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CURRICULUM VITAE OF Dr. V. K. JAIN

Contents	Page No.
1. A brief of CV	2
2. Academic Carrier	3
3. Professional Carrier (<i>Teaching & Research Experience: 40 years in India and abroad</i>)	3
4. Awards and Honors (<i>ELEVEN from within India and one from abroad</i>)	3-4
5. Books and chapters in the books (<i>SEVEN books + 3proceedings+ THIRTEEN chapters</i>)	4
6. Publications in CD ROM (<i>ONE from USA</i>)	5
7. NPTEL Course Video (<i>One completed</i>)	5
8. Editorial Memberships	5
As an Editor-in-chief (<i>1 Journal</i>)	5
As an Editor of journals (<i>2 Journals, 2 others</i>)	5
As an Associate Editor (<i>3 International Journals</i>)	5
As a Member of International Editorial Board (<i>Twelve+</i>)	5
Guest Editor for the special issues of Int. Journals (<i>12 already done</i>)	5-6
As a Reviewer (<i>Thirteen listed and many more</i>)	6
As an organizer of short term courses and other schools (<i>Eighteen listed</i>)	
6. Sessions Chaired (<i>Thirteen are listed</i>)	6-7
7. Patents (<i>Eleven</i>)	7
8. Sponsored Research Projects (<i>Twenty three</i>)	7-8
9. Consultancy Projects (<i>Seven</i>)	8
10. Courses Taught at IITK (<i>Fifteen</i>) and new courses developed (<i>Three</i>)	9-10
11. Teaching Appreciation	10
12. Theses Supervision	
At I.I.T.Kanpur: Ph.D. (<i>Fifteen</i>)	10
: M.Tech. Theses (<i>Seventy seven completed+ Two to be completed by April 2013</i>)	10-13
: B. Tech. Projects (<i>More than thirty B. Tech. Projects</i>)	13
At M.N.R.E.C. Allahabad:	12
: M.E.Theses (<i>Eight</i>) + M.E.Projects (<i>Nine</i>)	12-13
16. Some Keynote addresses (<i>Only Seventeen listed</i>)	13-14
17. Some Invited Lectures (<i>Only Nine listed</i>)	14
18. Publications in Referred Journals (<i>One Hundred Eighty Three</i>)	14-22
19. Publications in Hindi Journals (<i>Eleven</i>)	23
20. Publications in Popular Magzines (<i>Seven</i>)	23
21. Publications in Conferences / Symposia/ Seminar Proceedings (<i>One Hundred and Four</i>)	23-29
22. National Committees	29
23 Administrative Activities at IITK	29-30
23. Activities at other organizations / Academic Bodies	30
25. At M.N.R.E.C. Allahabad	30
26. Professional Society Memberships	30

January 20, 2013

A Brief C.V. of Dr. V. K. Jain

Dr. Vijay K. Jain passed his B. E. (Mechanical) from Vikram University Ujjain in 1970, and M. E. (Production) from University of Roorkee in the year 1973. He did his Ph.D. from University of Roorkee in Mechanical Engineering in the year 1980. He has **forty years of teaching and research experience**. He has served as a Visiting Professor at the **University of California at Berkeley (USA) and University of Nebraska at Lincoln (USA)**. Presently he is a Professor at Indian Institute of Technology Kanpur (India). He has also served as a faculty at other Indian institutions, namely, M. R. Engineering College Jaipur, B. I. T. S. Pilani, and M. N. R. Engineering College Allahabad.

Dr. Jain has **won three gold medals, two silver medals and one best paper award** as recognition to his research work. The Institution of Engineers (India), Khosla Research Awards committee and All India Manufacturing Technology Design and Research conference organizing committee have given this honor to him. Dr. Jain has written **Seven books and Thirteen chapters** for different books published by international publishers.

Dr. V. K. Jain has been appointed as an Editor-in-chief for one journal, **a Full Editor of two International Journals and Associate Editor of three International Journals**. He has also worked as a **Guest-Editor** for the **twelve special issues** of different International Journals. He has been opted as a **member of the editorial board of more than twelve International Journals**.

Dr. Jain has organized **Eighteen summer/ winter/ short term schools** on various topics such as Micromanufacturing, Micromachining (four times), Advanced Machining Techniques (three times), Precision Engineering, Computer Integrated Manufacturing Systems, Design of Machine Tools, N. C. Machine Tools (two times), Advanced Manufacturing Technology, Tools and Die making, and two Contact Programs for undergraduate students. He has **edited** the proceedings of these schools also. He has **Eleven Indian patents and One USA patent** to his credit.

Dr. Jain has operated **Twenty Three research projects sponsored** by different agencies in India. Dr. Jain also brought **Seven consultancy projects** from private and public undertakings.

Dr. Jain has **guided Fifteen Ph.D. theses**. He has also guided **Eighty Eight M.Tech. / M.E. theses, 9 M.E. Projects and more than Thirty B.Tech./B.E. Projects** while working at different universities during his carrier. He has around **305 publications** to his credit. He has published about **183 research papers in referred Journals, 104 in conference proceedings, 11 in popular magazines**. He has delivered **more than twenty six keynote lectures** in different conferences / workshops / Universities.

Dr. Jain has been opted as **Vice-President** of the National Advisory Committee of AIMTDR, India consecutively for two terms (*Four Years*). He has served / is serving as a **member of national committees** like PAC of International programs of Materials and Engg. Sc., R & D Lab. accreditation committee (DST), Program Advisory committee (DST, PAC-(R & M)), Management Advisory Committee (DST, MAC), National Advisory Committee for Precision Engineering, and National Advisory Committee of AIMTDR.

At the Institute level, Dr. Jain has served two terms as Chairman of Commercial Establishment Monitoring & Management Committee, Institute Gas Service Users Committee, Two terms as Chairman Health Center Users Committee, and Two terms as Chairman Institute Assessment Committee. He has also served as Two terms as Convener

of DPGC, Department Space Allocation Committee, Department Funds Allocation Committee and Two times as Convener Project Evaluation Committee . He has served as a member of various Department and Institute level committees and Warden of Hall of residence 5.

Academic Career

Degree	Institute	Conferring Field	Year
B.E.	M.A.C.T. Bhopal	Mechanical	1970
M.E.	University of Roorkee, Roorkee	Production	1973
Ph.D.	University of Roorkee, Roorkee	Mechanical	1980

Professional Career**

Duration	University/Institute	Designation	Nature of Work
March 1991 onwards	I.I.T. Kanpur	Professor*	Research and Teaching
June 1989-June 1990	University of Nebraska at Lincoln (U.S.A)	Visiting Professor	Research and Teaching
Jan. 1989-May 1989	University of California at Berkeley (U.S.A)	Visiting Professor	Research and Teaching
July 1983-Mar. 1991	I.I.T Kanpur	Assistant Professor	Research and Teaching
Mar. 1981-July 1983	M.N.R.E.C. Allahabad	Reader	Research and Teaching
April 1974-Mar. 1981	M.N.R.E.C. Allahabad	Lecturer	Research and Teaching
July 1977-July 1980	University of Roorkee	QIP Research Scholar	Research
Sep. 1973-July 1974	B.I.T.S Pilani	Lecturer	Research and Teaching
July 1973-Sep. 1973	M.R.E.C. Jaipur	Associate Lecturer	Research and Teaching

*HAG grade

Awards and Honors

- Best paper award (2013)** by Global Engineering, Science and Technology (GEST) conference held at Singapore during 3-4 October, 2013, for the paper on "Fabrication of Microchannels in ceramics (Quartz) using electrochemical spark micromachining (ECSM) by V.K.Jain and Deepshikha Priyadarshani.
- Strickland Prize** of the Manufacturing Industries Division of The Institution of Mechanical Engineers (UK) For Manas Das, V.K.Jain and P.S.Ghoshdastidar, for the paper entitled "Computational Fluid Dynamics simulation and Experimental investigations into the magnetic field assisted nano-finishing process", 2013.
- Vidyabharati** felicitation conferred by Hindi Pracharini Samiti, Kanpur on April 26, 2003 by Honorable Governor of Karnatak, Mr. T. N. Chaturvedi
- BEST paper award (1994)** by 16th All India Machine Tool Design and Research (AIMTDR) Conference for the paper on "Travelling Wire Electro Chemical Spark Machining of Thick Sheets of Kevlar-Epoxy Composites" published in *Proceedings of 16th AIMTDR conference* held at Bangalore, in 1994, p. 677.
- Institution Gold Medal (1986-87)** by The Institution of Engineers (I) for the paper "Thermal Properties of CO₂-Silicate Molds/Cores: Response Surface Approach" published in *Journal of Institution of Engineers (I)* Vol. 67, pt MM 1, Sept. 1986, p.17.
- KHOSLA Research Award: Silver medal and Rs. 500/- (1982)** by University of Roorkee for the paper on "Tooling Design for ECM: A Finite Element Approach" published in *Trans. Of ASME, J. of Engineering for Industry*, Vol. 103, No. 2, May 1981, pp. 183-191.
- N. K. Ayyanger Memorial Prize (1981)** The Institution of Engineers (I) for the paper "Tooling Design for Electrochemical Machining of Complex Shaped Workpieces" published in *Journal of Institution of Engineers (I)*, Vol. 62, Pt. ME 2, Nov. 1981, pp. 95-99.
- KHOSLA Research Award: Gold Medal and RS. 1500/- (1981)** University of Roorkee for the paper on "Experimental Investigations into Electrochemical Drilling (ECD) in Steels" published in *Proceedings of 21st International Machine Tool Design and Research Conference*, held at Swansea (England) 1980, pp. 373-379.

