


# **RESUME**

					
<b>Name</b> :	<b>Dr. VASUNDHARA M G</b>				
<b>Date of Birth</b> :	04-05-1979				
<b>Highest Qualifications</b> :	MTech. (Machine Design), Ph. D. (Energy Harvesting)				
<b>Address</b>	Assistant Professor, Dept. of Mechanical Engineering Malnad College of Engineering, Hassan, Karnataka, PIN: 573202 #+919964070272 <b>Email:</b> <a href="mailto:vasundharamg@gmail.com">vasundharamg@gmail.com</a> <a href="mailto:mgv@mcehassan.ac.in">mgv@mcehassan.ac.in</a>				
<b>Academic Performance:</b>					
<b>Qualifications</b>	<b>Board / IIT / University</b>	<b>Institute and place where studied</b>	<b>Year of passing</b>		
UG Degree	Kuvempu University, Shankaraghatta	University.B.D.T College Of Engineering, Davangere	2000		
PG Degree	Visveswaraiah Technological University, Belgaum.	Basaveshwar Engineering college, Bagalkot	2004		
Ph. D.	Anna University, Chennai	PSG College of Technology, Coimbatore.	2019		
Field of Specialization: <b>Analytical, Numerical and Experimental Study on Tuning of Piezoelectric Based Vibration Energy Harvester Using Shape Memory Alloy</b>					

### **AREER PROFILE:**

<b>From Date</b>	<b>To Date</b>	<b>Years</b>	<b>Employer</b>	<b>Designation</b>
14 <sup>th</sup> Aug 2001	15 <sup>th</sup> Aug 2002	1 Years	HMT Machine Tools Bangalore	Trainee Engineer
28 <sup>th</sup> Aug 2004	02 <sup>nd</sup> Feb 2009	4.42 Years	Bahubali College of Engineering Shravanabelagola	Lecturer
02 <sup>nd</sup> Feb 2009	01 <sup>th</sup> Feb 2010	1 Year	Bahubali College of Engineering Shravanabelagola	Senior Lecturer
02 <sup>th</sup> Feb 2010	16 <sup>th</sup> Jun 2011	1.33 Years	Bahubali College of Engineering Shravanabelagola	Assistant Professor
17 <sup>th</sup> Jun 2011	Till date		Malnad College of Engineering Hassan	Assistant Professor

### **Responsibilities held:**

- Work Load officer, Malnad College of Engineering, Hassan
- Institute level NBA Coordinator, Malnad College of Engineering, Hassan
- Institute level Parent Relation Centre Coordinator, Manad College of Engineering, Hassan
- Enquiry Committee Member, Malnad College of Engineering, Hassan
- College Disciplinary Committee member, Malnad College of Engineering, Hassan
- Ant ragging committee member, Malnad College of Engineering, Hassan
- Department Academic Committee member, Department Mechanical

Engineering, Malnad College of Engineering, Hassan.

- Coordinator UGC/AICTE Department Mechanical Engineering, Malnad College of Engineering, Hassan.
- Administrative Committee Member, Manad College of Engineering, Hassan
- Coordinator NAAC-AQAR Department Mechanical Engineering, Malnad College of Engineering, Hassan.
- Coordinator for NBA, Department Mechanical Engineering. Malnad College of Engineering, Hassan.
- Coordinator for Mechanical Engineering Association, Department Mechanical Engineering.  
Malnad College of Engineering, Hassan.
- Coordinator for Design Laboratory, Department Mechanical Engineering.  
Bahubali College of Engineering, Sharvanabelagola.
- Coordinator for College Fest, Bahubali College of Engineering, Sharvanabelagola.

### **Membership of Professional Societies:**

**Life Member**, Indian Society for Technical Education, New Delhi, India

### **List of short-term courses/FDP/Attended:**

- **The Workshop on “FACULTY DEVELOPMENT PROGRAMME” held at Bahubali College of Engineering, Shravanabelagola during 25<sup>th</sup> Aug to 27<sup>th</sup> Aug 2005.**
- **The QIP sponsored short-term course on “MICROMACHINING” held at I.I.T. Kanpur during Oct. 25<sup>th</sup> to 29<sup>th</sup> Oct 2005.**
- **The AICTE sponsored course on “STAFF INDUCTION TRAINING PROGRAMME IN PEDAGOGY” held at Acharya Institute of Technology Bangalore during 4<sup>th</sup> Jan to 20<sup>th</sup> Jan 2006.**
- **The QIP sponsored short-term course on “RECENT TRENDS ON CAD/CAM/CAE” held at Malnad College of Engineering, Hassan during. 22<sup>nd</sup> May to 27<sup>th</sup> May 2006.**
- **The QIP sponsored short-term course on “RECENT ADVANCES IN MATERIALS AND MANUFACTURING” held at Malnad College of Engineering, Hassan during. 21<sup>st</sup> Aug to 25<sup>th</sup> Aug 2006.**

