and extends the shelf-life while preserving the freshness of fruits and vegetables anywhere between 5 to 30 days.
 2. With the affordable technology, the farmers do not need to sell their produce at meager amounts to the traders in town. They can themselves store and carry their produce to the market without worrying about its perishability.
 3. The users can earn 40-50% more than what they were earning from selling to traders in town.
- This setup is established under the Ministry of MSME, DST (SERB) and is tested in the socially backward areas. We will be creating jobs for families in rural households by engaging them in various activities from manufacturing to delivery.*

(ii) Electrolysis based Portable Oxygen Generator

The candidate for the position of mentor collaborated with Siddlabs Pvt. Ltd., Kanpur, on the fundamental framework of the procedure while researching similar items utilising a reverse engineering strategy. The observed product used hydrogen peroxide as an ionising agent to make the water conductive and electrolysis to produce oxygen from de-ionized water. The acquired oxygen was kept in a surge tank and then pumped to an outlet tube by a built-in nebulizer. Using an oxygen analyzer, the exit air's purity was determined to be 85% at 6 litres per minute. As some purity and flowrate were noticed, the product seemed to have great potential. To be useful, the product requires numerous upgrades. First of all, the goods was badly made and lacked suitable branding and certification.

It was emitting a strong smell that was presumably hydrogen peroxide in the oxygen exit and urgently needed deodorising. Compared to a PSA oxygen concentrator, the device's noise level was minimal, and its technology was straightforward.

Following a careful examination of the product, it was determined that several improvements might be made.

1. The development of an electrolysis process for producing oxygen.
2. Electrocatalyst parameters for water splitting, including increased temperature, electrode distance, and type.
3. A batch of electrolysis-based oxygen generator beta prototypes.

(iii) Development of Test-rig for Oxygen Concentrator and separator setups

The startup Pinaka Technologies Pvt. Ltd., Kanpur worked with Professor Ramkumar and developed minimum viable product that needs to be replicated such that Oxygen Concentrators can be tested for the reliability of its performance. The minimum viable products are sent to other testing facilities such as International Center for Automotive Technology & other certifying bodies for third party certification against safety, electromagnetic compatibility, particulates, bio compatibility etc. for confirmation on suitability of obtained concentrated oxygen for medical use.

A separate test rig is developed with trained personnel for various testing of Concentrators for Specification confirmation tests, electrical surge tests, component cyclic performance test, purity tests, noise level tests, gas analyzing, ergonomics tests etc.

The use of zeolite is limited to its supply and India is more dependent on its import. An alternative molecular material to replace the commonly used zeolite is also at focus of this work. Following are the deliverables:

1. Test rig for Oxygen Concentrator parameters characterization
2. Transferable monograph, influence of environment on performance
3. Alternative molecular material test results and usage process
4. Oxygen separator setup for use in health centers

For hospitals already having medical compressed air supplies team developed a unique modular oxygen separator unit that is much portable for bedside application. This was also tested at nearby hospital and results are much promising.

(iv) Recycling the tubes & tires: DeDzines

Prof. Ramkumar is the advisor to the organization. A visionary sustainable sui generis company which transfigures scrap tires into beautiful, exquisite furniture. As manufacturing in

Professor Janakarajan Ramkumar | Dept. of ME & Design, IIT Kanpur
a sustainable manner is the need of the hour it's essential for us to look out how we utilize the existing waste materials or products. Thus using rubber for making products like tiles, chairs, swings & planters, we could create a bridge between utility & waste products & then amplify the products by opening them for use in the public.

DeDzines recently inaugurated a green park, in Kanpur which is open for the public & is having products made through this technique.

(v) A bio composter: Bhoomi

In a significant development towards efficient waste management, and IIT Kanpur's resolve to mitigate Climate Change, Agnys Waste Management Pvt. Ltd., a SIIC IIT Kanpur-incubated company, has developed an automatic composting machine known as BHOOMI, in collaboration with Imagineering Lab, IIT Kanpur. BHOOMI stands for Bio-composting of Horticulture & Organic waste into Manure Indigenously. The Research & Development for the device has been supported by Engineer's India Limited. The device is equipped with advanced features like carbon filters, shredders, air pumps, solar panels, which systematically convert waste into manure in just 10-20 days. The process is more convenient and rapid than the conventional technologies.

