

## Curriculum Vitae

			
<b>Name</b>	Dr. KALAVATHI G K		
<b>Date of Birth</b>	03-06-1981		
<b>Husband Name</b>	Vasundhara M G		
<b>Highest Qualifications</b>	Ph. D. (Visveswaraya Technological University, Belagavi)		
<b>Address</b>	Associate Dean (SA) & Associate Professor Department of Mathematics Malnad College of Engineering, Hassan Karnataka, PIN: 573202 +91-9844241717 Email: Kala.kgowda@gmail.com gkk@mcehassan.ac.in		
<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 B. Sc. (PCM)	Mysore University, Mysore	AVK College, Hassan	2002
PG Degree M. Sc. (Mathematics)	Mysore University, Mysore	Manasagangothri, Mysore	2004
M. Phil (Mathematics)	Alagappa University, Karaikudi		2009
Ph. D.	Visveswaraya Technological University, Belagavi	Malnad College of Engineering, Hassan	2017
<b>Ph.D. Title:</b> Mathematically models for surface roughness phenomenon in hydrodynamically lubricated porous bearings. <b>Research Area:</b> Fluid Mechanics, Tribology, Energy Harvester.			

## CAREER PROFILE:

From Date	To Date	Months/ Years	Employer	Designation
20/09/2004	31/01/ 2010	5.5 years	Bahubali College of Engineering Shravanabelagola	Lecturer
01/02/2010	22/07/2010	06months	Bahubali College of Engineering Shravanabelagola	Senior Lecturer
24/07/2010	01/02/2012	1.5 years	Yagachi Institute of Technology, Hassan	Senior Lecturer
03/02/2012	01/11/2019	7.9 years	Malnad College of Engineering, Hassan	Assistant Professor
<b>02/11/2020</b>	<b>Till today</b>		<b>Malnad College of Engineering, Hassan</b>	<b>Associate Professor</b>
<b>31/03/2023</b>	<b>Till today</b>		<b>Malnad College of Engineering, Hassan</b>	<b>Associate Dean (SA)</b>

## Completed Project:

- **05 Lakh** amount is sanctioned by **VGST, Government of Karnataka**, in the year 2017-18 for the topic “A Distributed Parameter Electromechanical model for Cantilevered Piezoelectric Energy Harvester with shape memory alloy”.

## Research Area:

- Fluid mechanics, Tribology, Numerical Simulations, Energy Harvesting, Graph Theory

## Work Shop Attended:

- The Workshop on **Faculty Development Programme** held at Bahubali College of Engineering, Shravanabelagola during 25th Aug to 27th Aug 2005.

- The QIP sponsored short-term course on **Mathematical Modeling of Engineering Problems** held at Malnad College of Engineering, Hassan during 08th Sep to 10th Sep 2006.
- AICTE sponsored two weeks Faculty Development Programme on **Research Methodology and Tool for Mechanical engineering faculty** held at Bannari Amman Institute of Technology, Sathyamangala, Tamilnadu during 31st May to 11th June 2010.
- Two day workshop on **Research Methodologies & Latex** held at Bangalore organised by VTU e-learning centre, Mysore.
- One week workshop on **Industrial Tribology** held at SIT Tumkur organised by TEQIP-II during 20<sup>th</sup> – 24<sup>th</sup> August 2013.
- Three days workshop on **Deriving Program Educational Objectives/Program Outcomes/Course outcomes/Assesment for NBA self-assessment Report** held at Malnad College of Engineering, Hassan organised by TEQIP-II from 11/07/2013 to 13/07/2013.
- One day workshop on **Patents and Innovations** held at Malnad College of Engineering, Hassan organised by TEQIP-II during 31/08/2013.
- One week FDP on **Linear Algebra and its applications** held at BMS college of Engineering, Bangalore organised by TEQIP-II during 16th to 20th June 2014.
- One week FDP on **Pedagogical training program-for teacher** held at Malnad College of Engineering, Hassan organised by TEQIP-II during 06th to 11th June 2016.
- Three days FDP on **Research Methodology and Intellectual Property Rights** held at Malnad College of Engineering, Hassan organised by TEQIP-II on 23/03/2017 to 25/03/2017.