9. **KHOSLA Research Award: Silver Medal and RS. 1000/- (1980)** by University of Roorkee for the paper on "Finite Element Approach to the Two dimensional Analysis of ECM Processes" published in *Precision Engineering*, Vol. 2, No.1 1980, pp. 23-28.
10. **Certificate of Appreciation (1990)** by **The Society** of Manufacturing Engineers (SME), (U.S.A.) for the paper on "Experimental Investigations into Electro Discharge Drilling" published in *Proceedings of Advanced Manufacturing Technology III Conference*, held at Chicago (USA) pp. IQ90-240-1 to 11.
11. **Certificate of Merit (1980)** by **The** Institution of Engineers (I) for the paper on "Application of Finite Elements Technique for the Analysis of Electrochemical Wire Cutting Process" published in *J. of Institution of Engineers (I)*, Vol.60, Pt. ME 6, May 1980, p. 203.
12. **Certificate of Merit (1978)** by The Institution of Engineers (I) for the paper on "An Introduction to Non-Destructive Testing Methods" published in *J. of Institution of Engineers (I)*, Vol. 59, Pt. HI1, Aug. 1978, p.21.
13. **Certificate of Merit (1977)** by The Institution of Engineers (I) for the paper on "Inert Gas Shielded Arc Welding" published in *J. of Institution of Engineers*, Vol. 58, Pt. HI 1, Aug. 1977.

Felicitations / Honorary Positions

1. **Fellow of Indian National Academy of Engineering, Delhi.**
2. **Fellowship of Global Institute of Science and Technology, 31 Blake Street, Berwick 3806, Victoria, AUSTRALIA**
3. **Member of Governing Body of St. Aloysius Institute of Technology, Jabalpur (2013 onward)**
4. **Adjunct Faculty (Professor) at Mangalayatan University Aligarh (UP) from the year 2013 onward.**
5. **Adjunct Faculty (Professor) at Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan (for two years)**
6. **Member, Board of Governors, Madan Mohan Malviya Engineering College Gorakhpur (for three years)**

Books

1. **"Micromachining"** (*Edited*), (Second Edition), *Narosa Publishing House*, New Delhi, 2014.
2. **"Micromanufacturing Processes"** (*Edited*), *Taylor and Francis (USA)* (October, 2012)
3. **Nanofinishing Process using magnetorheological polishing medium** by Manas Das, V.K.Jain, P.S.Ghoshdastidar, Published by Lambert Academic Publishing, Germany, 2012.
4. **"Micromachining"** (*Edited*), *Narosa Publishing House*, New Delhi, 2010.
5. **"Advanced Machining Processes"** *Allied Publishers, Mumbai, 2002.*
6. **Machining Technology** (four blocks), *Published by Indira Gandhi National Open University, Delhi, 2002.*
Block I:Principles of Metal Cutting
Block II:Abrasive Machining Processes
Block III: Surface Finishing Processes
Block IV :Non-conventional Material Removal Processes
7. **"Work Shop Technology"** Published by U. P. Hindi Granth Academy, 1980.
8. **"Slide Rule"** *Published by M. P. Hindi Granth Academy, 1975 .*

Edited Books of Short Term Schools held at IIT Kanpur

1. Editor of Proc. Of 6th SERC School on "Advanced Manufacturing Technology" held at IITK during 1999.
2. Editor of Proc. Of 3rd SERC School on "Precision Engineering" held at I. I. T. Kanpur during 2002.
3. Editor for Proc. Of 5th ISME Conf. on Mechanical Engineering held at M.N.R.E. C. Allahabad, 1982.

Chapter(s) in Books

1. V. K. Jain, Ajay Sidpara, M. Ravi Sankar, Manas Das (2012), "Introduction", Introduction to micromanufacturing Processes, Editor(s): V. K. Jain, Taylor and Francis Publishers, USA.
2. Ajay Sidpara, V. K. Jain (2012), "Magnetorheological and Allied Finishing Processes", in Introduction to micromanufacturing, Taylor & Francis, USA.
3. Mamilla Ravi Sankar, J. Ramkumar, and V.K.Jain (2011), "Abrasive flow finishing for Micromanufacturing" Micromanufacturing Processes, Editor(s): V. K. Jain, Taylor and Francis Publishers, USA.

4. V.K.Jain, (2010), "Micromachining Processes:An Introduction', in "Introduction to Micromachining", Editor: Dr. V.K.Jain, Alpha Science International Ltd., Oxford, U. K. Indian Publisher: Narosa Publishing House, ISBN:978-81-7319-915-8.
5. Ajay Sidpara, V.K. Jain (2009), "Electron beam micromachining", Introduction to Micromachining, Editor(s): V.K. Jain, International publisher: Alpha Science International Ltd., Oxford, U. K. Indian Publisher: Narosa Publishing House, ISBN:978-81-7319-915-8.
6. Manas Das, Ajay Sidpara, V.K. Jain (2009), "Chemo mechanical polishing", Introduction to Micromachining, Editor(s): V. K. Jain, International publisher: Alpha Science International Ltd., Oxford, U. K. Indian Publisher: Narosa Publishing House, ISBN:978-81-7319-915-8.
7. V.K.Jain, "Advanced (Non-traditional) Machining Processes", in Machining: Fundamentals and Recent Advances, J.Paulo Davim (Editor), Springer Verlag, 2008.
8. V.K.Jain and Sunil Jha, "Nano-finishing Techniques", Micromanufacturing and Nano-Technology, Editor : Prof. N.P.Mahalik, pp. 171-195, Springer Verlag, 2005.
9. V.K.Jain, "Electrochemical Machining", ASM Handbook, Vol. 13A, Corrosion : Fundamentals, Testing and Protection, 2003.
10. V.K.Jain "Electrochemical Machining-Allied ECM Processes", ASM Handbook, Vol. 13A, Corrosion: Fundamentals, Testing and protection, 2003.
11. V.K.Jain "Electrochemical Machining-Hybrid ECM Processes", ASM Handbook, Vol. 13A, Corrosion:Fundamentals, Testing and Protection, 2003
12. Neelesh K. Jain, and Vijay K. Jain, "Computer Aided Process Planning in Agile Manufacturing Environment", Chapter 27 in Agile Manufacturing: 21st Century Competitive Strategy, Editor: A. Gunasekaran, Elsevier Science Publications.

Publications in CD-ROM

1. Neelesh K. Jain, Vijay K. Jain, "Computer Aided Process Planning (CAPP) Approach for Advanced Machining Processes" *Industrial Engineering Application and Practice: Users' Encyclopedia (on CD-ROM)*, 1999, Editor: A. Mittal.

NPTEL Video Course

1. **Advanced Machining Processes** (*Final stage. Should be over by Dec. 2011*)

As an Editor-in-chief

1. International Journal of Precision Technology, from 2014 onward, Inderscience Publishers (UK).
2. Int. J. Materials and Mechanical Engineering

As an Editor of International Journals

1. Editor of "Micro- / Nano-Manufacturing" series of Taylor and Francis (CRC Press), USA (June, 2013)
2. Editor of *International Journal of Industrial Engineering: Theory, Practice, and Application*, USA,
3. *On-line Editor* of Int. J. manufacturing Technology and Management, Inderscience Pub., England..
4. Consulting Editor of American Biographical Institute, U.S.A
5. Asian Region Editor for Users' Encyclopedia (On CD-ROM) of International Journal of Industrial Engineering: Theory, Practice and Application.

As an Associate Editor

1. Journal of Engineering Manufacture, Proc. The Institution of Mechanical Engineers, UK (SAGE, UK)
2. Associate Editor Int. J. Advanced Manufacturing Systems, (World Scientific, Publishers)
3. Associate Editor, International Journal of Machining Science and Technology, (Taylor and Francis, USA)
4. Associate Editor, Int. J. of Six Sigma and Competitive Advantages, (Inderscience Publishers, UK)
5. Associate Editor, International Journal of Precision Technology (Inderscience Publishers, UK) (Till 2014)

As a Member of International Editorial Board

1. Journal of Engineering Manufacture, Proc. The Institution of Mechanical Engineers, UK (SAGE, UK) (Till Feb. 2014).

2. Int. J. of Materials Processing Technology, (Elsevier Publication)
3. Int. J. of Machine Tools and Manufacture, (Elsevier Publication)
4. International Journal of Advanced Machining Technology (IJAMT (Springer Verlag)).
5. Processing of Advanced Materials (Chapman & Hall)
6. Product and Process Development part of Robotic and Computer Integrated Manufacturing (formerly Computer Integrated Manufacturing Systems) (Elsevier, Publishers)
7. International Journal of Manufacturing Technology Research, Nova Science Publishers, New York (USA).
8. International Journal of Advances in Management Research (Emerald Group Publishing Ltd., UK)
9. Int. J. Manufacturing Technology and Management, (Inderscience Publishers, UK).
10. International Journal of Machining and Machinability of Materials (IJMMM) (Inderscience Publishers, UK)..
11. International Journal of Nano-manufacturing (IJNM) (Inderscience Publishers, UK).
12. International J. of Internet Manufacturing and Services, Inderscience Publishers, England.
13. An Int. Journal of Manufacturing Technology and Research, BIT Mersa, Ranchi – 835215.