With surmounting concerns for Climate Change, the need for proper waste management is of paramount importance. To achieve this, it is also necessary to bring effective innovations at the grass root level. In India, around 60% of the total waste is organic waste and hence a rapid waste composter was the need of the hour. BHOOMI is a significant development in this regard as it follows the basic science of composting and converts the organic waste into manure in just 10-20 days making it one of the fastest composting solutions.

(vi) LCB Fertilizers

Prof. Ramkumar has nurtured LCB Fertilizers, which is a combined effort of more than 50+ people who belong to farmer families. The team includes chemical engineers, microbiologists, mechanical engineers, MBA holders, and many more skilled and unskilled workers who work with the motto "from the farmers, by the farmers, and for the farmers." Incubated at SIIC IIT Kanpur and collaborated with institutes IIM Kozhikode, MMMUT Gorakhpur, and REC Ambedkarnagar. We hold grants like NIDHI PRAYAS by DST-INDIA, Startup India Seed Fund Scheme, Start In Up, Capri foundation, CITI India, and many more. They are currently working with more than 6000 farmers from 35+ districts of UP, 10+ of Bihar, some from Jharkhand, Haryana, Maharashtra, Karnataka, etc.

1. Soil Structure

Due to the organic matter in organic fertilizer, soil structure is improved, resulting in the soil's ability to hold onto water and nutrients increases.

2. Reduce Fertilizers and Pesticide

Although organic fertilizer is expensive than synthetic, it can reduce the need for pesticides and the overall nitrogen, phosphorus, and potassium requirements. Because of the reductions, organic fertilizer can be cost neutral and sometimes a cost savings.

3. Plant Damage Threat Avoided

Some synthetic fertilizers can cause plant damage to leaves and roots. This is less likely with organic fertilizers.

Farming is Essential livelihood in India, LCB Fertilizers is connecting framers of villages and helping them by providing the right supplies and help. Team LCB Helps farmers to maximize their yield. With the belief in Sustainability. The upcoming generation is counting on them, to help the future. They promote the startup culture in Uttar Pradesh and India.

Notable mentions of participation in Leadership and Innovation activities:

(i) INSA-NCGG LEADS 2024, Delhi

Prof. Ramkumar was selected in the Leadership Development Programme in Science and Technology (LEADS), a joint initiative by INSA and NCGG, prepares mid-career scientists

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(ages 40-50) for leadership roles in the Indian science ecosystem. Eminent speakers share insights on leadership challenges, opportunities, and best practices. The program is open to scientists from various institutions, aiming to create an enabling environment for organizational growth and excellence.

(ii) LEAP-TISS 2023, Mumbai

Prof. Ramkumar is selected in the first batch of Leadership for Academicians Programme (LEAP) at Tata Institute of Social Sciences (TISS) for a fully-funded three weeks' leadership development training programme funded by Ministry of Human Resource Development, Government of India. The programme is conducted in collaboration with Graduate School of Education, University of Pennsylvania for second level academic functionaries in public funded higher education institutions who are likely to assume leadership roles in the future. LEAP comprises of two weeks of domestic and one week of foreign training. Highly eminent resource persons from India and abroad will be on-board as speakers and mentors at the programme.

(iii) Developed products to mitigate COVID-19 spread.

He has established multiple products to slowdown the spread of COVID-19 and support the people locked down. His most reached out products are SWASA N-95 masks, even worn by the Prime Minister of India during Ram Mandir Foundation Stone ceremony. His portable smartphone holder device, Mobile Masterjee, for the use of teachers to deliver their lectures from home using smartphones, is appreciated by “**PMO's Mann Ki Baat**”. Technologically, UV corona box and UV tower are the examples of the products developed that help to disinfect the objects and rooms without the use of liquid sanitizer. To minimize the use of sanitizer, an electrostatic spray nozzle is also developed. Recently, he has developed Oxygen Concentrator and Oxygen Generator to cover up the need of medical oxygen supply in the country.

(iv) Former-Chairman, IEEE (UP Section): 2 years

He successfully increased the IEEE, Kanpur membership, by 40%. In his leadership, the IEEE Student branches at IIT Kanpur has been increased from 10 to 30. He organized more than 185 activities during my turn. Women in Engineering (WIE) chapter was started and several events were organized, by this endeavour bringing in the frontline the participation and association with many women engineers and the girl students in the technical education.

