# CURRICULUM VITAE


Name: SHALENDRA KUMAR

Father's Name: SHRI PARSHURAM SINGH

Present Position: PROFESSOR

Date of Birth: The 12th October, 1959

E-Mail: shalkumar.me@nitjsr.ac.in

Present Address: Room No. 111, Block – I
Department of Mechanical Engineering
B – 19, NIT Campus


Educational Qualification:

| Sl. No. | Degree | Board/University | Year | Percentage, % |
|---|---|---|---|---|
| 1 | Matriculation | Bihar Secondary School Exam. Board | 1975 | 46.30 |
| 2 | Intermediate | Magudh University | 1977 | 48.90 |
| 3 | B. E (Mech). | Bangalore Uniersity | 1984 | 75.20 |
| 4 | M. Sc(Engg.). | Ranchi University | 1992 | 8.89 |
| 5 | Ph. D. | Roorkee University | 1999 | |

Ph. D. Thesis Topic: Boiling Heat transfer from a Row of Horizontal Tubes and its Applications to the Reboiler Simulation

M. Tech. Thesis Topic: A Study of Hydrodynamic Behaviour of Journal Bearing with Temperature Dependence Viscosity

Research Interests: Heat Transfer (Boiling), CAD, SCM

**Research Publication**:

## JOURNALS


1. B. B. Gulyani, A. Jain, Shalendra Kumar, and B. Mohanty, "A Simple and Explicit Criteria For Determining Flow Regime For Friction Factor Calculations", Hydrocarbon Processing, Huston, Texas, USA, pp. 71-73, Dec., 1997.
2. Shalendra Kumar, and B. Mohanty, "Finite Element Analysis of A Low Capacity Cantilever Type Load Cell", Int. J. Of Structure, vol. 17, No. 2, pp. 138-156, July-Dec. 1997.
3. Shalendra Kumar, B. Mohanty and S.C. Gupta, "Boiling Heat Transfer from a Vertical Row of Horizontal Tubes", Int. J. of Heat & Mass Transfer, Vol.45, Issue 18, pp.3857-3864, Aug. 2002.
4. Shalendra Kumar, A.Jain, B. Mohanty and S.C. Gupta, "Recirculation Model of Kettle Re-boiler", Int. J. of Heat & Mass Transfer, Vol.46, Issue 15, pp.2899-2909, May-June 2003 ISSN: 0017-9310, IMPACT FACTOR 2.913, H Index: 96.