As a Guest Editor of Special Issues of International Journals

1. *Special Issue on “special issue: computer-aided process planning and scheduling, Int. J. Internet Manufacturing and Services, (Inderscience), 2014.*
2. Special Issue on “*Micromachining*”, Int. J. Advanced Manufacturing Technology (Springer Verlag), (Under review process)
3. Special Issue on “*Recent Advances in Manufacturing Technologies*”, Int. J. Engineering Manufacture, Proceedings The Institution of Mechanical Engineers, Series B (UK, SAGE Publishers) (Under review process)
4. Special Issue on “Recent Trends in Advanced Machining Processes Part-1”, *Int. J. Manufacturing Technology and Management, Vol. 27, Nos. 4/5/6, 2013*, (Inderscience Publishers, UK.)
5. Special Issue on “Recent Trends in Advanced Machining Processes Part-2”, *Int. J. Manufacturing Technology and Management*,
6. Special Issue on “Recent Advances in Manufacturing Technologies”, *Int. J. Manufacturing Technology and Management, Vol. 27, Nos. 1/2/3, 2013*. (Inderscience Publishers, UK.)
7. Special Issue on “Metrology, Inspection and Quality Engineering”, Int. Journal of Precision Technology, 2014, (Inderscience Publishers, UK.)
8. Special Issue on “*Micromachining*”, Int. J. Advanced Manufacturing. Technology (Springer Verlag), Vol.61, No.9-12, 2012;
9. Special Issue on “*Sustainable Manufacturing*”, Int. J. Manufacturing Technology Research (NOVA, USA), 2012;
10. Int. J. Advanced Manufacturing Systems (World Scientific, Ltd), Vol. 11, No.1, 2012;
11. Special Issue on “*Micromachining and Nano-finishing*”, Int. J. Precision Tech. (Inderscience, UK), Vol.3, No.1
12. Special Issue on “*Advanced Machining Processes*”, Int. J. Mfg. Tech. Mgt. (Inderscience, UK), Vol.24, Nos. 1-4, 2011;
13. Special Issue on “*Supply Chain Management in Manufacturing Environment*”, Int. J. Advances in Management. Research (Emerald, UK), Vol. 9, No. 2, 2012.
14. Special issue of Int. J. of Advanced Manufacturing Technology (Springer Verlag) on 1st Int. and 23rd AIMTDR Conference held at IIT Roorkee, Published by Springer Verlag, London.
15. Special issue on “Advanced Manufacturing Technologies”, Int. J. manufacturing Technology and Management, Publishd by Inderscience Pub., England
16. Special issue on “*Microfabrication*” of Int. J. manufacturing Technology and Management, Inderscience Pub., England.
17. Special issue on “*Advanced Machining*” of Int. J. manufacturing Technology and Management, Inderscience Pub., England
18. Special issue on “*Total Quality Management (TQM)*” of International Journal of Industrial Engineering: Theory Practice and Application (USA),
19. Special Issue on “*Computer Aided Process Planning*” of International Journal of Industrial Engineering: Theory Practice and Application (USA).
20. *Int. J. Manufacturing Technology and Management, Vol. 27, Nos. 1/2/3, 2013 1*

As a Reviewer

1. Machining Science & Technology, Taylor & Francis
2. Materials Processing Technology, Elsevier.
3. Proc. Institution of Mechanical Engineers (UK).
4. Int. J. Microengineering and Microelectronics, IOP.
5. Int. J. Machine Tools & Manufacture, Elsevier.
6. Reviewer of research publications of Trans. ASME, Journal of Engineering for Industry.
7. Reviewer for Research Publications in International Journal of WEAR
8. Reviewer of The Institution of Engineers Journal, Production Engineering Group.
9. Reviewer for Precision Engineering (U.K.)
10. Reviewer for AIMTDR Conf. being held in India.
11. Chairman Paper review committee of 5th ISME Conference held at M.N.R.E.C. Allahabad.
12. Reviewer for Research Publication in Production Engg. Div. of Institution of Engineers (I).
13. Reviewer of Int. J. Industrial Engineering: Theory, Practice and Applications.

As an Organizer of short term training programs

1. BARC and AICTE sponsored school on Micromanufacturing, Nov 5 - 10, 2012.
2. BARC and AICTE sponsored school on Micromanufacturing, Sep. – Oct., 2011
3. BARC and AICTE sponsored school on Micromanufacturing, Sep. 2010
4. SERC School on Micromachining during July 2009.
5. BARC and AICTE sponsored School on Micromachining, 2008.
6. BARC and AICTE sponsored School on Micromachining, 2007
7. AICTE sponsored School on Micromachining, 2006
8. AICTE sponsored course on “Micromachining” during Oct. 25 – 29, 2005.
9. IRDT sponsored course on “Advanced Machining Processes” during March 11 – 15, 2005.
10. AICTE sponsored course on “Advanced Machining Processes” during Oct. 18 – 23, 2004
11. DST sponsored 3rd SERC school on Precision Engineering during June 2002.
12. DST sponsored CONTACT PROGRAM for Young Scientists during July 2001.
13. DST sponsored CONTACT PROGRAM for Young Scientists during May 2000.
14. DST sponsored 6th SERC School on Advanced Manufacturing Technology during March 1999.
15. IRDT sponsored Summer School on *N. C. Machine Tools and Part Programming* during Sep. 1998.
16. ISTE sponsored Summer School on Nontraditional Machining Processes during July 1987.
17. Summer/winter Schools (Three times) on Non-traditional Machining Processes.
18. QIP Summer School on “Design of Machine Tools”, during June 22-July 4, 1992.
19. ISTE Summer School on “Computer Integrated Manufacturing Systems”, during June 3 to June 15, 1991.

Sessions Chaired

1. Session chaired in 'National Symposium on "Miniature Manufacturing in 21st Century" held during August 16-18, 2013
2. Session chaired at MNNIT Allahabad during "Micromanufacturing: Materials, Processes and Systems" during July 08-12, 2013
3. Session chaired at IIT Guwahati in "Manufacturing: Vision for Future" held during October 12 and 13, 2013.
4. Opening and Multi-discipline Session in Global Engineering, Science and Technology conference held at Singapore during 3-4 October, 2013.
5. Session chaired in 4th Int. and 25th AIMTDR conference held at Jadavpur University (Kolkata), 2012.
6. Two Sessions chaired in 3rd Int. and 24th AIMTDR conference held at Visakhapatnam (A.P.), 2010.
7. Two sessions chaired in 2nd Int. and 23rd AIMTDR held at IIT Madras, Chennai, 2008
8. Session chaired at COPEN 2007 held at Trivendram during 13-14 Dec 2007
9. Chaired a session in ICOMAST-2006 held at Melaka (Malaysia) on "Unconventional Machining".
10. Chaired a session of "Non-conventional Machining" in Precision Engineering Conference held at Jadavpur University, Kolkatta during Dec. 16-17, 2005.
11. Chaired a session on Micro-machining in 21st AIMTDR held at VIT Vellore, (TN), India, Dec. 2004.

12. Session chaired in National Conference on “Advancement in Engineering and Technology” held at Jabalpur during Feb20-21, 2004 at Jabalpur and organized by Hitkarani College of Engineering and Technology, Jabalpur.
13. Chaired a session on grinding in International Conference on Manufacturing Engineering: 2000 and beyond, held at Univ. of Connecticut at Storrs during 1996.
14. Chaired a Session on 3-3-2001 on “Non-conventional Machining Processes” in the National Symposium on “Manufacturing Engineering in 21st Century”, Proc. Of the National Symposium, held at IIT/K.
15. Chaired a session on 4-3-2001 on “Flexible Manufacturing System”, in 15th National Conventional on Emerging Convergence in Manufacturing Systems held at Bhopal.
16. Sessions chaired in AIMTDR conferences held at BIT Mesra Ranchi, Indian Institute of Technology Madras Chennai, and other places.
17. Sessions chaired at Precision Engineering conferences held at IIT Madras, Chennai and VIT Vellore.
18. Session chaired at 18th National convention of Production Engineering held at Jabalpur during 27-28 Dec., 2003.

