

Name: AJAY KUMAR KAVITI
Designation: Associate Professor
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Experience (in years): 17

1. Educational / Technical qualifications:

S. No	Level (UG / PG / Ph.D)	Year of passing	Specialization
1	Ph.D	2011	Mechanics of Metal Forming
2	M. Tech	2003	Stress and Vibration Analysis
3	B. Tech	2001	Mechanical Engineering

2. Teaching and Learning:

- 2.1. Teaching Interests: Finite Element method, Mechanical Vibrations, Mechanics of Materials, Machine Design, Engineering Mechanics, Engineering Graphics, Forming Processes, Numerical Methods
- 2.2. Novel Teaching & Learning Techniques adopted: Learning and teaching through NPTEL videos and MOOCs, Implementing WIT & WIL and POGIL.
- 2.3. Involvement in curriculum updating / Design:
Member – Curriculum and Syllabus review committee
Member – Choice Based Credit System (CBCS)

3. Co-curricular and Extra-Curricular Activities

- 3.1. Interests and Hobbies: Hearing attentively, Reading books and continuous learning
- 3.2. CCA/ECA Organized: NIL
- 3.3. CCA/ECA participated: Actively worked with students for projects in open house
- 3.4. Counselling and Mentoring Activity: Actively interact with students to inspire them to show interest in learning
- 3.5. Committees involved in:
Department level: NAAC -Coordinator
Institute Level: Library member

4. Conference / Workshop / Seminar / Guest Lectures :

- 4.1 Conducted: 10
- 4.2 Attended: 12
- 4.3 Expert lectures delivered: 6

5. Academic Contribution and Research & Consultancy:

- 5.1. Invited Lectures:

1. Delivered a lecture on Principles of effective Teaching during Faculty Development Program organized by SISTec, Bhopal, 15-22 April 2013
2. Delivered a lecture on Mechanical Vibrations and its importance in mechanical engineering during Faculty Development Program organized by SISTec, Bhopal, 21-26 June 2014.
3. Delivered a lecture on Finite element analysis and its applications in mechanical engineering during One-week workshop on Advanced Numerical Modeling Techniques for Mechanical Engineering (ANMTME 2K17) during 27th – 31st March 2017 organized by VNRVJIET, Hyderabad.
4. Delivered lectures on Finite element method using ANSYS, during one-week competency development program for faculty, Organized by CDC, VNRVJIET during 18-23 June 2018.
5. Delivered lecture on Natural composites and its applications, during one-week FDP on Development, Characterization and Analysis of Composites, Organized by Department of Mechanical Engineering during 19-23 November 2019.
6. Delivered lecture on Natural Composites and its Characterization in series of Webinars Organized by department of mechanical engineering VNRVJIET during 1-5 June 2020.

5.2. Articles/Chapters published in Books:

1. **Ajay Kumar Kaviti**, Thakur A.K. (2020) Vibration Analysis of Carbon Fiber and Glass Fiber Composite Beam. Advances in Metrology and Measurement of Engineering Surfaces. Lecture Notes in Mechanical Engineering. Springer, Singapore. eISBN: 978-981-15-5151-2.
2. Amit Kumar Thakur, **Ajay Kumar Kaviti**, Rajesh Singh, Anita Gehlot, Roopesh Mehra (2020) Review on performance, Combustion, and Emission of Butanol-Diesel mixes in Compression Ignition Engines (Pg.123-150) eBook ISBN: 978-1-53618-180-7. Nova Publishers, 2020, USA.
3. Amit Kumar Thakur, J.V. Muruga Lal Jeyan, **Ajay Kumar Kaviti**, P.S. Ranjit (2020) Specific soft Computing strategies for Evaluating the performance and emission of Spark Ignition engine using Alcohol-Gasoline blended fuels: A Comprehensive Review (pg. 151-186) eBook ISBN: 978-1-53618-180-7. Nova Publishers, 2020, USA.
4. CN Reddy, M Bhargav, **Ajay Kumar Kaviti** (2020), Mechanical Characterization of Unidirectional Banana–Glass Fiber-Reinforced Hybrid Composites. Advances in Applied Mechanical Engineering, 1031-1038 Lecture Notes in Mechanical Engineering, Springer Nature Singapore; ISBN 978-981-15-1201-8.
5. **Ajay Kumar Kaviti**, A Kumar, O Prakash (2019) Effect of Design Parameters on Productivity of Various Passive Solar Stills(Pg.49-73) eBook ISBN: 978-981-13-6887-5, Published by Springer 2019.
6. AD Roy, O Prakash, A Kumar, **Ajay Kumar Kaviti**, A Pandey (2018) Design and Selection Criteria of Biogas Digester (Pg.91-112) eBook ISBN: 978-981-10-7326-7, Published by Springer 2018.
7. **Ajay Kumar Kaviti**, H Deep (2017) Thermal Energy Storage in Solar dryer (Pg. 603-617). eBook ISBN: 978-981-10-3833-4, Published by Springer 2017.
8. **Ajay Kumar Kaviti**, K.K. Pathak & M.S. Hora (2009). Application of Neural Networks in Preform Design of Aluminum Upsetting Process Considering Different Interfacial Frictional Conditions. S. Chaudhury et al. (Eds.): PReMI 2009, LNCS 5909, pp. 98–105, 2009. Published by Springer-Verlag Berlin Heidelberg 2009.