5. Shalendra kumar, Satyajai Kumar, "Ray Based Offsetting Technique For Discretisation Of Planer Domain", Int. J. of Research & Reviews in Applied Sciences, Vol. 6, Issue 2, pp. 182-192, February 2011.
6. Malay Niraj, Shalendra kumar, "Modeling for Supplier Selection through Fuzzy Logic", International Journal of Scientific & Engineering Research,Vol. 2, Issue 8, 2011.
7. Anup Kumar Rajak, Malay Niraj, Shalendra Kumar, "In Pursuit of Lean Six Sigma: A Systematic Review", Int. J. of Applied Engineering Research, Vol. 11, No. 1, pp. 541-550, 2015.
8. Anup Kumar Rajak, Malay Niraj, Shalendra Kumar, "Supplier Selection Heuristic Model by Integrating Matlab with Fuzzy AHP and Fuzzy TOPSIS Methods", *Kasmera Journal*, Vol. 44, No. 1, pp. 294-327, 2016.
9. Anup Kumar Rajak, Malay Niraj, Shalendra Kumar, "Designing of Fuzzy expert heuristic models with cost management toward coordinating AHP, Fuzzy TOPSIS and FIS Approaches", Sadhana - Academy Proceedings in Engineering Science, Vol. 41, Number, 10, pp1209-1218, October, 2016.
10. Anup Kumar Rajak, Malay Niraj, Shalendra Kumar, "Designing of MCDM Heuristic Models base on MATLAB Fuzzy Approach for evaluating Prioritization Problems of the Alternatives", J. of Scientific & Industrial Research, Vol. 75, No. 10, pp 604-608, October, 2016.
11. A. K. Mishra, S. Kumar, R. V. Sharma entitled "Non-Darcy Effects on Three-Dimensional Natural Convection in a Rectangular Box Containing a Heat Generating Porous Medium", Journal of Porous Media, Vol. 19, issue ,12 pp. 1033-1043, 2016.
12. Shalendra Kumar, Y. Chaudhary, R.R. Sharma, "A Study of Hydrodynamic Behaviour of Journal Bearing With Temperature Dependent Viscosity", Proceedings of 20$^{th}$ National conference on Fluid Mechanics & Fluid Power, pp. D7.1-D7.6, Dec., 1993.
13. B. B. Gulyani, A. Jain, Shalendra Kumar, and B. Mohanty, "Mathematical Analysis of Correlations for Pipe Flow Friction Factor", National Conference Mathematics and its Applications In Engineering and Industries", University of Roorkee, Roorkee, pp. 313-320, Dec. 16-18, 1996.
14. B. B. Gulyani, A. Jain, Shalendra Kumar, and B. Mohanty, "New Friction Factor Correlation for Hydraulically Smooth Pipe", National Seminar on Emerging Trends in Design Engineering, MNREC, Allahabad, pp. IV121-130, Jan. 31- Feb.2, 1997.
15. Shalendra Kumar, A. Jain, B. Mohanty and S.C. Gupta, "Nucleate Pool Boiling of Distilled Water on Re-entrant Cavity Tubes", 15$^{th}$ National Seminar for Mechanical Engineers, Univ. of Roorkee, Roorkee, Nov. 29-30, 2000.
16. Shalendra Kumar and V. Chitti Babu, "3-D Finite Element Modeling and Analysis of a Bogie", National Conference of Mechanical Engineers, Thapar Inst. Of Engg. & Technology, Paper No. 121, Oct. 30-31, Patiala, 2003.
17. Shalendra Kumar, Parmannd Kumar, and Shah Mahaveer Lal, "Finite Element Analysis of Acoustic Transmission in Straight Through Perforated Mufler", ISME, I.I.T. Roorkee, Paper No. MD-06, Dec., 2003.
18. K. Reddy and Shalendra Kumar, "Study Of Parametric Effects On The Performance Of Journal Bearing", Computer Aided Design and Manufacturing: A Global Perspective, TIET, Patiyala, April 8-9, 2005.
19. Shalendra Kumar and S. Rajendra, "3-D Modelling and Analysis of Inspection Table", National Conference on Emerging Trends in Mechanical Engineering (ETME- 2009), Paper No. ETME-29, MMMEC, Gorakhpur, October 12-13, 2009.
20. Kalyan Singh and Shalendra kumar, "Finite Element Modelling of Single wall Carbon Nano Tube and Analysis of Mechanical Properties via commercial Code ANSYS-14"