Felicitations (Recorded only after January 2013)

1. Chief Guest in the conference “Manufacturing: Vision for Future” held during October 12 and 13, 2013 at IIT Guwahati.
2. Guest of Honor at IIT BHU Varanasi during ‘National Symposium on “Miniature Manufacturing in 21st Century” held during August 16-18, 2013
3. Chief Guest in at MNNIT Allahabad during Micromanufacturing: Materials, Processes and Systems" during July 08-12, 2013.
4. **Chief Guest at** "National Symposium On Advancement in Mechanical and Civil Engineering " organized by Rama Institute of Engineering and Technology Kanpur, on Nov. 15, 2013.

Patents

1. Nano-finishing of Blade bearing by Magnetic Abrasive Finishing process. Inventors: Dr. V. K. Jain, Mr. Pawan Basera, Indian Institute of Technology, Kanpur. (Ref. 4074/Del/2012/ PD007459IN-SC)
2. Polymer Rheological Abrasive Medium for Nano-finishing of complex shapes made of Advanced materials Inventors: Mamilla Ravi Sankar, Dr V.K. Jain, Dr J.Ramkumar Indian Institute of Technology, Kanpur (IIT Kanpur CINIITK000100061) Application no. 712/Del/2013/ Dated 13.03.2013
3. Rotational-Magnetorheological Abrasive Flow Finishing process and device. Manas Das, Dr V.K. Jain, Dr P.S.Ghoshdastidar , I.I.T. Kanpur (Filed).
4. System and method for nanofinishing of a workpiece. Inventors: Ajay Sidpara, V K Jain, V K Suri and R Balasubramanium (filed).
5. Rotatory abrasive flow finishing process for finishing and texturing of internal and external surfaces of hard and composite materials and an apparatus therefore, Patent No: 811/DEL/2009 (Patent filed on: 20-04-2009) Inventors: Mamilla Ravi Sankar, Dr V.K. Jain, Dr J.Ramkumar, Indian Institute of Technology, Kanpur
6. Development of Chemomechanical Magnetorheological Finishing Process and Device. (VKJain, Prabhat Ranja, VKSuri and R.Balasubramanian)
7. Process for drilling contoured deep hole in super alloys using STED to enhance cooling in Turbine blades, Prof. V.K .Jain, ME, Prof. Rajiv Shekhar, MME, Dr. D.S. Bilji, Anjali V. Kulkarni, SRE, ME, Aatish Chavan, M.Tech, ME (Patent Application No. 1134/DEL/2007 Dated: 29-05-2007)
8. Method and Apparatus for Magnetic Float Polishing, Ranga Komanduri, Tejas Shrikant Kirtane, Robert Edward Gerlick, Noritsugu Umchara, Vijay Kumar Jain, US Patent No.:7,252,576 B1, Date of Patent: Aug. 7, 2007.
9. Magneto-rheological abrasive flow finishing (MRAFF) process
10. An abrasive flow finishing device, an abrasive flow finishing process and magnetorheological polishing fluid Patent Application No.: 1991/DEL/2005 ,with Dr. Sunil Jha.
11. A method for magnetic abrasive finishing using a pulsating flexible magnetic abrasive brush and a magnetic abrasive finishing device. Patent Application No.: 1990/DEL/2005 . With Dr. D.K.Singh and Dr. V. Raghuram
12. Quick Stop Device for Metal Cutting With Dr. Prashant Kumar.

Sponsored Research Projects

Project Title	Investigator (s)	Duration	Funding/ Sponsoring Agency	Amount
1.Development of technology for nano-finishing of curved and sculptured surface	Dr. V.K.Jain	Ja. 2011 to Jan. 2013	B.A.R.C., Mumbai	41,40,000/=
2.Nanofinishing using Magnetorheological Finishing (MRF) Technique	Dr. V.K.Jain	Jan. 2010-Jan. 2012	C.S.I.R., New Delhi	14,40,000/=
3.Rotational-Magnetorheological flow finishing	Dr. V.K.Jain & P.S.Ghoshdastidar	2009-2012	DST, New Delhi	30,00,000/=
4,Design, simulation and characterization of pneumatic spray nozzle	Dr. D.P.Mishra and Dr.V.K.Jain	2009-2012	B.R.N.S., Delhi	29,98,100/=
5,Micromachining	Dr. V.K.Jain	@008-2009	DST, New Delhi	9,75,000/=
6.Feasibility Study of Superfinishing Process For Silicon Mirror	Dr. V.K.Jain	2006-2007	BARC, Mumbai	Rs. 55,93,800/-
7. Finishing of Miniature Holes in Super Alloys using Abrasive Flow Machining (AFM)	Dr. V. K.Jain Dr. J. Ramkumar Dr. K. Kamal Kar	2006-2008	ARDB, New Delhi	Rs. 34,03,200/-
8. Layered Manufacturing using Electrochemical sparks	Dr. V.K.Jain Anjali Kulkarni	2006-2009	DST, New Delhi	Rs.23,22,000/-
9.Magnetorheological Abrasive Flow Finishing(MRAFF)	Dr.V.K.Jain	2004-2007	CSIR, New Delhi	Rs. 11,74,000/-
10.Investigation into Magnetic Abrasive Finishing of Plane Surfaces	Dr. V.K. Jain Dr. P..M. Dixit Dr. V. Raghuram	Oct. 2003-Oct. 2006	DST, New-Delhi	Rs. 12,57,000/-
11.India Advanced Manufacturing Technology(AMT) Survey	Dr. L.S. Thakur, Dr. V.K.Jain' Mr. Y.Jiang	June 2003-Dec. 2003	University of Connecticut, School of Business	U.S. dollar \$ 3675 (Rs. 1,65,375/-)
12.Magnetorheological Abrasive Flow Finishing (MRAFF) Process	Dr.V.K.Jain	2002-2005	DST/INT/US, New Delhi	Rs. 4,18,950
13.Shaped Tube Pulse Electro-chemical Machining	Dr. V. K. Jain (PI) Dr. Rajiv Shekhar (CO-PI)	2001-2004	DST, New Delhi	Rs. 9,78,000/-
14.Automated Process Selection and Optimization of Advanced Machining Processes	Dr. V. K. Jain (PI) Dr. K. Deb (CO-PI)	March 2000-March 2003	DST, New Delhi	Rs. 9,00,000/-
15.Abrasive Electro Discharge Grinding of Advanced Engineering Materials (Under Progress)	Dr. V. K. Jain (PI) Dr. P. M. Dixit (CO-PI)	Nov. 1999-Oct. 2002	CSIR, New Delhi	Rs. 5,50,000/-
16.Application of Fiber Optics in Conjunction with LASER Beam for On-line Measurement and Control of Tool Wear	Dr. S. K. Choudhury (PI) Dr. V. K. Jain (CO-PI)	July 1995-July 1998	CSIR, New Delhi	Rs. 10,00,000/-
17.Abrasive Flow Machining Process	Dr. V. K. Jain (PI) Dr. Prashant Kumar (CO-PI) Dr. P. M. Dixit (CO-PI)	April 1996-March 2000	DST, New Delhi	Rs. 10,44,391/-
18.Automatic Feature Recognition and Computer Aided Process Planning for Sheet Metal Components	Dr. V. K. Jain (PI)	Jan. 1996-March 1999	CSIR, New Delhi	Rs. 2,40,800/-
19.Electrical Discharge Diamond Grinding of Advanced Engineering Materials	Dr. V. K. Jain (PI) Dr. G. K. Lal (CO-PI)	Sep. 1994-Sep. 1997	DST, New Delhi	Rs. 6,25,282/-
20.Investigation into Sludge Free-Electrochemical Spark Machining of Advanced Engineering Materials (Composites)	Dr. V. K. Jain (PI) Dr. Prashant Kumar (CO-PI)	Jan. 1992-Feb. 1995	CSIR, New Delhi	Rs. 3,57,930/-
21.Design, Development and	Dr. V. K. Jain (PI)	April 1987-	DST, New Delhi	Rs. 12,70,587/-

Performance of Tools for ECM Process	Dr. G. K. Lal (CO-PI)	April 1992	Delhi	
22. Performance of the Cutting Tools During Machining of Composite Materials	Dr. V. K. Jain (PI) Dr. Prashant Kumar (CO-PI)	1986-1988	U. P. CST, Lucknow	Rs. 1,44,720/-
23. Investigations into Accelerated Cutting for Machinability Evaluation	Dr. V. K. Jain (PI)	March 1984- June 1987	CSIR, New Delhi	Rs. 49,957/-

Consultancy Projects

Project Title	Investigator (s)	Duration	Funding/ Sponsoring Agency	Amount
1. Development of technology for nano-finishing of curved and sculptured surface	Dr. V.K.Jain	Ja. 2011 to Jan. 2013	B.A.R.C., Mumbai	8,27,000/=
2. Development of a technique for finishing blade bearing of a propeller of HS748 transport aircraft	Dr. V.K.Jain	Nine months	HAL Kanpur	9,00,000/= + 5,00,000/=
3. Development of ECM Machine	Dr. V.K.Jain	23-3-2010 to 22-3-2012	Electronica Pune	5,00,000/=
4. Development of prototype of Abrasive Flow Finishing Machine for Nano-level finishing	Dr. V.K.Jain	2009-2011	CMTI B'lore	7,01,200/=
5. Examination of the proposed facilities in capacity augmentationscheme of BHEL for augmenting capacity from 15000MW to 20000MW	Dr. V.K.Jain	April 2009 to May 2009	B.H.E.L. New Delhi	2,18,394/=
6. Shaped Tube Electro-machining of Inconel Alloys	Dr. V. K. Jain	Feb. 2000-Feb. 2001	BHEL, Hyderabad	Rs. 1,00,000/-
7. Development of STPECM Machine	Dr. V.K.Jain	August 25 2003	BHEL Hyderabad	Rs. 5,00,000/-