(v) Former-Chairman, Institutions of Engineers (India) Kanpur: 3 years (till date)

As the chairman, he was instrumental in constructing an auditorium for IEI Kanpur. This committee also controls all the internal financial processes always for being transparent to our members. He also helped to increase the number of institutional membership during his time, and added fellows to the Kanpur local centre. He got conducted several workshops, hands-on trainings, conferences and expert talks

(vi) Treasurer, Institution of Electronics and Telecommunication Engineers (IETE) – till date

He helped the IETE office in consolidation of financial accounts and brought a new initiative of adding revenue head in the accounts. Multiple novel models are being proposed to better streamline the accounts flow

(vii) Mentor, HAL – indigenization of parts/products

He has been associated with HAL for a long time now. As a faculty coordinator of Imagineering lab, his team and he got the opportunity to work on a joint project with HAL. He has also mentoring them to improve process capabilities. He developed cockpit display boards for the aircrafts in HAL Kanpur. He also worked on the composite door fabrication using VARTM process, this process was used for other secondary structural parts for aircraft industry. He was also a part of the IIT Kanpur team that signed an agreement with HAL. He was involved in upgrading the engineers at HAL in latest cutting edge technologies, like Reverse Engineering and Additive Manufacturing.

(viii) Convenor of “Ek Bharat Shreshtha Bharat – IIT Kanpur”

This was an initiative by our honourable Prime Minister. As the convenor, he tried to develop long term engagement between different regional institutes and also focused on joint development program.

(ix) MHRD event Convenor, Smart India Hackathon – Hardware and Software: 3 years

It's a platform for innovators or entrepreneurs focused on smart futuristic, collaborative creative design or production, which empowers modern India. As the convener, he mentored the students on how they can improve and channelize their idea. He also helped them to design their product and connect them with the investors. We also focused on how we can improve the digitalization process in India. Fortunately, he was able to motivate students to bring their ideas to the real market and multiple start-ups were brought up.

(x) Over a dozen MOOCs courses under NPTEL and agMOOCs platforms

He has delivered courses under MOOCs platforms of Government of India such as NPTEL and agMOOCs. His courses have attracted around 1,00,000 audiences across the nation till date. Under NPTEL, five courses namely Computer Integrated Manufacturing, Rapid Manufacturing, Product Design and Manufacturing, Engineering Metrology, and Manufacturing of Composites. One course covering the implements and equipment design, Design Thinking for Agricultural Implements, is taught under amok platform that has a reach out to plethora of farmers, entrepreneurs and manufacturers.

(xi) Faculty Convenor, MedTech facility, IIT Kanpur

Under MedTech facility system, his team developed a new startup lab at IIT Kanpur. The primary objective of this lab is to provide the prototype design for the low-cost medical equipment. This is done with an aim to set up a local hub for design and manufacturing of cost effective, viable products and solutions under quality-controlled environment. Focus is on fabrication of medical devices to aid researchers for cultivating in-house bio entrepreneurs. Along with in-campus solutions in fabrication, the facility also serves and support local businesses those who are lacking in access to a state-of-the-art manufacturing facility.

(xii) Design and developed Imagineering Lab, IIT Kanpur

The lab is a central facility for concept design and product realization. As a faculty convenor his role is to investigate and provide feedback to all the projects. The processes of design, simulation and manufacturing are integrated into a digital environment.

(xiii) Coordinator for RuTAG, IIT Kanpur:

Effective technology for rural development requires grassroots level work focusing on cost effective interventions in location specific problems covering a wide spectrum of problems. The Indian Institute of Technology Kanpur, by virtue of its geographical location coupled with its extensive technological infrastructure, is ideally positioned for location specific and need based technological interventions for rural development.

(xiv) Former-Chairman, Senate Post Graduate Committee

The Senate Post-Graduate Committee (SPGC) consists of one of representative from each of the academic departments and interdisciplinary programmes who, must be the Convenor of the respective post-graduate academic programme committees and six additional members of whom one is the retiring Chairperson (if not otherwise a member), and four are students, two each from Ph.D. and M.Tech./M.Des./MBA/M.Sc.-Ph.D. dual degree programmes and nominated for the purpose by the Students' Senate.