National Conference on Global Competitiveness Through Quick Response Manufacturing, GLA University, Mathura during 18-20 April, 2014.
21. B. B. Gulyani, Shalendra Kumar, and, B. Mohanty "Correlations for pipe Flow Friction Factor", Emerging Advance, Mubbai, pp. 55-57, Dec., 1996.
22. Jain, Anuj, Gulyani, B.B., Kumar, Shalendra, Mohanty, B., Mathematical Analysis of Correlations for pipe flow friction factor , Proceeding of Conference on Mathematics & its Applications in Engineering and Industry, Roorkee, 16-18 Dec, 1996, Narosa Publication, New Delhi, India, pp. 314-320.
23. B. B. Gulyani, Shalendra Kumar, and B. Mohanty, "A Universal Equation for Predicting the Performance of Multipass Heat Exchanger", CEW, Vol. XXXII, No. 6, Mumbai, June 1997.
24. B. Mohanty, Shalendra Kumar, A. Jain, and B. B. Gulyani, "Augmentation in Single Phase Shell-And-Tube Heat Exchanger", Chemical Industry Digest, Mumbai, Vol. X-33rd Quarter, pp. 105-122 (NJ-2) September, 1997.
25. Shalendra Kumar, B. Mohanty and A.K. Jain, "3-D Finite Element Analysis of a Contilever Type Small Load Cell with Circular Pan", J. of Institution of Engineers (I), M.C. Vol.82, pp.19-23. April 2001.
26. Shalendra Kumar, B. Mohanty and S.C. Gupta, "Boiling Heat Transfer Coefficient from a Vertical Row of Horizontal Tubes", J. of Institution of Engineers (I), MC, Vol. 84, pp. 90-97, Oct. 2003.
27. T. K. Shrivastava, S. Das, and Shalendra Kumar, "Two-dimensional Microstructure Modelling of Steel on Voronoi Algorithm", Transaction of IIM, 2006
28. B. N. Prasad, Shalendra Kumar, and S. Das, "Preliminary Applications of Voronoi Cell Technique to the Microstructural Modeling of Single and Two Phase Steels", J. of Institution of Engineers(I), MM, Vol. 88, April 2007.
29. Malay Niraj, Shalendra kumar, "Modelling for Vendor Selection through Fuzzy Based Model", Industrial Engineering (IE) Journal III(E), Mumbai, 2012.
30. Anup Kumar Rajak, Malay Niraj, Shalendra Kumar, "Improvement in Automobile saleability/acceptability and feasibility through Value Engineering", Int. J. of Scientific & Engineering Research, Vol. 6, No. 6, pp. 223-233, June 2015.
31. Anup Kumar Rajak, Malay Niraj, Shalendra Kumar, "Multi-Criteria Decision Making Method & Value Engineering–A new concept in vendor selection", Int. J. of Current Advanced Research, Vol. 4, No. 7, pp. 171-173, July 2015.
32. A. K. Mishra, S. Kumar, R. V. Sharma entitled "Three-Dimensional Natural Convection in a Cubic Box Containing Heat Generating Porous Medium", JPHMT, Vol. 14, No.1, pp. 13-27, 2016.
33. R. R. Kumar, Ashok Kumar and Shalendra Kumar, "Evaluation of Process Parameter and Mechanical Properties and Technology", Int. Journal of Mechanical Engineering & Technology (IJMET)Vol. 8, Issue 2, pp. 183-193, February, 2017.
34. R. R. Kumar, Shalendra Kumar and Ashok Kumar, "Study on Effect of Tool Geometry on Energy and Temperature of Friction Stir Welding", Int. Journal of Civil Engineering & Technology (IJCIET)", Vol. 8, Issue 7, pp. 742-754, July, 2017.
35. R. R. Kumar, Ashok Kumar and Shalendra Kumar, "Effect on Tool Design and Heat Input of Some Welding Paramters Friction Stir Welded Interstitial Free Steels", Int. J. of Engineering and technology Innovation,Vol. 8, No. 1, pp. 64-75, 2018.
36. Abhijeet Singh, Shalendra Kumar, Hira Lal Yadav, "Numerical Investigation of Thickness Effect on the Crack Parameters", Modelling Measurement and Control B, Vol. 87, No. 2, PP 101-106, June 2018

37. Abhijeet Singh, Shalendra Kumar, Hira Lal Yadav, "Numerical Parametric Study of Crack Parameters Near Crack Tip", Int. J. Of Mechanical and Production Engineering Research and Development (IJMPERD), Vol. 8, No. 1, PP 83-92, Feb., 2018
38. Singh, A., Yadav, H.L., Kumar, S. (2019). Effect of temperature on fracture parameters of aluminum alloy Al 6061: A numerical study. Annales de Chimie: Science des Materiaux, Vol. 43, No. 2, pp. 115-118. https://doi.org/10.18280/acsm.430208.
**39.** Singh, A., Kumar, S. & Yadav, H.L. Experimental and Numerical Investigation of Fracture Parameters for Side Edge Notch Bend Specimen of Al 6063-T6. *Iranian Journal of Science & Technology: Transactions of Mechanical Engineering* (2020). https://doi.org/10.1007/s 40997-020-00352-x