Courses taught

Institute/University	Duration	PG Courses	UG Courses
I. I. T. Kanpur (INDIA)	1983 Onwards	<ul style="list-style-type: none"> • Micromachining • Computer Aided Manufacturing (UG & PG) • Non-traditional Machining Processes (UG & PG) • Numerically Controlled Machine Tools (UG & PG) • Metal Forming • Metal Cutting (Machining ScienceI) • Design and Analysis of Machine Tool (UG & PG) • Advanced topics in Non-traditional machining processes 	<ul style="list-style-type: none"> • Micromachining • Management of Production Systems • Design of Machine Tools • Metrology and Materials Testing • Manufacturing Processes (TA-202) • Engineering Drawing (TA-101) • Manufacturing Science Lab • Metrology Lab • Thermodynamics (Tutorial) • Manufacturing Systems
University of Nebraska	1989-90	<ul style="list-style-type: none"> • Advanced Topics in 	<ul style="list-style-type: none"> • Manufacturing Technology

Lincoln (U.S.A.)		Manufacturing	
University of California at Berkeley (U.S.A.)	1989	<ul style="list-style-type: none"> Processing of Materials in Manufacturing 	<ul style="list-style-type: none"> Processing of Materials in Manufacturing
M.N.R.E.C. Allahabad (INDIA)	1974-1983	<ul style="list-style-type: none"> Welding and Foundry Engineering Metal Cutting Unconventional Machining Processes Statistical Quality Control Operations Research 	<ul style="list-style-type: none"> Time and Motion study Production Technology Computer Aided Design Metrology Engineering Drawing Metallurgy Production Technology Lab Metallurgy Lab
B.I.T.S. Pilani (INDIA)	1973-74	—	<ul style="list-style-type: none"> Workshop Technology
M.R.E.C. JAIPUR (INDIA)	1973	—	<ul style="list-style-type: none"> Refrigeration and air conditioning Automotive Engineering

New Courses Developed:

1. ME 764: Computer Integrated Manufacturing System
2. ME 759: Advanced Topics in Non-Traditional Machining
3. ME 665 : Micromachining (proposed)

Teaching Appreciation

The Chairman, Academic senate has rated Dr. Jain's teaching as "Extra Ordinary" in ME662 during the years 2004-2005 and 2005 – 2006. (**More than three times)

Ph.D. Theses Guided at I. I. T. Kanpur

1. Ajay Sidpara, "Magnetorheological fluid based nanofinishing of flat and freeform surfaces, 2013.
2. Anjali Kulkarni, "Microfabrication using Electrochemical Spark Deposition", (Co-supervisor: Dr. S.K.Mishra) (yet to defend), 2013 (UPTU Lucknow).
3. Ravishankar, "Nano-finishing of metal matrix composites using Rotational Abrasive Flow Finishing Process" (Dr. J.Ramkumar, Co-supervisor), May, 2012.
4. Manas Das, "An Experimental Investigation of Rotational-Magnetorheological Abrasive Flow Finishing (R-MRAFF) Process and a CFD-Based Numerical Study of MRAFF Process" (Co-supervisor: Prof. P.S.Ghoshdastidar), May, 2012.
5. H. Chelladurai, "Development of Cutting Tool Condition Monitoring System for Turning Operation", July 2008 (Co-supervisor: Prof. N.S.Vyas).
6. Sunil Jha, "Magnetorheological Abrasive Flow Finishing (MRAFF) process" (Feb. 2007).
7. Vijay K. Gorana, "Force Measurement and On-line Monitoring of Abrasive Flow Machining (AFM) Process", 2006. (Co-supervisor: Prof. G. K. Lal, Mech. Engg. Deptt.).
8. S. C. Jayswal, "On Magnetic Abrasive Finishing (MAF) Process", 2006. (Co-supervisor: Prof. P. M. Dixit, ME Deptt.).
9. D. K. Singh, "Investigations into Magnetic Abrasive Finishing of Plane Surfaces", 2006 (Co-supervisor: Dr. V. Raghuram, ME Deptt.).
10. Dayanand Srinivas Bilgi, "Deep Hole Drilling Using Pulse Electro Chemical Machining (PECM) Process". (Co-Supervisor: Prof. Rajiv Shekhar) (2004).
11. Neelesh K. Jain, "Automated Process Selection and Optimization of Advanced Machining Processes: A Fuzzy Logic and Genetic Algorithm Based Approach".(2003).
12. Vinod Yadava, "Finite Element Analysis of Electro-Discharge Diamond Grinding (EDDG) Process", (Co-supervisor: Prof. P. M. Dixit, ME).(2002)
13. Rajendra K. Jain, "Modeling and Simulation of Abrasive Flow Machining (AFM) Process", May 1999.
14. Phillip Koshy, "Electrical Discharge Diamond Grinding: Mechanism of Material Removal and Modeling", June 1996. (Co-supervisor: Prof. G. K. Lal, ME).
15. Raghvendra Jagirdar, "Set Theoretic and Graph Based Approach for Automatic Feature Recognition of Sheet Metal Components", Feb. 1995. (Co-Supervisor: Prof. J. L. Batra).

M. Tech. Theses Supervision at I. I. T. Kanpur

1. Jitendra Kumar, Fabrication of circuits using electrochemical micromachining on PCB, (Co-supervisor: Prof. J. Ramkumar), Dec. 2013.
2. Mithun Sarkar, Nanofinishing of freeform surfaces by abrasive flow finishing (AFF) process, Sep. 2013.
3. Satish Kumar, Nanofinishing of freeform surfaces by magnetorheological abrasive flow finishing process, August 2013.
4. Vishnu Suthar, Fabrication of Micro Tapered Pillars on Titanium Using Electric Discharge Micromachining, August 2012.
5. Pawan Kumar, Magnetorheological finishing of helicopter bearing races, July 2012.
6. C.S. Sathua, "Magnetic abrasive finishing with a ball –end tool and force analysis, (Co-supervisor: Prof. J. Ramkumar), Nov. 2011.
7. Sweta Singh, "Experimental investigations into electrochemical microdrilling using insulated tool and masked workpiece", (Co-supervisor: Prof. SKChoudhury), Dec. 2011.
8. Dileep Gehlot, Anode shape prediction in through-mask-ECMM using FEM, July 2011.
9. Anurag Thakur, Fabrication of micro moulds using electrochemical micromachining, January 2011.
10. Prabhat Ranjan, Development of Nanofinishing Technology for Si Substrate, August, 2009 (Dr. V.K.Suri, Co-supervisor)
11. A.K.S.Chauhan, "micro tool fabrication using electrochemical micromachining", August 2009.
12. Pankaj Singh, Experimental Investigations into Magnetorheological Abrasive Finishing (MRAF) Process, July 2008.
13. Puneet Kumar, Modeling of Surface Finish in Magnetorheological Abrasive Finishing (MRAF) Process, July 2008.
14. Rajesh D. Madharker "Investigations into Magnetic Abrasive Deburring (MADe)". November 2007.
15. Priyadarshani Deepshikha "Generation of micro channels on ceramics using Electrochemical Spark Machining". June 2007.
16. Aatish Chavan, "Investigation into Contoured Hole Drilling using Shaped Tube Electrochemical Drilling (STED) Process" , October 2006. (Mrs. Anjali Kulkarni, Co-supervisor)
17. Ashish Nayak, "Investigations into machining of Superalloys (Inconel and Titanium-alloy) using Abrasive Waterjet Cutting", August 2006 (Dr. V. Raghuram, Co-supervisor).
18. S.Seshank "Micro fabrication using Electric Discharge Deposition Process", July 2005
19. Vinod Kumar "Force and surface roughness analysis of Magnetic Abrasive Finishing process (MAF) using non-ferromagnetic and ferromagnetic workpiece materials", July 2005.
20. K.K Saren, "Force Analysis of Magnetic Abrasive Finishing Process of non-Ferromagnetic Materials", Aug. 2004 (Co-Supervisor : Dr. V. Raghuram).
21. Manas Das, "Analysis of Magnetorheological Abrasive Flow Finishing (MRAFF) Process", July 2004.
22. Sanjoy Adhikary, "Some new observations in Elector-Chemical Spark Machining (ECSM) of Quartz", May 2003.
23. Hirak Jyoti Gayen, "Computer Aided Process Planning for rotational parts using Genetic Algorithms", July, 2002 (with Prof. K. Deb as co-supervisor)
24. Rakesh G. Mote " Electro-Discharge Abrasive Grinding (EDAG) Process ", March 2002.
25. Amitabh Parashar, " Interactive Computer Assisted Part Programming for CNC lathe", Feb.2002.
26. G. Benu Madhav, "Finite Element Analysis of Magnetic Abrasive Finishing Process", June 2000 (Co-supervisor: Prof. P. M. Dixit, ME).
27. Santosh P. Sharma, "Deep Hole Drilling in High Speed Steel Using Electro-Chemical Machining", May 2000 (Supervisor: Dr. Rajiv Shekhar, MME).
28. Pabitra K. Behra, "Experimental Investigations into Magnetic Abrasive Finishing Process", Dec. 1999 (Co-supervisor: Prof. Prashant Kumar, ME).
29. D. Sridhar Sastry, "Electro-Stream Drilling of High Speed Steel", July 1999 (Co-supervisor: Dr. Rajiv Shekhar, MME).
30. Amreesh Agrawal, "On the Determination of the Viscosity of AFM Media", March 1999 (Co-supervisor: Prof. K. Murlidhar, ME).
31. K. M. Ramesh, "Electro Chemical Spark Machining Using Abrasive Cutting Tools", Nov. 1998 (Co-Supervisor: Prof. S.K.Choudhury)
32. N. Shiva Rama Krishna, "On-line Monitoring of Tool Wear and Control of Dimensional Inaccuracy in Turning", Aug. 1998 (Supervisor: Prof. S. K.Choudhury, ME).
33. T. Rajani Kumar, "Theoretical and Experimental Investigations into Abrasive Flow Machining Process", July 1998 (Co-supervisor: Prof. P. M.Dixit, ME).
34. Arvind Shukla, "*Measurement of Hydrogen content using nuclear technique and evaluation of its effects on EDM'd components*", 1998 (Co-supervisor: Dr. V. N. Kulkarni, PHY).
35. Bikram K. Gupta, "Tool Selection and Bend Sequencing for Air Bending of Sheet Metal Components", April 1998
36. Vivek Kumar, "*Electric Discharge Abrasive Drilling of Cemented Carbide and HSS*", April 1998