(xv) Former-Chairman, Security Advisory & Executive Committee

IIT Kanpur is maintaining a safe and secure campus for all students, faculty, staff, visitors and institute's property and physical assets. The institute is under professional security cover 24x7. A variety of personnel sufficiently trained and qualified with majority retired from Paramilitary Forces and Armed Forces are being utilized. The department is effectively guided and administered by the SAEC, Security Officer, Deputy Security Officer and Assistant Security Officers through the Security Supervisors.

Technology adopted or transferred:

(i) Oxygen Concentrator (6 LPM): developed at MedTech IIT Kanpur, technology transferred to Fintek Engineers, Aurangabad, Maharashtra.

The current invention relates to the development of oxygen concentrators with oxygen purity of $92\% \pm 3$ at 6LPM and $82\% +$ purity at 8 LPM for both medical as well as personal uses.

Following are the observations during the prototype demonstration:

1. The developed prototype required the power supply of 220 V AC/ 50 Hz for its functioning.
2. The pressure range was 1-2 bar
3. The ambient temperature ranges from 10°C - 45°C producing noise < 60 db.
4. It has (an adjustable) flow rate of oxygen at 6 LPM.

It is supported by the Prime Minister of India's 'Mission Bharat O2 Grant to Start-ups'.

(ii) Oxygen Concentrator (10-14 LPM): developed at Imagineering Lab IIT Kanpur, technology transferred to Abbot Industries, Bhayandar East, Maharashtra.

The technology is developed by Prof. Ramkumar and a sub-committee including at IIT Kanpur have quoted following consideration to the licensee, Albot Industries Pvt. Ltd.

1. An upfront licensing fees.
 2. Revenue sharing to IITK by the licensee, on Gross sales price/unit of the product.
 3. A percentage of the Sublicensing income earned shall be paid to IIT Kanpur, from the gross income earned by the licensee.
 4. The licensing shall be on a Non-Exclusive basis for a period of 10 years.
- Albot is given the right to sublicense the technology to any other party on Non-Exclusive basis.

Major events/workshops/courses organized/participated/expert speaker at:

S. No.	Events/Workshops/Courses	Date
1.	IIT Kanpur Partners with UP Basic Education to Bring AI & Coding to 20,000 Students	Nov 29, 2025
2.	Scaling Up Viksit Bharat	Oct 03, 2025
3.	Driving Viksit Uttar Pradesh and Atmanirbhar Bharat	Sept 08, 2025
4.	Intellectual Property Right at REC, Kannauj	Nov 18, 2025

5.	International Conference SMART 2025: System Modelling & Advancement in Research Trends	Nov 14-15, 2025
6.	PRAYOGI Foundation's Micro-Equity Fund	Nov 12, 2025
7.	Industry-Academia collaboration: Partnership or a One-sided Transaction	Nov 08, 2025
8.	Design Innovation Workshop	Nov 01-02, 2025
9.	Agricultural Practices using Drones: Plan, Design, Build and Fly	Oct 30-Nov 08, 2025
10.	Indigenization of Hi-Tec and Critical Technologies	Nov 08, 2025
11.	Intellectual Property Rights	Oct 09, 2025
12.	Design Innovation Workshop	Nov 01-02, 2025
13.	Design Thinking for Impact	Sept 19, 2025
14.	GCC Innovation Summit 2025	Sept 13-14, 2025
15.	Medical Devices: From Lab to Bedside	Sept 10, 2025
16.	Introduction to Securities Market	Aug 20, 2025
17.	Workshop on Additive Manufacturing (3D Printing)	Aug 29, 2025
18.	Sustainable Agricultural Practices for Developing Nations: A Way Forward	Aug 25-28, 2025
19.	Topology-Guided Design of Bioinspired triply Periodic Minimal surface Lattice for Bone tissue Engineering	Aug 08, 2025
20.	International Conference on Intelligent and Secure Engineering Solutions (CISES-2025)	Aug 11-13, 2025
21.	National Conference on Virtual Labs	May 02-03, 2025
22.	Surakshit Kumbh: Police Conference	Jan 21, 2025
23.	Galgotias IEEE Conference	Jan 10, 2025
24.	1 st Intl Symposium on Materials for Sustainable Development	Dec 21, 2024
25.	COPEN 13	Dec 13 – 14, 2024