5.3. Books published as single author or as editor:

1. Internet of Things for Agriculture 4.0- Impact and challenges. ISBN: 9781774630020
CRC Press, Taylor and Francis Group, 2021
2. Applied Soft Computing Techniques for Renewable Energy. eBook ISBN: 978-1-53618-180-7. Nova Publishers, 2020, USA
3. Design Analysis and Optimization of Vertical axis Wind Turbine Blade. eBook ISBN: 978-620-2-55564-7. Published by LAMBERT Academic Publishing, 2020, UK
4. An Overview of recent advances in jute fibre reinforced composites. eBook ISBN: 978-613-9-47658-9. Published by LAMBERT Academic Publishing, 2019, UK

5.4. Projects Guided:

a) UG: 15 b) PG: 14

5.5. Research Interests: Renewable energy, Mechanics of Forming and Composites, Finite element analysis, Nanostructures

5.6. Ph. Dstudents:1

a) Enrolled:1

b) Submitted:

c) Awarded:

5.7. Papers published in reviewed journals:

S. No	Title of the Paper	Journal Name Vol.No. PP	ISBN/ISS N No.	Impact Factor/ Citation Index	National/ International
1	Specific Soft Computing Strategies for Evaluating the Performance and Emissions of an SI Engine Using Alcohol- Gasoline Blended Fuels—A Comprehensive Analysis	27, 1-14	1134-3060	SCI listed Journal 6.73 Springer	International
2	An Overview Of Butanol As Compression Ignition Engine Fuel	21,	2150-3621	Scopus listed Journal SJR:0.195 Elsevier	International
3	Effect of dual resin on mechanical properties of jute glass fibre reinforced hybrid composite	Materials Research Express 6 (12)	2053-1591	SCI listed Journal 1.929 IOP	International
4	Estimation of microscopic variables for materials system optimization using Cluster Variation Method	Materials Today: Proceedings 26, 1621- 1625	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International

5	Degradation of Mechanical Properties of Hybrid Reinforcement with Epoxy-Polyester Matrix Under Water Absorption	International Journal of Recent Technology and Engineering (IJRTE) 8, (5), 3586-90	2277-3878	Scopus listed Journal SJR:0.14	International
6	Evaluation and optimization of material properties of ASS 316L at elevated temperatures using Response Surface Methodology	Materials Today: Proceedings 18, 4589-4597	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International
7	Modeling and Simulation of Composite Laminates Subjected to low velocity Impact	Materials Today: Proceedings 18, 5364-5372	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International
8	Experimental Analysis and Contrast of LMTD and Effectiveness for Corrugated Tube (60 Degree Pitch) In Parallel Flow Arrangement with Shell and Pipe Heat Exchanger	Think India Journal 22 (07), 1527-1537	0971-1260	UGC listed	International
9	Analytical and numerical investigation on inter laminar stress pattern in FRP Composites	Materials Today: Proceedings 18, 4305-4314	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International
10	Comparative study on mechanical behavior of ASS 316L for low and high temperature applications	Materials Today: Proceedings 19, 767-771	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International
11	Experimental investigation of solar still with opaque north triangular face	International Journal of Green Energy	1543-5075	SCI listed Journal 1.388 Taylor and Francis	International

		16(6), 442-449			
12	Progress in regulated emissions of ethanol-gasoline blends from a spark ignition engine	Biofuels, 1-24,	1759-7277	SCI listed 1.496 Taylor and Francis	International
13	An artificial neural network approach to predict the performance and exhaust emissions of a gasoline engine using ethanol-gasoline blended fuels	Biofuels 9 (3), 379-393	1759-7277	SCI listed 1.496 Taylor and Francis	International
14	Measurement of top and bottom unequal frictional values using profile map	Materials Today: Proceedings 5 (13), 27285-27290,	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International
15	Experimental Investigation of Fibre Reinforced Composite Materials Under Impact Load	IOP Conference Series: Materials Science and Engineering 330 (1), 012047	1757-899X	Scopus listed Journal SJR:0.19	International
16	Design and computational Analysis of Semi-Elliptical and Parabolic Leaf Spring,	Materials Today: Proceedings 5 (9), 19441-19455	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International
17	Experimental Investigation of Friction Stir Welded AA5052 using Square and Pentagonal Tool Pins	Materials Today: Proceedings 5 (9), 18230-18237	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International
18	On the Evaporation of Fine Hydrophobic Camphor Soot Mixed Water	Materials Today: Proceedings 5 (2), 6203-	2214-7853	Scopus listed Journal SJR:0.3	International