37. Ch. V. V. Ramarao, "*On-line Monitoring of Tool Wear in Turning Using Neural Network*", Feb. 1997 (Supervisor: Prof. S. K.Choudhury, ME).
38. Sunil Jha, "*On the Abrasive Flow Machining (AFM) Process Performance*", April 1998 (Co-supervisor: Prof. S. K.Choudhury, ME).
39. Subodh Kulkarni, "*Effect of Strain Acceleration on Plastic Deformation Behavior of Aluminium*", Jan. 1999 (Co-supervisor: Dr. Om Prakash, ME).
40. C. Rangnath, "*On the Evaluation of Rheological Properties of Media Used in Abrasive Flow Machining (AFM)*", Oct. 1997.
41. M. S. Ankulkar, "Electric Discharge Diamond Drilling of Cemented Carbides", Aug. 1997.
42. Manoj Singh, "*Effect of Porosity and Glass Content on Machining of Alumina Ceramics by Electro Chemical Spark Machining (ECSM)*", July 1997 (Co-supervisor: Prof. D. C. Agrawal, MSP).
43. H. Rammohan, "*Object Oriented Feature Based Tool Selection System for Sheet Metal Components*", April 1997 (Co-supervisor: Prof. Kripa Shanker, IME).
44. Sanjay Kumar Chak, "*Electro-Chemical Spark Machining (ECSM) of Alumina and Quartz*", May 1996.
45. Shashikant G. Adsul, "*Experimental Investigations into Abrasive Flow Machining (AFM) at Low Pressure*", Feb. 1996
46. Pulak Mohan Pandey, "*On the Mechanism of Sparking and Finite Element Simulation of ECSM Process*", March 1995 (Co-supervisor: Prof. P. M. Dixit, ME).
47. Anand Satyadev, "*Flat Pattern Development for Bent and Deep-drawn Sheet Metal Components*", March 1995.
48. Naveen Gautam, "Experimental Investigations for the Enhancement of ECDM Process Capabilities Using Various Tool Kinematics", Jan. 1995.
49. Vivek V. Nesarikar, "*Travelling Wire Electro-Chemical Spark Machining of Kevlar-Epoxy Composites*", July 1994 (Co-supervisor: Prof. S. K.Choudhury, ME). [Paper based on this thesis won the Best Paper Award in 16th AIMTDR Conference held in Bangalore in Dec. 1994]
50. Chordia Yogenrda D., "*Automatic Feature Extraction and Process Planning for 3-D Machining of Prismatic Components*", March 1994 (Co-supervisor: Prof. J. L. Batra, IME).
51. A. K. Garg, "*Computer Aided Process Planning (CAPP) for Eelectro Discharge Machining (EDM)*", April 1993 (Co-supervisor: Prof. J. L. Batra, IME).
52. Prem Shankar, "*Analysis of Spark Discharge in EDM Process*", April 1994 (Co-supervisor: Dr. T. Sundararajan, ME).
53. Yatinder Pratap Singh, "*Design and Fabrication of Travelling-Wire Electro-Chemical Spark Machine and Machining of Piezoelectric Ceramics (PZT)*", July 1993 (Co-supervisor: Prof. D. C. Agrawal, MSP).
54. Piyush Agarwal, "*On Two-dimensional Nesting Problems*", April 1992 (Co-supervisor: Prof. S. G. Dhande, ME).
55. Lt. Pravin Dixit, "*On the Feasibility of Application of Fiber-Optics in Profile Measurement*", Feb. 1992 (Co-supervisor: Prof. S. K.Choudhury, ME).
56. Lt. V. Ravindranath, "*Experimental Investigations into Reproduction of Profiles in Electrochemical Drilling*", Feb. 1992 (Co-supervisor: Prof. J. L. Batra, IME).
57. Ranen Bhattacharya, "*Numerical Simulation of EDM Process*", Jan. 1992 (Co-supervisor: Dr. P. S. Ghoshdastidar).
58. Philip Koshy, "*A Study on Rotating Disk Type of Tool for EDM*", Sep. 1989 (Co-supervisor: Prof. G. K. Lal, ME).
59. Sanjay Kumar Verma, "*Effect of Shear Strain Acceleration on Material Properties of Aluminium*", Aug. 1989 (Co-supervisor: Prof. Prashant Kumar, ME).
60. G. Sankara Narayana, "*Computer Aided Process Planning for Machining of Rotational and Prismatic Parts*", March 1989 (Co-supervisor: Prof. Kripa Shanker, IME).
61. V. Srinivas Anand, "*Multi-objective Optimization of Electro-Discharge Machining (EDM) Process*", March 1989 (Co-supervisor: Prof. J. L. Batra, IME).
62. Gurusaran, "*Computer Aided Process Planning for Electrochemically Machined Components*", Feb. 1989 (Co-supervisor: Prof. J. L. Batra, IME).
63. M. Radhakrishnan, "*Design and Development of Process Planning System and Cutter Path Simulation for Rotational Components*", Jan. 1989 (Co-supervisor: Prof. Kripa Shanker, IME).
64. Anuj Sanjanwala, "*On-line Wear Sensing and Compensation during Turning Operations*", Jan. 1989 (Co-supervisor: Prof. S. K. Choudhury, ME).
65. P. Madhu, "*Finite Element Analysis of Electro-Discharge Machining Process*", Nov. 1988 (Co-supervisor: Dr. T. Sunararajan, ME).
66. P. Sreenivasa Rao, "*Application of Travelling Wire-ECSM Process for Machining of Composites*", Sep. 1988 (Co-supervisor: Prof. S. K. Choudhury, ME).
67. M. Satheesha, "*Machining of Fibre Composites and Development of a Quick Stop Device*", Sep. 1988 (Co-supervisor: Prof. Prashant Kumar, ME).

68. Girish Thakar, "Design and Development of Database for Process Planning and NC Part Program Generation for Rotation Components", June 1988 (Co-supervisor: Prof. Kripa Shanker, IME).
69. Ajay Kumar Chitta, "A Decision Support System for Process Planning", July 1987 (Co-supervisor: Prof. Kripa Shanker, IME).
70. Vilas S. Joshi, "Viscoplastic Analysis of Metal Cutting by Finite Element Method", July 1987 (Co-supervisor: Prof. P. M. Dixit, ME).
71. Sanjiv Tandon, "Machining of Composites- A New Approach", July 1987 (Co-supervisor: Prof. Prashant Kumar, ME).
72. Yashwant Kanetkar, "Stray Current and Stagnation Zone Analysis in ECD During Outward Mode of Electrolyte Flow", July 1987 (Co-supervisor: Prof. G. K. Lal, ME).
73. V. N. Vittal, "A Computer Aided Process Planning System for Rotational Parts in FMS Environment", March 1987 (Co-supervisor: Prof. Kripa Shanker, IME).
74. K. Ravi Raju, "Two-dimensional Finite Element Analysis for Tool Design in ECM", March 1987 (Co-supervisor: Prof. G. K. Lal, ME).
75. Gajendra Kumar Adil, "Temperature Analysis of Accelerated Cutting: Finite Element Approach", March 1987 (Co-supervisor: Dr. T. Sunarajan, ME).
76. Sachindra Kumar Purwar, "Analysis of Plastic Deformation Characteristics During Metal Cutting by Finite Element Method", March 1987 (Co-supervisor: Dr. T. Sunarajan, ME).
77. Sanjay Kumar, "Investigations into Microhardness of Chips During Accelerated Cutting", Jan. 1987 (Co-supervisor: Prof. G. K. Lal, ME).
78. Gopal Indurkha, "Some Investigations into Electro Discharge Drilling Process", May 1985.
79. S. Murugan, "Prediction of Anode Profile in ECBD and ECBB Operations", April 1985.
80. P. G. Yogindra, "Two-dimensional Finite Element Analysis of Electro Chemical Drilling Process for Anode Shape Prediction", March 1985.
81. Girish Acrarya, "Multi-objective Optimization of Electro-Chemical Machining (ECM)", Dec. 1984 (Co-supervisor: Prof. J. L. Batra, IME).