## CONFERECES

1. Shalendra Kumar, A. Jain, B. Mohanty and S.C. Gupta, "Boiling Heat Transfer from a Vertical Row of Horizontal Re-entrant Cavity Tubes", Int. Thermal Science Seminar, Bled, Slovenia, June 11-14, Proceedings of the ASME-ZSITS, pp.433-438, 2000.
2. S.L. Das, B. Kumar, Shalendra Kumar, and M. Ramakrishnan, "Inventory Control by JIT Implementation in Automobile Industry under Indian Environment", 2nd International Conference on Manufacturing, Dhaka (Bangladesh), Aug. 9-11, 2002.
3. Shalendra Kumar and Ravi Shankar Prasad, "Study On Heat Treatment Cycle And It's Application In Gear Manufacturing", 21st Canadian Congress of Applied Mechanics, Ryerson University, Toronto, Ontario, Canada, pp. 686-87, June 03-07, 2007.
4. Shalendra Kumar and Y. Ramya*,"* Dynamic Instability Analysis of Laminated Spherical Shell Using MATLAB", 3rd International Congress on Computational mechanics and Simulation (ICCMS09), IIT Bombay during 1-5 December 2009.
5. Shalendra Kumar and Vivekanand**, "**Development of Spectrum Imaging Based System For Slag Detection", Interdisciplinary Conference on Chemical, Mechanical and Materials Engineering (2009 ICCMME), Australian Institute of High Energetic Materials, Melbourne, Paper No. #5-011, during 07 – 20 December 2009.
6. B. B. Gulyani, Anuj Jain and Shalendra Kumar, "Optimal Synthesis of Multipass Heat Exchanger Without Resorting to Correction factor", International Conference on Mathematical and Computational Methods in Science and Engineering (ICMCMSE-2011) during VI World Academy of Science Engineering and Technology (WASET), Holiday Inn Paris (FRANC), part VIII, article No. 210, pp. 1190-1196, 24-26 June, 2011.
7. Anil Kr. Mishra, Shalendra kumar and R. V. Sharma, "NUMERICAL SIMULATION OF THREE-DIMENSIONAL NATURAL CONVECTION IN A CUBOID BOX CONTAINING HEAT GENERATING POROUS MEDIUM", 10th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics (HEFAT-14), Paper ID. 1569901935, Orlando, Florida**,** 14 – 16 July 2014.
8. Anil Kr. Mishra, Shalendra kumar and R. V. Sharma, "Non-Darcy Effects on Steady Three-Dimensional Natural Convection in a Rectangular Box Containing Heat Generating Porous Medium" 6th International Symposium on Advances in Computational Heat Transfer (ICHMT), CHT-15, Rutgers University, Piscataway, USA, May 25-29, 2015.
9. Anil Kr. Mishra, Shalendra kumar and R. V. Sharma, "Influence of Property Variation on Steady Three-Dimensional Natural Convection in a Rectangular Box Containing Heat Generating Porous Medium" 7th International Symposium on Advances in Computational Heat Transfer (ICHMT), CHT-17, Italy, May 28-01 June, 2017.

10. Shalendra Kumar, Y. Chaudhary, R.R. Sharma, "A Study of Hydrodynamic Behaviour of Journal Bearing With Temperature Dependent Viscosity", Proceedings of 20th National conference on Fluid Mechanics & Fluid Power, pp. D7.1-D7.6, Dec., 1993.
11. B. B. Gulyani, A. Jain, Shalendra Kumar, and B. Mohanty, "Mathematical Analysis of Correlations for Pipe Flow Friction Factor", National Conference Mathematics and its Applications In Engineering and Industries", University of Roorkee, Roorkee, pp. 313-320, Dec. 16-18, 1996.
12.
13. B. B. Gulyani, A. Jain, Shalendra Kumar, and B. Mohanty, "New Friction Factor Correlation for Hydraulically Smooth Pipe", National Seminar on Emerging Trends in Design Engineering, MNREC, Allahabad, pp. IV121-130, Jan. 31- Feb.2, 1997.
14. Shalendra Kumar, A. Jain, B. Mohanty and S.C. Gupta, "Nucleate Pool Boiling of Distilled Water on Re-entrant Cavity Tubes", 15th National Seminar for Mechanical Engineers, Univ. of Roorkee, Roorkee, Nov. 29-30, 2000.
15. Shalendra Kumar and V. Chitti Babu, "3-D Finite Element Modeling and Analysis of a Bogie", National Conference of Mechanical Engineers, Thapar Inst. Of Engg. & Technology, Paper No. 121, Oct. 30-31, Patiala, 2003.
16. Shalendra Kumar, Parmannd Kumar, and Shah Mahaveer Lal, "Finite Element Analysis of Acoustic Transmission in Straight Through Perforated Mufler", ISME, I.I.T. Roorkee, Paper No. MD-06, Dec., 2003.
17. K. Reddy and Shalendra Kumar, "Study Of Parametric Effects On The Performance Of Journal Bearing", Computer Aided Design and Manufacturing: A Global Perspective, TIET, Patiyala, April 8-9, 2005.
18. Shalendra Kumar and S. Rajendra, "3-D Modelling and Analysis of Inspection Table", National Conference on Emerging Trends in Mechanical Engineering (ETME- 2009), Paper No. ETME-29, MMMEC, Gorakhpur, October 12-13, 2009.
19. Kalyan Singh and Shalendra kumar, "Finite Element Modelling of Single wall Carbon Nano Tube and Analysis of Mechanical Properties via commercial Code ANSYS-14" National Conference on Global Competitiveness Through Quick Response Manufacturing, GLA University, Mathura during 18-20 April, 2014.