		6207		Elsevier	
19	Micro Stress Evaluation and Analysis in FRP Composites for Rocket Motor Casing	Materials Today: Proceedings 5 (2), 5737-5742	2214-7853	Scopus listed Journal SJR:0.3 Elsevier	International
20	Analysis of performance and emission on compression ignition engine fueled with blends of neem biodiesel	Egyptian Journal of Petroleum 26 (4), 927-931	1110-0621	Scopus listed Journal SJR:1.044 Elsevier	International
21	Performance evaluation of profile modifications on straight-bladed vertical axis wind turbine by energy and Spalart Allmaras models	Energy. Vol 126:766-795	0360-5442	SCI listed Journal 6.082 Elsevier	International
22	A Comprehensive Review of Scheffler Solar Collector	Renewable and Sustainable Energy Reviews	1364-0321	SCI listed Journal 12.110 Elsevier	International
23	An Approach on Analytical Modeling of Composite Casing for Space Applications	IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE) PP 28-32	e-ISSN: 2278-1684, p-ISSN: 2320-334X		International
24	Progress in performance analysis of ethanol-gasoline blends on SI engine	Renewable and Sustainable Energy Reviews. Vol 69: 324-	1364-0321	SCI listed Journal 12.110 Elsevier	International

		340			
25	Performance analysis of ethanol–gasoline blends on a spark ignition engine: a review	Biofuels 8 (1), 91-112	1759-7277	SCI listed Journal 1.496 Taylor and Francis	International
26	A Review of Use FEM Techniques in Modeling of Human Knee Joint	Trans Tech Publications Vol 28: 14-25	2296-9845	Scopus listed Journal SJR:0.17	International
27	Inclined Solar Still Designs: A review	Renewable and Sustainable Energy Reviews. Vol 54: 429-451	1364-0321	SCI listed Journal 12.110 Elsevier	International
28	An experimental study on single basin double slope passive solar still with different water depths	International research journal of engineering and applied sciences, Vol 04 Issue 01: 1-6;	2322-0821		International
29	An experimental study on single basin double slope glass active solar still with different water depths	Elixir Mechanical Engineering Vol 92: 38774-38777	2229-712		International
30	Different Analysis on Wind Turbine Blade: A Review	International Journal for Scientific Research & Development, Vol 03 Issue 09: 321-326	2321-0613		International

31	Study and review on the analysis of leaf spring	International Journal for Scientific Research & Development, Vol 03 Issue 09: 637-640	2321-0613		International
32	Parameters influencing connecting rod: A review	International Journal of Scientific Engineering and Research. Vol 6 Issue 8: 8-16	2229-5518		International
33	Solar stills system design: A review	Renewable and Sustainable Energy Reviews. Vol 51: 153-181	1364-0321	SCI listed Journal, 12.110 Elsevier	International
34	Prediction of Moisture Evaporation Rate from Jaggery in Green House Drying Using Fuzzy Logic	Heat transfer research. Vol 46 Issue 10: 923-935,	2162-6561	SCI listed Journal 1.199 Begell house	International
35	Optimization of Wax Tank Parameter to Improve the Quality of Wax Pattern	International journal of emerging technologies and applications in engineering, technology and sciences. Vol 7 Issue 1:159-164	0974-3588		International
35	Optimization of Wax Tank Parameter to	International Journal of	2278-800		International

	Improve the Quality of Wax Pattern in Investment Casting	Engineering Research and Development. Vol 8 Issue 12: 49-54			
37	Simulation Technique used to Analyze the Inlet System in Mould Cavity	Advances in Computational Sciences and Technology. Vol 6 Issue 1:1-10	0974-4738		International
38	Experimental Analysis of Greenhouse Dryer in No-Load Conditions	Journal of Environmental Research and Development. Vol 7 Issue 4:1399-1406	0973-6921	1.613	International
39	Optimization of design and operating parameters on the year-round performance of a multi-stage evacuated solar desalination system using transient mathematical analysis	International journal of Energy and environment . Vol 3 Issue 3: 409-434	2076-2895		International
40	Prediction of coefficient of friction for Aluminum Billet	Archives of Applied Science Research, Vol 3 Issue 4: 328-335	0975- 508		International
41	Friction calibration map for determination of equal frictional conditions	Advances in Applied Science Research, Vol 2 Issue 5 279-289	0976-8610		International