Under Progress

Supervision of B.Tech. Projects at I. I. T. Kanpur (Listed only SEVEN from more than thirty)

1. Design and fabrication of multi-processes (EDMM+ECMM+Micro Drilling) machine, 2013.
2. Design and Development of Electrochemical Wire Cutting Machine, by Ramanand and group, 2012. **This BTP was adjudged as the Best Project among the whole class.**
3. Design and Development of Magnetorheological Abrasive Honing Machine, by K. Ravikant, Karam Chand, S.C. Man, K.S.Satvan, 2011. **This project was adjudged for the Best Project Award.**
4. Design and fabrication of Electrochemical Microturning Setup by Nitesh Agarwal, Rohit Katiyar, S.N. Oberoi, year 2010. **This project stood second best project.**
5. Robot for climbing walls by Sravan Dasari, Matsyendra Nath Shukla, Ajay Kumar, 2009
6. Smart Sprinkler by Kushagra Singhal, Rahul Saraogi, Rajkishor Rajak, 2006.
7. Magneto Rheological Finishing of Optical Lenses by Rohit mathur, Roopam khare, Vinesh chauha.n , Year 2003.

At M.N.R.E.C. Allahabad (1974-1983)

M.E. Theses

1. Vinod Kumar Jain, "On the Reproduction of Accuracy of Anode Profile in Electro Chemical Drilling (ECD)" Aug. 1982
2. P. Singh, "Shear Angle Determination during Longitudinal Turning and Face Turning for Orthogonal Cutting Conditions",
3. V. N. Nanda, "Some investigations into overcut during in ECD using bare tools".
4. D. K. Bandyopadhyay, "Shear angle during accelerated cutting: response surface approach".
5. S. B. Thakare, "Tool Wear during taper turning".
6. S. Jhita, "Experimental investigations into the tool wear during facing test".
7. P.K. Mishra, "Thermal properties of CO₂ Silicate molds/cores : Response surface approach".
8. G. P. Srivastav, "Mechanical properties of CO₂ Silicate molds/cores".

M.E. Projects

1. Gyan Prakash, "Computer Aided Analysis of Experimental data"
2. P. Singh, "Development of a Computer Program for Production Incentive Bonus Scheme"
3. V. N. Nanda, "Development and Fabrication of A Quick Stop Device"
4. D. K. Bandyopadhyay, "Network Analysis for the Manufacture and Assembly of the Coal Cutting M/C AB Fifteen", 1977
5. Pritam Singh, "M.T.M. in Transmitter Layouts", 1976

6. T. P. Gupta, "Development of Pneumatic Comparator System"
7. P. K. Mishra, "*Semi Under Water Welding: Effect of PH value of Water on Hardness of Weld*"
8. P. N. Awasthi, "*Experimental Investigations in the Welding of Partially Dipped Workpieces*"
9. N. D. Das, "Metallurgical aspects of partially under weldments"

SOME KEY NOTE ADDRESSES

1. Micromanufacturing : Vision for Future at IIT Guwahati during national conference on Micromanufacturing : Vision for Future held during Oct. 12 to 13, 2013.
2. Micromanufacturing: An Overview, National Symposium of Miniature Manufacturing durin August 16-18, 2013 at IIT-BHU
3. Micromanufacturing: An Overview. In one week short term course on Micromanufacturing:Materials, Processes and Systems, July 18, 2013 at MNNIT Allahabad.
4. Nanofinishing:An Overview. In one week short term course on Micromanufacturing:Materials, Processes and Systems, July 18, 2013 at MNNIT Allahabad.
5. Micromachining: An Overview, 1st National Conference on Recent Advances in Technology and Engineering (RATE-2012) on 20th January, 2012 at Mangalayatan University, Aligarh.
6. Micromanufacturing: An Overview, Int. conference in "2nd International Conference on Advances in Mechanical Manufacturing and Building Sciences (ICAMB2012), January 2012.
7. "Micromanufacturing :An Overview", 3rd Int. and 24th AIMTDR conference held at Visakhapatnam (A.P.) during Dec. 13- Dec. 15, 2010
8. "Micromachining:An Overview", Pre-conference workshop held at Andhra University, Visakhapatnam (A.P.) during Dec. 10- Dec. 12, 2010
9. "Nanofinishing Techniques: An Overview", Indo-Austria workshop held at NFTDR at Hyderabad, Dec. 8-, 2010.
10. "Abrasive Based Nanofinishing Techniques", 1st Int. Conference on Abrasive Based Processes, held at Cambridge, UK.
11. "Abrasive Flow Finishing: An Overview", Indo-US workshop held at PSG College Coimbatore, Dec. 2008.
12. "Evolution of Advanced Machining Processes" during National Seminar on "Advanced manufacturing Technologies" held at MNNIT Allahabad during March, 2007.
13. "Nano-finishing Techniques and Pulsating Magnetic Abrasive Brush" during International Conference on Machining Science and Technology-2006 (ICOMAST-2006) held at Melaka, Malaysia, 28th – 30th August, 2006.
14. "Precision Engineering and Deburring", during COPEN 2005; Conference on Precision Engineering held at Jadavpur University, Kolkata, 16th -17th December.
15. "Responsive Manufacturing: Some aspects" during "Workshop on Responsive Manufacturing" at Defence Research & Development Laboratory, Kanchanbagh, Hyderabad, July 29, 2005.
16. "CAD/CAPP/CAM" during MECHADAY at R.K.D.F. Institute of Science and Technology, Bhopal, March 16, 2004.
17. "Face to Face – A dialogue with young Technocrat" during the Annual program DIKSHA at MANIT Bhopal, March 12, 2004.
18. "Understanding Advanced machining Processes", National conference on Engineering and Technology organised by Hitkarini College of Engineering and Technology, Jabalpur (M.P.) during Feb. 20-21, 2004.
19. "Micro- to Nano-finishing", G.C.Sen Memorial Lecture, at the 18th National Convention of Production Engineering of The institution Of Engineers (India) held at Jabalpur on December 27-28, 2003.
20. "Advanced Fine Finishing Processes" *The 20th AIMTDR conference held at B.I.T. Mesra Ranchi* during Dec. 13-15, 2002, Souvenir, pp.15-22.
21. "Advances in Advanced Machining Processes", National Conference on Advances in Manufacturing Systems held at Jadavpur University, Kolkata during March 28-29, 2003, pp.23-41.
22. "Advanced Manufacturing Technologies", DYNAMMECH, 2003 held at H.B.T.I. Kanpur during April 5-6, 2003.
23. "Advanced Machining Processes for High Strength Metals" Aerospace Manufacturing Technology, Proc. 13th Nat. Convention of Aerospace Eng. Nasik, 1997.

SOME INVITED LECTURES

1. "Recent advances in manufacturing and how to meet the challenges" , "Sardaliya Memorial Lecture at M.P. Univ. of Agr. And Tech., Udaipur on June 18, 2011.
2. "Roadmap to Nano-finishing", during the Technology Day celebrated by The Institution of Engineers (I) on Aug. 19, 2006 held at IIT Kanpur.
3. "Micro to Nano finishing" during International Conference on Mechanical Engineering held at Delhi College of Engineering during Dec. 12 to 14, 2005.
4. "Energy Economy in Manufacturing" delivered at National Seminar on Energy Solutions held at L.N.C.T. Bhopal during May 15-16, 2004.
5. "Micro- to Nano-finishing", DST special lecture delivered at I.I.T. Roorkee during 2003.

6. Advanced Machining Processes for High Strength Metals”, *Aerospace Mfg. Technology, Proc. of 13th National Conf. Of Aerospace Engg.*, Nasik, (1997).
7. “On the electrochemical spark machining of electrically non-conducting materials”, *India Japan Workshop on Advanced Mfg. Systems*, I. I. T. Bombay, (1997) pp. 71-87.
8. On “*Machining of Composite Materials: A New Approach*”, University of California at Berkeley (USA), April 1989.
9. On “Research in Non-traditional Machining Areas at IIT Kanpur”, Univ. of Windsor, Canada, 1991.