- One day workshop on **Professional and Academic Quality in Engineering Courses** held at Malnad College of Engineering, Hassan organised by TEQIP-III on 23 April 2018.
- One week FDP on **Total Quality Management** at Malnad College of Engineering, Hassan organised by TEQIP-III during 28 May to 01 June 2018.
- One week FDP on **Recent Trends in Automotive Technology** at Malnad College of Engineering, Hassan organised by TEQIP-III during 25/02/2018 to 29/02/2018.
- One week FDP on **Advanced Mathematical Tools in Engineering** at Malnad College of Engineering, Hassan organised by TEQIP-III during 02/07/2018 to 06/07/2018.
- Two days workshop on **Outcomes based education (OBE)** at Malnad College of Engineering, Hassan organised by TEQIP- III during 04/08/2018 and 05/08/2018.
- Two days workshop on **Being a Great Teacher** at Malnad College of Engineering, Hassan organised by TEQIP- III during 03/11/2018 and 04/11/2019.
- One day workshop on **Training the Proctors for effective Counselling** at Malnad College of Engineering, Hassan organised by TEQIP- III during 23/03/2019.
- **Two week** FDP on **Gaining Insight into Data Science and Data Analytics** at Malnad College of Engineering, Hassan organised by AICTE during 15/07/2019 to 27/07/2019.
- One day workshop on **Indo-German Research Proposal Writing Workshop** held on 30th August 2019 at KSTA, Bengaluru.
- Five days webinar series on **Research & Innovation** held from 17th to 21st October, 2020 organised by department of Information Science and Engineering, VVCE, Mysuru.
- Five days FDP on **SCI-Lab, Maxima and Python**, from 17th to 21st October, 2020 organized by department of Mathematics and Computer science, P. C. JABIN Science College, Huballi.
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### **Work Shop Conducted:**

- One week FDP on **Analytical and Numerical Techniques in Applied Mathematics and Engineering** held at Malnad College of Engineering, Hassan organised by TEQIP-II during 28th July to 2nd August 2014.
- Oneweek FDP on **Advanced Mathematical tools in Engineering Applications**organised by Malnad College of Engineering, Hassan under TEQIP-III from 2nd to 6th July 2018.
- One day workshop on **Visualisation of mathematics in mechanical engineering** organised by Malnad College of Engineering, Hassan under TEQIP-III on 01.10.2019.
- One day workshop on **Application of probability in engineering**organised by Malnad College of Engineering, Hassan under TEQIP-III on 05.11.2019.
- One day workshop on **Applications of mathematics in engineering and real world problems** organised by Malnad College of Engineering, Hassan under TEQIP-III on13.11.2019.
- One day workshop on **Programming in Python** organised by Malnad College of Engineering, Hassan on 10.12.2022.

### **Other Achievements:**

- Serving as **Associate Dean (SA) and First year coordinator** in Malnad College of Engineering since **May 2023 to till today**
- Serving as Institute level **NBA - Criteria 8** coordinator in Malnad College of Engineering in **2023**.
- Serving as Institute level **NAAC - criteria 4** coordinator in Malnad College of Engineering from **2022 to 2023**.
- Served as department **NBA, NAAC, IQAC, NIRF and Research** coordinator in Malnad College of Engineering from **2015 to May 2023**.

- Served as department **BOE Chairman** from 2019 to 2023 in Malnad College of Engineering.
- Worked as **Warden** in Malnad college of Engineering Ladies Hostel, Hassan from 07<sup>th</sup> February 2019 to 11<sup>th</sup> January 2020.
- Served as department **Contineo coordinator** from 2017 to 2023 in Malnad College of Engineering
- Served as department **Website coordinator** from 2015 to 2020 in Malnad College of Engineering.
- Served as **Mentor** for I year Engineering students in Malnad College of Engineering, Hassan, 2018.
- Served as **Faculty Advisor** for I year Engineering students in Malnad College of Engineering, Hassan, 2017.
- Serving as department **BOS & BOE** member in Malnad College of Engineering, Hassan since 2014 to till today.
- Served as **Coordinator for Internal Examination** in Yagachi College of Engineering, Hassan, 2011-2012.

### **Reviewer in the following Journal:**

- The Open Mechanical Engineering Journal, Bentham publishers.
- Proceedings of the Institution Mechanical Engineers, Part J: Journal of Engineering Tribology, Sage publication.
- Proceedings of the Institution Mechanical Engineers, Part E: Journal of process Mechanical engineering, Sage publication.
- Journal of energy storage, Elsevier
- Asian research journal of Mathematics
- Asian journal of research in computer science
- International Astronomy and Astrophysics research journal

### **Research Publications:**

1. E. L. Pradeesh, S. Udhayakumar, M. G. Vasundhara, **G. K. Kalavathi**, Experimental and numerical analysis on different beam geometries for vibration based piezoelectric energy

harvester, *Ferroelectrics*, Taylor & Francis, April 2023, VOL. 606, 219–23  
<https://doi.org/10.1080/00150193.2023.2189838>. ISSN - 00150193.