- **The QIP sponsored short-term course on “ADVANCES IN NON DESTRUCTIVE TESTING” held at Malnad College of Engineering, Hassan during. 11<sup>th</sup> Dec to 15<sup>th</sup> Dec 2006.**
- **The QIP sponsored short-term course on “RECENT TRENDS IN ALTERNATIVE FUELS” held at Malnad College of Engineering, Hassan during. 08<sup>th</sup> Jan to 12<sup>th</sup> Jan 2007.**
- **The QIP sponsored short-term course on “COMPUTER AIDED MODELING AND ANALYSIS LABORATORY” held at Malnad College of Engineering, Hassan during. 04<sup>th</sup> Feb to 08<sup>th</sup> Feb 2009.**
- **The AICTE sponsored course on “Research Method and Tool for Mechanical Engineering Faculty” held Bannari Amman Institute of Technology, Sathyamangalam during 31<sup>st</sup> May to 11<sup>th</sup> June 2010.**
- **The VTU-VGST sponsored three days course RENEWABLE ENERGY SOURCES & LATEST MANUFACTURING TECHNOLOGY on “” held at New Horizon College of Engineering, Bangalore during. 27<sup>th</sup> Jan to 29<sup>th</sup> Jan 2011.**
- **The ISTE sponsored course on “MISSION10X” held at Adichunchunagiri Institute of Technology, Chikmangalur during 12<sup>th</sup> Sept to 16<sup>th</sup> Sept 2011.**

- **The QIP sponsored short-term course on “CONTROL SYSTEMS” held at I.I.T.Bombay during 3<sup>rd</sup> Dec to 07<sup>th</sup> Dec 2012.**
- **The TEQIP sponsored short-term course on “TEACHING EFFECTIVENESS” held at during 29<sup>th</sup> March to 30<sup>th</sup> March 2013.**
- **The AICTE sponsored course on “STRATEGIES FOR ENVIRONMENTALLY CONSCIOUS PRODUCT DESIGN AND MANUFACTURING” held PSG college of Technology, Coimbatore during 02<sup>nd</sup> June to 15<sup>th</sup> June 2013.**
- **The DST sponsored course on “OPTIMIZATION OF MATHEMATICAL MODEL AND THEIR APPLICATIONS” held MS Ramaiah Institute of Technology, Bangalore during 1<sup>st</sup> July to 6<sup>th</sup> July 2013.**
- **The TEQIP sponsored short-term course on “RECENT ADVANCES IN THERMAL ENGINEERING AND ITS APPLICATIONS” held at Malnad College of Engineering, Hassan during. 20<sup>th</sup> May to 24<sup>th</sup> May 2013.**
- **The TEQIP sponsored short-term course on “INDUSTRIAL TRIBOLOGY” held at Siddaganga Institute of Technology, Tumkur during 20<sup>th</sup> Aug to 24<sup>th</sup> Aug 2013.**
- **The TEQIP sponsored short-term course on “DERIVING PROGRAM EDUCATIONAL OBJECTIVES/PROGRAM OUTCOMES/COURSE OUTCOMES/ASSESMENTS FOR NBA SELF ASSESMENT REPORT” held at Malnad College of Engineering, Hassan during. 11<sup>th</sup> July to 13<sup>th</sup> July 2013.**

- **The TEQIP sponsored short-term course on “THEORETICAL COMPUTATIONAL AND APPLIED MECHANICS” held at BMS College of Engineering, Bangalore during 16<sup>th</sup> June to 20<sup>th</sup> June 2014.**
- **The AICTE sponsored course on “TECHNOLOGY FOR DESIGN, MODELING AND PRODUCTION OF COMPOSITE STRUCTURES” held Government Engineering College, Hassan during 27<sup>th</sup> Jan to 08<sup>th</sup> Feb 2014.**
- **The VTU-VGST sponsored course METHODOLOGIES FOR 3D SCANNING OF CIVIL AND ARCHITECTURAL STRUCTURES on “” held at Government Engineering College, Hassan during. 24<sup>th</sup> Feb to 27<sup>th</sup> Feb 2014.**
- **The QIP sponsored short-term course on “ANALYTICAL AND NUMERICAL TECHNIQUES IN APPLIED MATHEMATICS AND ENGINEERING” held at Malnad College of Engineering, Hassan during. 28<sup>th</sup> July to 02<sup>nd</sup> Aug 2014.**
- **The QIP sponsored short-term course on “ESSENTIAL SKILLS FOR MECHANICAL ENGINEERS” held at Malnad College of Engineering, Hassan during. 01<sup>st</sup> Sept to 05<sup>th</sup> Sept 2014.**
- **The TEQIP phase II sponsored short-term course on “VIBRATION MEASUREMENT, ANALYSIS AND CONTROL” held at PSG College of Technology,Coimbatore during 31<sup>st</sup> July to 06<sup>th</sup> Aug 2016.**