26.	Agricultural Practices Using Drones, IIT Kanpur and AARDO	Nov 13 – 23, 2024
27.	AICSSYC Galgotias, 2024	July 15, 2024
28.	SERB-Karyashala Workshop, Human Centred Design for Engineers	Mar 15 – 21, 2024
29.	Keynote Speaker @ International Conference on Application of Recent Technologies in Science Engineering and Management for Societal and Industrial Development (ICASEM)	Jan 11 – 13, 2024
30.	Frugal Innovation, FITIRI Workshop @ MANIT Bhopal by SERB	Dec 09, 2023
31.	Disruptive technologies for social inclusion: A product design approach @ La Trobe University Research Academy	Nov 28, 2023
32.	Chronology of Theories of Women Empowerment: Technology as an Engine @ IEEE WIE	Nov 24 – 25, 2023
33.	JEE, GATE & JAM: Opportunities @ King Makers IAS Academy	Nov 11, 2023
34.	Nurturing Bioentrepreneurs: Ideation to Commercialization @ MFCEM IIT Kanpur	Nov 08, 2023
35.	Frugal Innovation: Secret of Success @ PSIT Kanpur	Oct 21, 2023
36.	Impacts of Ingenious Innovations & GATE-JAM Session @ IIIT Gwalior	Oct 03, 2023
37.	From Roots to Remedies & GATE-JAM @ MANIT Bhopal	Sep 26, 2023
38.	IEEE GATE-JAM Awareness @ Uttaranchal University	Sep 23, 2023
39.	GATE & JAM @ UIET Kanpur	Sep 22, 2023
40.	Innovation: Need of the hour @ IEEE with WIE, IEEE	Sep 19, 2023
41.	Talk on Design Thinking & Innovations @ Lloyd Institute	Sep 16, 2023

42.	Talk on innovation @ Amity University	Sep 16, 2023
43.	Radiance of the Sun: Clean Energy that Pays for Itself for Royal Charter Day @ UPTTI	Sep 11, 2023
44.	Talk on Facets of Innovation under Mission LiFE @ Aligarh Muslim University	Aug 26, 2023
45.	Panel Discussion on MSME Conclave “Sangam” by HAL	Aug 25, 2023
46.	Talk on Roots to Remedies Design Thinking & Innovation @ Shiv Nadar University	Aug 24, 2023
47.	Talk on Social Innovation @ Sharda University	Aug 24, 2023
48.	Talk on Design Thinking powering Innovation @ IIITDM Jabalpur	Aug 16, 2023
49.	Talk on Social Innovation @ IITDM Jabalpur	Aug 15, 2023
50.	Nanofibers technology Workshop Espin Nanotechnology	June 10, 2023
51.	World Telecommunication and Information Society Day, HBTU	May 30, 2023
52.	Gyanotsav 2023, NEP 2020	Apr 07, 2023
53.	Advanced Management Development Programme, NIT Jamshedpur	Mar 22 – 26, 2023
54.	Manufacturing and Skills Development: The Indian Story, Embassy of Italy, New Delhi	Mar 04, 2023
55.	National Student Research Convention – Workshop on Design Thinking and MedTech	Mar 03 – 05, 2023

56.	ICRT Conference	Feb 03 – 04, 2023
57.	International FDP on Additive Manufacturing: Research Opportunities and the Future of Manufacturing	Jan 30 – Feb 03, 2023
58.	NTS Nurturance Camp	Jan 04 – 08, 2023
59.	ONLINE STTP on Additive Manufacturing of Metallic and Non-metallic Components	Dec 21 – Dec 27, 2022
60.	COPEN 12	Dec 08 – 10, 2022
61.	Karyashala, DST – SERB	Dec 05 – 15, 2022
62.	International Course on Climate Change, AARDO and IIT Kanpur	Nov 16 – 24, 2022
63.	FDP on Bioprinting of Multi-materials, IIT Tirupati	Nov 15, 2022
64.	Networking and Collaboration, BHEL	Nov 15, 2022
65.	Frugal Engineering: A solution for Embryonic Mastermind	Nov 12, 2022
66.	Frugal Innovations, Expert Lecture, UCER, Prayagraj	Nov 03, 2022
67.	Celebration of 69 th IETE Foundation Day, HBTU Kanpur	Nov 02, 2022
68.	Panel Discussion on Frugal Innovation, INAE	Oct 27, 2022
69.	Opportunities in Medical Devices & Support by IIT Kanpur	Oct 15, 2022