2. E. L. Pradeesh, S. Udhayakumar, M. G. Vasundhara, **G. K. Kalavathi**, A review on piezoelectric energy harvesting, *Microsystem and Technologies*, Springer, **28**, 1797–1830, June 2022. <https://doi.org/10.1007/s00542-022-05334-4> ISSN:1432-1858
3. **G K Kalavathi**, Yuvaraja B K, Dinesh P A, Vasundhara M G, Theoretical Study of influence of MHD in an infinitely long rough Porous Journal Bearing, *IOP Conf. Series: Materials Science and Engineering* 1189 (2021) 012030. doi:10.1088/1757-899X/1189/1/012030
4. **Kalavathi G K**, Vasundhara M G, Pradeesh E L, Prakash H R, Numerical Simulation Of Electromechanical Shape Memory Alloy Based Tunable Vibration PZT Energy Harvester Without Tip Mass, *Journal of Huazhong University of Science and Technology*, Vol. 50 (6), ISSN-1671-4512.
5. **Kalavathi, G. K.**, Najjar, F. A., & Vasundhara, M. G., 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*, Vol. 234(5) 668–675, 2020, <https://doi.org/10.1177/1350650119886709>.
6. M. G. Vasundhara, M. Senthilkumar, **G. K. Kalavathi**, A Distributed Parametric Model of Shape Memory Alloy based Resonant Frequency Tunable Cantilevered PZT Energy Harvester with tip mass, *ISSN Journal of Micro and Smart Systems*, Springer, Vol. 8, 13-24, 2019, <https://doi.org/10.1007/s41683-019-00034-0>.
7. **G. K. Kalavathi**, M Somashekhar, Vasundhara M G, Yogesha K K, Analytical study of roughness on tilted pad thrust slider bearing improved by the boundary slippage, In *Applied Mechanics and Materials*, Vol. 895, pp. 70-75. Trans Tech Publications Ltd. <https://doi.org/10.4028/www.scientific.net/AMM.895.70>, Feb 2019.
8. M. G. Vasundhara, M. Senthilkumar, **G. K. Kalavathi**, (2019). 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*, 15(3), 555-568. <https://doi.org/10.1007/s10999-018-9429-2>.

9. M. Senthilkumar, M. G. Vasundhara, **G. K. Kalavathi**, (2019). Electromechanical analytical model of shape memory alloy based tunable cantilevered piezoelectric energy harvester. *International Journal of Mechanics and Materials in Design*, 15(3), 611-627. <https://doi.org/10.1007/s10999-018-9413-x>.
10. Nagraj C, Dinesh P. A., **Kalavathi G. K.**, “Combined Effects of Electric Field and Magnetic Field on Electro Hydrodynamic Dispersion of Macromolecular Components in Biological Bearing”, *Defect and Diffusion Forum*, 2018; 388: 361-377.
11. **Kalavathi G. K.**, Dinesh P. A. and Gururajan K., “Numerical Study of Magnetic Field on Rough Porous Narrow Journal Bearing with Heterogeneous Surface”, *Materials Today: Proceedings*, 4, pp. 10539 - 10543, 2017.
12. Yuvaraja B K, **Kalavathi G.K.**, Dinesh P.A., K. Gururajan, “Effects of Magneto Hydrodynamic Fluids in a narrow Porous rough Journal Bearing”, *International journal of Scientific and Innovative Mathematical Research*, 2017.
13. **Kalavathi, G.K.**, Dinesh, P.A., K. Gururajan, “Influence of Roughness on Porous Finite Journal Bearing with Heterogeneous slip/ no-slip surface”. *Tribology International*. 102, pp. 174-181, 2016.
14. **Kalavathi, G.K.**, Dinesh, P.A., K. Gururajan, “Numerical Study of Effect of Roughness on Porous Long Journal Bearing with Heterogeneous Surface”, *Journal of Nigerian Mathematical Society*. 35, pp. 468 – 487, 2016.
15. **Kalavathi G K.**, K. Gururajan, Dinesh P. A., Gurubasavaraj G., “Effect of surface roughness in a Narrow Porous Journal Bearing with a Heterogeneous Slip/No-Slip Surface”. *International journal of Scientific and Innovative Mathematical Research*. 2-12: pp. 944-959, 2014.

### **National and International conferences Attended**

- **International Conference ICTMES** (August 06 – 08, 2020), Malnad College of Engineering, Hassan.
- **International Conference on Green Trends in Mechanical Engineering Sciences** 3-5 October, 2018, Malnad College of Engineering, Hassan, India



### **Presented papers in National and International conferences**

- Presented a paper in **International Conference ICARES 2022** held on 24<sup>th</sup> & 25<sup>th</sup> November 2022 at Ramaiah Institute of Technology, Bangalore.
- Presented a paper in **International Conference ICMEEP** (December 10 – 11, 2021), Bannari Amman Institute of Technology, Sathyamangalam, Tamilnadu.
- Presented a paper in **International Conference ICEMS** (March 17 – 19, 2016), Jaipur National University, Jaipur, Rajasthan, India.

### **Papers Communicated:**

- M. G. Vasundhara, M. Senthilkumar, **G. K. Kalavathi**, Numerical Simulation of Shape Memory Alloy based Tunable Vibration Energy Harvester with PZT, communicated to MSSP, Elsevier.