- **Work shop on “MATLAB R2017a” held at Vidyavardhaka College of Engineering, Mysuru during 28<sup>th</sup> July to 30<sup>th</sup> July 2017.**
- **The GIAN sponsored short-term course on “ANALYSIS AND DESIGN of PIEZOELECTRIC VIBRATION ENERGY HARVESTERS” held at IIT Madras, during 30<sup>th</sup> Oct to 03<sup>rd</sup> Nov 2017.**
- **The TEQIP phase III sponsored short-term course on “RECENT TRENDS IN AUTOMOTIVE TECHNOLOGY” held at Malnad College of Engineering, Hassan during 25<sup>th</sup> June to 29<sup>th</sup> June 2018.**
- **The TEQIP phase III sponsored short-term course on “ADVANCED MATHEMATICAL TOOLS IN ENGINEERING APPLICATIONS” held at Malnad College of Engineering, Hassan during 02<sup>nd</sup> July to 6<sup>th</sup> July 2018.**
- **The TEQIP phase III sponsored short-term course on “RESEARCH OPPORTUNITIES AND CHALLENGES IN ADVANCE MATERIALS AND MANUFACTURING” held at Malnad College of Engineering, Hassan during 17<sup>th</sup> Dec to 22<sup>nd</sup> Dec 2018.**
- **The TEQIP phase III sponsored short-term course on “ENGINEERING GRAPHICS AND DESIGN TEACHING METHODOLOGY AND EVALUTION PROCEDURE” held at Sri Jayachamarajendra College of Engineering, Mysuru during 08<sup>th</sup> July to 12<sup>th</sup> July 2019.**
- **The TEQIP phase III sponsored short-term course on “RECENT DEVELOPMENTS IN RENEWABLE ENERGY SOURCES AND CONVERSION SYSTEM FOR ON/OFF GRID APPLICATIONS” held at Malnad College of Engineering, Hassan during 09<sup>th</sup> Dec to 14<sup>th</sup> Dec 2019.**
- **State Level work shop on “Mechanical Vibration” held at Shiradi Sai College of Engineering, Bangalore.**



## **List of Publications:**

### ***International Journal:***

- Pradeesh, E. L., Udhayakumar, S., Vasundhara, M. G., & Kalavathi, G. K. 2022. A review on piezoelectric energy harvesting. *Microsystem Technologies*, 28(8), 1797–1830. <https://doi.org/10.1007/S00542-022-05334-4/FIGURES/1>
- Pradeesh, E. L., Udhayakumar, S., Vasundhara, M. G., & Nijandhan, K. 2021. Design and development of frequency tuneable vibration based piezoelectric energy harvester. <https://doi.org/10.1080/00150193.2021.1984779>
- Senthilkumar, M, **Vasundhara, MG** & Kalavathi, GK 2018, ‘Electromechanical analytical model of shape memory alloy based tunable cantilevered piezoelectric energy harvester’, *International Journal of Mechanics and Materials in Design*, vol. 15, no. 3, pp. 611–627. Updated List of Journals (ISSN: 1573-8841), Impact factor – **3.143**.
- **Vasundhara, MG**, Senthilkumar, M & Kalavathi, GK 2018, ‘A distributed parametric model of Brinson shape memory alloy based resonant frequency tunable cantilevered PZT energy harvester’, *International Journal of Mechanics and Materials in Design*, vol. 15, no. 3, pp. 555–568. Updated List of Journals (ISSN: 1573-8841) Impact factor – **3.143**.
- **Vasundhara, MG**, Senthilkumar, M & Kalavathi, GK 2019, ‘A Distributed Parametric Model of Shape Memory Alloy based Resonant Frequency Tunable Cantilevered PZT Energy Harvester with tip mass’, *International ISSS Journal of Micro and Smart Systems*, vol. 8, no. 1, pp. 13–24. (ISSN: 2509-7989)
- GK, Kalavathi, FA Najar, and **Vasundhara MG**. 2019. “Performance Characteristics of Journal Bearings (Porous Type): A Coupled Solution Using Hartmann Number and Roughness Parameter.” *Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology*, November, 135065011988670. <https://doi.org/10.1177/1350650119886709>.
- Senthilkumar, M, **Vasundhara, MG** & F, Rohit Adaikala Raj, (2019) ‘A Study on Tunable Vibration Based Energy Harvester Using Shape Memory Effect. *National Journal of Technology*, vol 14, no. 6, pp. 29-32 (ISSN - 0973 – 1334)