42	Anfis Based Prediction Model for Reduction of Failure Frequency in Captive Power Plant	Archives of Applied Science Research, Vol 3 Issue 1: 52-64	0975-508		International
43	Preform Map for Near Net Shape Upsetting of Aluminum Specimens and Its Experimental Verification	Journal of modeling, Simulation and Scientific computing, Vol 2 Issue 1: 67-81	1793-9615	Scopus listed Journal SJR:0.26, World Scientific	International
44	Artificial Neural Network based Prediction Model for reduction of failure frequency in Thermal Power Plants	Archives of Applied Science Research, Vol 2 Issue 6: 98-107	0975-508		International
45	Application of Neural Networks in Preform Design of Upsetting Process Considering varying interfacial frictional conditions	JOM, Vol 62 Issue 5, pp 64-68	1543-1851	SCI listed Journal, 2.029, Springer	International
46	Application of Neural Networks in Preform Design of Upsetting Process Considering unequal interfacial frictional conditions	Archives of Applied Science Research, Vol 2 Issue 1: 310-317	0975-508		International

5.8. Papers presented at National / International Journals:

S. No	Title of the Paper	Names of the Conference/ Seminars	National/ International	Period

1	Comparison of tensile and impact strength of Jute-glass hybrid composite with epoxy and polyester resins	ICFMD	International	2019
2	Estimation of microscopic variables for materials system optimization using Cluster Variation Method	ICFMD	International	2019
3.	Measurement of top and bottom unequal frictional values using profile map	International Conference on Advances in Material and Manufacturing	International	08-10 December 2016, Osmania University and DRDO, Hyderabad.
4.	Optimized aero foil profile of vertical axis wind turbine	International Conference on Recent Trends in Engineering, Science and Technology	International	27 October 2016, Saint Peter's College of Engineering, Hyderabad.
5.	Investigation of Tamarind Methyl Ester Blends on Performance and Emissions Characteristics on single cylinder Compression Ignition Engine	International Conference on Recent Trends in Engineering, Science and Technology	International	25-27 October 2016, Saint Peter's College of Engineering, Hyderabad.
6.	Effects of ambient condition monsoon weather variation on the observed parameter of greenhouse dryer under unload condition	5th International Congress on environmental Research	International	22-24November, 2012, Malaysia.
7.	Application of Neural Networks in Preform Design of Aluminum Upsetting Process Considering different interfacial frictional conditions	Third international conference on pattern Recognition and Machine Intelligence	International	16-20 December 2009, IIT Delhi.

8.	Preform Maps for Mild Steel Upsetting Considering Unequal Frictional Conditions	International Conference on Emerging Research and Advances in Mechanical Engineering	International	19-21 March,2009, Velemel College of Engineering, Chennai.
9.	Application of NN in Pre-form design of upsetting process considering equal interfacial frictional conditions	All India Seminar on “Life Cycle Analysis, Measurement & Condition monitoring”	National	25-26 May 2009. organized by Institution of Engineers, M.P State Centre, Bhopal.
10.	Design and Optimization of Guide Bearing	National Conference on Design and Analysis of Aer. /Mechanical Systems- AERODYNE	National	October 2006. organized by Mallareddy College of Engineering, Hyderabad.

5.9. Sponsored research Projects:

S. No	Title	Agency	Period	Grant amount	Ongoing / Completed
1.	Development of nano and micro hierarchical structures for solar desalination	TEQIP-III	2019-2020	2.85 Lakhs	Ongoing
2.	Comparative study of weld characteristics of IS: 65032A aluminum alloy by two process – Friction stir welding (FSW) and Gas Tungsten Arc	DRDO		9.91 Lakhs	Completed

	Welding(GTAW)				
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5.10 Consultancy Projects:

S.No	Title	Agency	Period	Sanctioned Amount	Ongoing / Completed

6. Awards / Honors received:

- Received Best Teacher Award in 2012 by a National monthly magazine named Youth Guru
- Innovative Research and Dedicated Teaching Professional by The society of Innovative Educationalist & Scientific Research Professional in 2018
- Best Reviewer award for reviewing paper in Elsevier Journal in 2020

7. Motto:

I consider myself very fortunate having come in contact with some very wonderful teachers, who put their heart into teaching, taking learning beyond the classroom. They not only induce interest in the subject being taught, but also impart the responsibility one must feel towards the society as a consequence of learning. By their genuine teaching, they have brought transformation in my character. It is the inspiration I derived from them that made me select teaching as my career option.

Learning without practical application does not have much influence. When combined with real life examples, application and innovative research, teaching becomes a very lively and interesting experience. **Therefore, a teacher has lot of responsibility to inspire students, to prioritize his/her time and resources towards effective teaching and constructive learning in terms of research, making it better both from student and teacher's perspective.** With this understanding, I strive to be an active part of an educational organization and impart this learning methodology to students and fellow staff.