70.	Design Thinking: A Tool for Engineering, Lucknow	Sept 19, 2022
71.	Indian Culture: An Ancient Modern World, IIT Guwahati	Aug 28, 2022
72.	FLAME Talk IEEE, Amity University	Aug 08, 2022
73.	Let's Talk IEEE	Jul 31, 2022
74.	Commencement of Internship Programme for J&K Students	Jul 28, 2022
75.	MedTalk on Additive Manufacturing	Jun 25, 2022
76.	MedTalk on Design Thinking in Product Development	May 28, 2022
77.	6-week course on Statistics for Agriculturists on agMOOCs	May 31, 2022
78.	Product Development Series at IIT Kanpur, SIDBI	June 01, 2022
79.	Design Thinking Workshop at Graphic Era University	May 28, 2022
80.	Expert Lecture on "Challenges for Engineering Teachers" & "How to become Efficient Researcher", NIT Delhi	May 09, 2022
81.	ATAL FDP on Smart Cities for Sustainable Development	Mar 07 – 11, 2022
82.	Workshop on How write Research Papers	Mar 06, 2022
83.	SIB-Shine Innovation Showcase and Curtain Raiser	Mar 05, 2022

84.	Frontier Lecture Series by MA@IITK on Multi-Material Printing	Feb 26, 2022
85.	Frugal Innovations PSIT Student Branch	Feb 17, 2022
86.	AICTE Internship Programme for J&K Students	Feb 12, 2022
87.	SMART Manufacturing Basics Online Course	Feb 28 – Mar 2, 2022
88.	Workshop on Design Thinking, Critical Thinking and Innovation Design	Jan 28, 2022
89.	International Conference Confluence on Cloud Computing, Data Science and Engineering	Jan 27 – 28, 2022
90.	FDP on Advanced Manufacturing of Biomedical Devices for Precision Health Technologies, AICTE Training and Learning (ATAL)	Jan 24 – 29, 2022
91.	Webinar on Project and Internship Opportunities for the UG and PG Students	Jan 21, 2022
92.	Innovative India – Machines and Processes by CMTI	Jan 10, 2022
93.	Artificial Intelligence, Machine Learning and Robotics online training by National Productivity Council	Dec 28 – 30, 2021
94.	Technology Based Entrepreneurship Development Program by, TMU, IEEE, NSTEDB, DST	Dec 20, 2021 – Feb 1, 2022
95.	Indigenous Technology in Uttar Pradesh for Atmanirbhar Bharat	Dec 22, 2021
96.	Digital Innovation in Higher Education – Post Pandemic by IEEE, EBSCO	Dec 17, 2021
97.	Conference on Transformational Changes in Manufacturing	Dec 09 – 11, 2021

98.	Rapid Manufacturing: Need of the Hour, CSIR-CSIO	Dec 02, 2021
99.	Lecture Cum Certification series on Innovation and Entrepreneurship Development, IEEE, NITI Aayog	Oct 22 – Dec 11, 2021
100.	National Conference on Emerging Technologies for Sustainable Manufacturing	Oct 30 – 31, 2021
101.	Talk on World Habitat Day at AITH, Kanpur	Oct 4, 2021
102.	National Conference on Documenting Innovation and Creativity in Engineering, PSIT Kanpur	Sep 25 – 26, 2021
103.	NDRF Online internship Program	Jul 15, 2021
104.	Vaishwik Bhartiya Vaigyanik Summit, IIT Kanpur	Oct 20, 2020
105.	Design Thinking Online Lecture Series	Apr 28, 2020
106.	Hands on Training Program on Medical Devices Prototyping	Jan 13 – Jan 17, 2020
107.	CCE course on Manufacturing Process Pedagogy	Aug 21 – Aug 25, 2019
108.	IE seminar on Reverse Manufacturing	Aug 24 – Aug 25, 2019
109.	Welding Technology training with Fronius International	Aug 10 – Aug 11, 2019
110.	Smart India Hackathon (SIH 2019; hardware)	Jul 8 – Jul 13, 2019
111.	Smart India Hackathon (SIH 2019; software)	Mar 2 – Mar 3, 2019