## Research Awards/Fellowships received:

1. Best Paper Award: XII National Conference of India Society of Mechanical Engineers, I.I.T. Roorkee, Paper No. MD-06, December, 2003
2. DISTINGUISHED SERVICE AWARD: The Institution of Engineers (INDIA) , Jamshedpur Local Centre on 15-09-2008.
3. ENGINEERING ACHIEVEMENT AWARD: The Institution of Engineers (INDIA) , Jamshedpur Local Centre on 152nd Birth Anniversary of BHARAT RATNA SIR M. VISVESVARAYA(15-09-2012).
4. PLAQUE FELICITATION: The Diamond Jubilee Celebration (1952-2012) of The Institution of Engineers (INDIA) , Jamshedpur Local Centre

## Conference/Workshop Organised:

1. National Level Conference on Modelling and Simulation in Heat Transfer and Fluid Flow during July 9-10, 2010 as organising Secretary

2. As organising Secretary- A two day National Seminar on Major Advances and Sustainable Development in Production Engineering during July 15-16, 2017, IE(I), JLC, as organising Secretary.

SHORT TERM COURSES

1. Industrial Productivity Improvement Through Innovative Techniques, Sponsored by AICTE - ISTE, 17- 30 June 2002.
2. Emerging trends in Manufacturing and Management, Sponsored by SIDBI, during May 28 – 30, 2003.
3. Recent Advances in Heat Transfer, Sponsored by TEQIP, during Dec. 18 - 19, 2006.
4. Effective Teaching and Learning, Sponsored by TEQIP, during April 10 - 15, 2008.

## Ph. D. Supervised:

| Sl. No. | Name of the Topic | Name of the Student | Name of the co-guide | Year of Award |
|---|---|---|---|---|
| 1. | Computer Aided Materials Management in Automobile Industries Under Indian Environment. | Sushil Lal Das | Prof. B. Kumar | June, 2006 |
| 2. | Fuzzy Logic Design and Simulation Based Total Productivity Maintenance In Process Industries | Malay Niraj | Prof. A. Mishra | November, 2012 |
| 3. | Studies on Influence of Non-Darcy Flow and Property Variation on Three-Dimensional Natural Convection in a Confined Porous Medium with Internal Heat Generation | Anil Mishra | Prof. R. V. Sharma | September, 2017 |
| 4. | A Heuristic Approach for Performance Improvement of Supply Chain Management Models through Computer Integrated Multi-Objective Optimization | Anup Kr. Razak | Dr. Malai Niraj | October, 2017 |
| 5. | Optimisation and Analysis of residual Stresses in Friction Steer Welding | Rajeev Kumar | Dr. Ashok Kumar | Pursuing |
| 6. | Study on Surface Roughness and Crack Propagation using LASER Speckle Technique | Abhijeet Kumar | Dr. H. L. Yadav | Pursuing |
| 7 | Vibration and Acoustic Analysis in Orthographic Plate | Chandan Kumar 2018RSME001 | Dr. Bipin Kumar | |

## Teaching Experience:

| Position Held | Institution | From | To | Nature of Head |
|---|---|---|---|---|
| Part Time lecturer | RIT Jamshedpur | 10th August 1985 | 10th April 1986 | Teaching |
| lecturer | RIT Jamshedpur | 11th April 1986 | 30th Sept., 1992 | Teaching |
| Senior lecturer | RIT Jamshedpur | 1st October 1992 | 29th Nov., 1999 | Teaching & Research |
| Assistant Professor | NIT Jamshedpur | 30th Nov., 1999 | 30th Nov., 2007 | Teaching & Research |
| Professor | NIT Jamshedpur | 1st Dec., 2007 | Till date | Teaching & Research |

## Member of Professional Academic Bodies:

1. Fellow of Institution of Engineers (INDIA) - F-117101-6

2. Member of Indian Society of Applied Mechanics – LM00075

## Invited Talks/Seminar Given:

1. Communication Skill (Teachers Role in Engineering Education) Sponsored by AICTE during 25-12-2000 to 13-01-2001.
2. Introduction to CAD/CAM (Industrial Productivity Improvement Through Innovative Techniques), Sponsored by AICTE - AICTE, 17- 30 June 2002.
3. Introduction to Automated Guided Vehicle (Industrial Productivity Improvement Through Innovative Techniques), Sponsored by AICTE - AICTE, 17- 30 June 2002.
4. Introduction to Information Technology, BRA Bihar University, Staff Training Programme, January 2000.
5. Modelling and Simulation of Heat Exchanger, NIFFT Ranchi, June 2005
6. Flow Through Reboiler, MNIT Allahabad, 14 – 15 July, 2008.