PUBLICATIONS IN REFERRED JOURNALS

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1. V.K.Jain, Ajay Sidpara, R. Balasubramaniam, G.S. Lodha, V.P. Dhamgaye, R. Shukla Micromanufacturing: A Review-Part I, Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, DOI: 10.1177/0954405414539487.
2. V.K.Jain, U.S.Dixit, C.P.Paul, Arvind Kumar, Micromanufacturing: A Review-Part II, Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, DOI: 10.1177/0954405414539492.
3. V.K.Jain and Priyadarshani Deepshikha (2014), Fabrication of microchannels in ceramics (Quartz) using electrochemical spark micromachining (ECSM), *Int. J. Advanced Manufacturing Systems*, **13**, 5 (2014). pp. 5-16. DOI: 10.1142/S0219686714500012.
4. Saurav Goel, Waleed Bin Rashid, Xichun Luo, Anupam Agrawal and V.K. Jain (2014), A theoretical assessment of surface defect machining and hot machining of nanocrystalline silicon carbide, *Trans ASME*.
5. Ajay M. Sidpara and V.K.Jain (2014), Rheological properties and their correlation with surface finish quality in MR fluid based finishing process., *Machining Science and Technology*, Vol. 18, pp. 367-385. (DOI: 10.1080/10910344.2014.925372)

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7. P.K.Basera and V.K.Jain (2013), Reducing Downtime of Repairing for Taper Roller Bearing by Magnetic Abrasive Finishing (MAF) process, *Int. J. Innovation, Management and Technology*, Vol. 4, No. 1, pp. 130-136.
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11. M. Ravi Sankar, V. K. Jain, J. Ramkumar (2012), “Effect of Abrasive Medium ingredients on finishing of Al alloy and Al alloy/SiC Metal Matrix Composites using Rotational Abrasive Flow Finishing”. *Applied Mechanics and Materials*, Volume 110-116, Pages 1328-1335.
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13. Ajay Sidpara, V. K. Jain (2012), “Theoretical analysis of forces in magnetorheological fluid based finishing process”, *International Journal of Mechanical Sciences*. Volume 56(1), Pages 50–59.
14. Ajay Sidpara, V. K. Jain (2012), “Experimental investigations into surface roughness and yield stress in magnetorheological fluid based nano-finishing process *International Journal of Precision Engineering and Manufacturing*. Volume 13 (6), Pages 855–860.
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36. Mamilla Ravi Sankar, V.K.Jain and J.Ramkumar, "Nano-finishing using Abrasive flow finishing process" National workshop on machining and machinability of Advanced materials -07 (NWMMAM-07) - CMERI Durgapur, March 29- 30 of 2007.
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66. V. Yadava and V. K. Jain, "Abrasive Electro Discharge Grinding", Proceedings of the 18th All India Manufacturing Technology Design and Research Conference, I.I.T. Kharagpur, pp. 357-362, Dec.1998.

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68. Naveen Gautam, and V. K. Jain, (1997) "Experimental Investigations into ECSM Process Using Flow of Electrolyte" *Proc. International Conference on Advances in Mechanical and Industrial Engineering* held at Deptt. of Mech. & Ind. Engg. University of Roorkee, pp.717-724.
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83. Gopal Indurkhya, V. K. Jain and K. P. Rajurkar (1990) "Experimental Investigations into Electro Discharge Drilling" *proceedings of Advanced Manufacturing Technology III Conference* held at Chicago (USA).

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103. V. K. Jain, and P. C. Pandey (1980) "Anode Profile in Electro Chemical Drilling", *9th AIMTDR Conference held at IIT Kanpur (India), pp.338-350.*
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107. V. K. Jain, and P.C. Pandey (1978) "Design of ECM Tooling using Finite Element Technique", *Proc.8th AIMTDR Conference*, IIT Bombay, pp.566-570.
108. V. K. Jain, N. D. Das, P. N. Awasthi, and P. K. Mishra, (1978), "Experimental Investigations into the Effects of Some Variables on Hardness Distribution in Underwater Weldments", *Afro-Asian Conference on Welding & Metals Technology*, Delhi, Paper 25, pp. 1-5.
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110. V. K. Jain, S. B. L. Grag (1977), "On the Dependence of Size of Primary Shear Deformation Zone on Different Parameters During Orthogonal Machining", *Proc. of Int. Conference on Production Engineering*, New Delhi, pp. V-87-V97.
111. V. K. Jain, S. B. L. Grag (1977), "Theoretical and Experimental Investigations in Accelerated Machinability Tests", *Proc. of Int. Conference on Production Engineering*, New Delhi, pp. V-283-V292.

National Committees

- * Vice President, National Advisory Committee, All India Manufacturing Technology Design and Research, Two terms, 2008 to 2012.
- * Member, Int. Committee for Bilateral projects Financial Supports, DST, New Delhi, 2011 onward.
- * Member, Research Advisory Board, CMTI Bangalore (Gov. of India undertaking), 2010 onward. 2009 onward.
- * Chairman of the National Committee to recommend the names for the AIMTDR Life Time Achievement Award-2006.
- * Member of the National Committee to recommend the names for the AIMTDR Life Time Achievement Award-2004
- * Member, National Committee for Accreditation of Testing and Calibration Laboratories, DST, Govt. of India.
- * Member, Programme Advisory Committee (PAC) of DST, Govt. of India. Two terms.
- * Member, Management Advisory Committee (MAC) of DST, Govt. of India. Two terms.
- * Member, National Advisory Committee for Precision Engineering.
- * Member, National Advisory committee of AIMTDR (All India Manufacturing Technology Design and Research), since 2000.

Administrative Activities at Indian Institute of Technology Kanpur

1. Chairman, Commercial Establishment Monitoring and Management Committee, (2009 to 2012).
2. Chairman, Inst. Gas Service Users Committee, (2011-2012).
3. Convener, Department space allocation committee (2009-2010).
4. Convener, Department Funds allocation committee (2009-2010).
5. Chairman, Health Center Users Committee (HCUC), two terms (three years).
6. Chairman, Institute Assessment Committee from Feb. 1988-Dec.1988.
7. Member, Institute Space Allocation Committee, (2010-2011)
8. Member, Honorary Degree Committee of Indian Institute of Technology Kanpur (2001-2003?)
9. Member, Institute Assessment Committee from 1987-88.
10. Member, Academic Senate of I.I.T. Kanpur since March 1991 onwards.
11. Warden, Hall 5 during 1985.
12. Convener, Departmental Post-Graduate Committee (DPGC) from Sep.1987-Dec.1988.
13. Member, Departmental Faculty Affairs Committee (DFAC) (three times).
14. Convener, DPGC during 1985-86.
15. Member, DUGC (atleast four times).
16. Three times Member, ME Department Project Evaluation Committee (PEC).

17. Convener, ME Department Project Evaluation Committee (PEC).

Activities at Other organizations / Academic Bodies

- ** Member, Senate of Indian Institute of Technology, Roorkee. 2011 till now.
- ** Member, Senate of Indian Institute of Information Technology Design and Manufacturing, Jabalpur, from 2012 onward.
- ** Member, Board of Governors of M.M.M. Engineering College, Gorakhpur. (for three years)
- ** Member, Senate MNNIT Bhopal for three years.
- ** Adjunct Professor at Maharana Pratap Univ. of Agriculture and Technology, Udaipur (Rajasthan)
- ** Vice President of National Advisory Committee of All India Manufacturing Technology and Research (2009-2010).
- **Vice President of National Advisory Committee of All India Manufacturing Technology and Research (2011-2012).

At M.N.R.E.C. Allahabad

- * Chairman, Editorial board 5th ISME Conference held at M.N.R.E.C. Allahabad, 1982.
- * Chairman, Technical Committee 5th ISME Conference at M.N.R.E.C. Allahabad, 1982
- * Secretary, Departmental Committee for academic and other works.
- * Officer-In-charge, Procurement of Journals/books etc. for Mechanical Engineering Department in central Library
- * Officer-In-charge, ECM M/C Electroplating and welding lab.
- * Officer-In-charge, Departmental Library.
- * Officer-In-charge, timetable from year 1980.
- * Officer-In-charge, College Vehicle during the year 1981.
- * Officer-In-charge, P.G. Seminar and Project work in 1976.
- * Officer-In-charge, M/C Tools Plastic and Foundry Labs 1975-77

Professional Society Fellowship / Memberships

- * Fellow, Indian National Academy of Engineering, Delhi (Jan. 2014)
- * Fellow, Global Institute of Science and Technology, Australia (Dec. 2013)
- * Fellow, Institution of Engineers (India).
- * Member, Indian Society of Mechanical Engineering.
- * Member, Indian Society of Technical Education.
- * Ex. Associate Member, American Society of Mechanical Engineers (ASME).
- * Life Member of The Indian Society for Advancement of Materials and Process Engineering (24-1-2007)
- * Ex. Member, American Society of Precision Engineering (ASPE).
- * Ex. Member, Society of Manufacturing Engineers (SME).

=====THE END=====