112.	Smart India Hackathon (SIH 2018; hardware)	Jun 18 – Jun 19, 2018
113.	MOOCs (NPTEL) course on Rapid Manufacturing	Jan 28 – Apr 28, 2019
114.	MOOCs (NPTEL) course on Product Design and Manufacturing	Jan 28 – Apr 28, 2019
115.	MOOCs (NPTEL) course on Engineering Metrology	Jul 22 – Oct 28, 2019
116.	MOOCs (NPTEL) course on Manufacturing of Composites	Aug 19 – Oct 28, 2019
117.	Workshop on Design Thinking	Feb 25– Feb 27, 2019
118.	GIAN Course-Laser Materials Processing: Fundamentals and Applications	Feb 19– Feb 23, 2018
119.	GIAN Course: Fundamentals of Micromachining	Aug 14– Aug 21, 2017
120.	Short term QIP course on micromanufacturing	Jun 29 – Jul 03, 2015
121.	Workshop on Statistical Analysis for Engineers	May 04 - May 08, 2015
122.	Short term QIP course on CNC Machining	Apr 29 – May 03, 2015
123.	Interactive Session for “ Chairmen & Honorary Secretaries state & Local Centres, IEI	Mar 16 - Mar 20, 2015
124.	Workshop on Micro & Nano fabrication	Mar 16 – Mar 20, 2015
125.	Short term QIP course on Power Generation Technologies: Present Status & Future Directions	Dec 01 – Dec 05, 2014

126.	Short term QIP course on CNC Machining	Nov 12 - Nov 14, 2014
127.	Short term QIP course on CNC Machining	Jul 19 - Jul 21, 2014
128.	Advances in composite material, University college of Engineering JNTU, Kakinada	Mar 2014
129.	National conference on emerging frontiers in Mechanical Engineering, HBTI Kanpur, Topic: Large area microtexturing	Feb 2014
130.	Sensitization workshop on additive manufacturing, NIT Warangal, Topic: Additive manufacturing	Feb 2014
131.	Workshop on Advance composites materials, DMRDE, Topic: Soft composites for Nanofinishing	Feb 2014
132.	Short term QIP course on CNC Machining	Oct 05 - Oct 09, 2013
133.	Workshop on Statistical Analysis for Engineers	Jul 02 - Jul 06, 2012
134.	Workshop on Micro & Nano fabrication	Feb 27 – Mar 02, 2012
135.	Design and Development of Palm Top Micro EDM machine, NIT Warangal	Apr 2012
136.	Frugal Innovation in India, IEI Jaipur chapter	Mar 2012
137.	Micro ED Milling, BITS Goa	Dec 2011
138.	Focused Ion Beam potential in mass production, NIT Trichy	Jan 2011
139.	Excimer laser large area texturing, NIT Allahabad	Jan 2011

140.	Workshop on Micro & Nano fabrication	Mar 22 - Mar 26, 2010
141.	Nanofinish is do-able, IIT Guwahati	Jan 2010
142.	Abrasive flow finishing (AFF) process and its recent developments at IIT Kanpur Presented at 3rd SERC School on Micromachining at IIT Kanpur	Dec 2009
143.	Recent Trends in Manufacturing Technology in the Present Global level Competitions, Roever Engineering College, Tamil Nadu	Sep 2009
144.	Nano finishing of advanced materials using Visco-Elastic abrasive fluid, Fourth National symposium on Frontiers of Engineering (NaFOE 4)), Indira Gandhi Centre for Atomic Research, Kalpakkam	Aug 2009
145.	"Abrasive finishing processes", Central Mechanical Engineering Research Institute, Durgapur	Jun 2009
146.	"Abrasive flow machining (AFM): An Overview", INDO - US WORKSHOP on Smart Machine Tools, Intelligent Machining Systems and Multi-scale Manufacturing	Dec 2008
147.	Workshop on Recent Trends in Advanced Nanocomposites	Nov 06 - Nov 10, 2006
148.	Workshop on Recent Trends in Advanced Composites	Jul 18 - Jul 22, 2005
149.	Workshop on Advanced Machining Processes	Jun 18 - Jun 23, 2004

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