- Swathi S P, **M G Vasundhara**, Dr B Yogesh “ PLC based automatic liquid Racking System” International Journal of Engineering Research & Technology, vol 2 Issue 8 Aug 2013
- Roop R, **M G Vasundhara**, Dr K R Prakash “A low cost PLC based automatic liquid filling and sorting system” International Journal of Scientific and Engineering Research 2012

- Sanjay M R, Arpitha G R, **Vasundhara M G**, B Yogesha, "Study on Mechanical Characteristics of Unidirectional Sisal/Glass Fiber Reinforced Polyester Hybrid Composites ", International Journal of Science and Research (IJSR), Volume 3 Issue 8, August 2014, ISSN: 585-588.
- **Vasundhara, MG**, Senthilkumar, M & Kalavathi, GK , 'Analytical Model of Electromechanical Shape Memory Alloy Based Tunable Piezoelectric Energy Harvester with Point Mass Considered at the Cantilever Tip', International Journal of Materials and Product Technology. ( Revising)
- Kalavathi G.K., M. Somashekhar, **Vasundhara M.G.**,Yogesha K.K Analytical Study of Roughness on Tilted Pad Thrust Slider Bearing Improved by the Boundary Slippage. Applied Mechanics and Materials Vol. 895, pp 70-75.
- **Vasundhara, MG**, Senthilkumar, M & Kalavathi, GK , 'Numerical Simulation of Shape Memory Alloy based Tunable Vibration Energy Harvester with PZT with Tip Mass' International Journal Sound and Vibration. (Under review)
- **Vasundhara, MG**, Senthilkumar, M & Kalavathi, GK , 'Resonance Tuning of the SMA Cantilevered Vibration Energy Harvester Beam Experimentally with PZT Patch' International Journal Mechanical Systems and Signal Processing. (Under review)
- **Vasundhara, MG**, Senthilkumar, M & Kalavathi, GK , 'Numerical Simulation of Shape Memory Alloy based Tunable Vibration Energy Harvester with PZT' International Journal microsystem technology. (Under review)

#### **International Conference:**

- **Vasundhara M G**, Chetan S, Satish S Nadig, Sudheer Kulkarni, "Comparative study of abrasive behavior of silicon carbide Graphite filled unsaturated polyester glass fiber composite" Proc. International Conference Recent Trends in Materials and Characterization NITK Surthakal Feb 14th & 15th 2010.
- Chetan S, Satish S Nadig, Sudheer Kulkarni, **Vasundhara M G** "Comparative study of Abrasive wear resistance of silicon carbide Graphite and mixture of silicon carbide graphite filled glass fiber reinforced vinyl ester" Proc. International Conference Recent Trends in Materials and Characterization NITK Surthakal Feb 14th & 15th 2010.

- Satish S Nadig, Sudheer Kulkarni, Chetan S, **Vasundhara M G** “Comparative study of tensile behavior of silicon carbide Graphite and mixture of silicon carbide graphite filled glass fiber reinforced vinyl ester” Proc. International Conference Recent Trends in Materials and Characterization NITK Surthakal Feb 14th & 15th 2010.
- Sudheer Kulkarni, **Vasundhara M G**, Chetan S, Satish S Nadig “Comparative study of flexural behavior of silicon carbide Graphite and mixture of silicon carbide graphite filled glass fiber reinforced vinyl ester” Proc. International Conference Recent Trends in Materials and Characterization NITK Surthakal Feb 14th & 15th 2010.
- Roop R, **M G Vasundhara**, Dr K R Prakash “A low cost PLC based automatic liquid filling and sorting system” Proc. Punjab university Oct 5th & 6th 2012

**National Conference:**

- **Vasundhara M G**, Chetan S “Abrasive Wear Behaviors of Graphite Filled Unsaturated Polyester Glass Fiber Composite” Proc. Advance in Mechanical Engineering Don Bosco Institute of Technology Bangalore Mar 30th & Mar 31st 2009.
- **Vasundhara M G**, Chetan S “Comparative Study of Abrasive Wear Resistance of Mixture of Silicon carbide-Graphite Filled Glass Fiber Reinforced Polyester Composite” Proc. Recent Trend in Mechanical Engineering Vemana Institute of Technology Bangalore Nov 23th & 24th 2009.

**VASUNDHARA M G**