

Dr. G. SARAVANAKUMAR



Associate Professor
Dept. of Mechanical Engineering
BMS College of Engineering
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Educational Qualification

Sl. No.	University	Degree	Field of specialization
1	Visvesvaraya Technological University	Ph.D.	Temperature Effect on MR Fluid Squeeze Film Dampers
2	Madurai Kamaraj University	M.E.	Industrial Engineering
3	Bharathidasan University	B.E.	Mechanical Engineering

Employment Records

Sl. No.	University/College	Designation	Period
1	B.M.S. College of Engineering, Bengaluru	Associate Professor	27-10-2019 to Till date
2	B.M.S. College of Engineering, Bengaluru	Assistant Professor	25-08-2005 to 21-11-2019
3	Maruthi Institute of Engg. & Technology, Kanchipuram	Lecturer	04-06-2003 to 18-08-2005
4	VSB Engineering College, Karur	Lecturer	24-06-2002 to 28-05-2003

Academic Achievements

- 1) Qualified in GATE 2000 with 81.55 percentile.
- 2) Achieved **95%** and above results in the subjects taught, like Strength of Materials, Hydraulics & Pneumatics, CAED, CAMD, Robotics, Energy Engg, and Kinematics of Machines.
- 3) Worked in **Three** research projects in the field of MR fluid dampers with temperature effect sponsored by AR&DB, AICTE.
- 4) Attended nearly **30** faculty development programmes held across the country.
- 5) Presented nearly **18** technical papers in various conferences held across the country and published **SIX** journal papers in the peer reviewed international journals besides **FIVE** submitted papers.
- 6) Participated in **Two Training programmes** on modern machine tools and automation systems given by industrial experts in the factory.
- 7) Guided **Two** M.Tech. (PDM) candidates for their final year projects and developed low cost water purifier and solar water distiller.
- 8) Guided **Many** B.E. candidates for their mini and major projects.

Research Projects

- 1) Design, manufacture and experimental evaluation of newly conceptualized Air foil thrust bearing with enhanced load carrying capability for particular applications, sanctioned by VTU RGS vide: VTU/BGM/Aca/A-12/VTU RGS/DIS-ME/2021-22/5862/2 dated 18/02/2022 for Rs. 15.60 Lakhs.
- 2) Damping and Stiffness Characteristics of Non-Newtonian Fluids in squeeze Film Dampers used as External Damping Medium (Ref No 8023/RID/RPS-15/2011-12)
- 3) Temperature Effects on Evaluation of Damping and Stiffness Characteristics of Magneto-Rheological Fluids used as External Damping Medium (AR & DB File No: DARO/08/1041575/M/I/23-12-2010)
- 4) Flutter Instability of Machine Components with/without Flaws Subjected to Follower Loads (AICTE File No: 8023/RID/BOR/RPS-86/2005-06)
- 5) Design and Development of Manual Paddy Transplanter funded by NIAS - Grassroots Innovation under Frugal Innovation Nurturing Program
- 6) Validation of Magneto-Rheological Fluid as Seal for Rotor Dynamic Applications

- 7) Fabrication and testing of 3D printed spline coupling with flanges.
- 8) Design, Fabrication and testing of 3D printed carbon fibre flexible flange coupling.

Patents Applied

- 1) Granted Patent on Bump Foil Squeeze Film Dampers with Floating Shims in the Constrained Space.
- 2) Patent published and awaiting for the examination on A Flexible Coupling Apparatus.

Publications

International Journals:

1. The Study of Heat Transfer Enhancement Due to Various Nanofluids Between Rotating Stretchable Disks, published in the International Journal of Ambient Energy, 25/08/2022.
2. Fluid Friction / Heat Transfer Irreversibility and Heat Function Study of MWCNT – Water Nanofluid Filled Porous Cavity, published in Heat Transfer Journal, 02/03/2022.
3. Experimental Investigation on the Effect of Housing Profile and Its Relative Position on the Performance of Semi-Active Journal Bearing, Lecture Notes in Mechanical Engineering, Springer, 2020.
4. “Determination of damping coefficient of a bump foil squeeze film damper”, international Journal of Vehicle Structures and Systems, Vol. 8(4), 246-249, 2016.
5. “Feasibility and performance studies of semi active journal bearings”, Elsevier Procedia Technology, Vol 25, 1154-1161, 2016.
6. “Magnetorheological fluid and grease based squeeze film dampers- A comparison”, International Journal of Mechanical Engineering and Material Science, Vol 8(1), 49-53, 2015.
7. “Effect of L/D ratio and the temperature on MR fluid squeeze film damper Performance”, Asian Journal of Engineering and Applied Technology, Vol. 3 No. 2, pp.37-41, 2014.

8. "Effect of temperature on the performance of squeeze film damper lubricated with magnetorheological fluid", International Journal of Innovative Technology and Exploring Engineering (IJITEE) ISSN: 2278-3075, Vol-3, Issue-5, 160-164, 2013.

Paper Submitted

- 3) Influence of Hot Rolling on Thermal Conductivity of Al7075/TiB₂/Gr Hybrid Metal Matrix Composites in Advances in Materials and Processing Technologies.
- 4) Performance and Emission Characteristics of Vegetable Oil Based Bio-Diesel

International/National Conferences:

1. An investigation of special magnetorheological fluid squeeze film dampers. Proceedings of ICTACEM 2014, International Conference on Theoretical, Applied, Computational and Experimental Mechanics, December 29-31, 2014, IIT Kharagpur, India\ ICTACEM-2014/235
2. Magnetorheological fluid and grease based squeeze film dampers – A COMPARISON. International Conference on Advancements and Futuristic Trends in Mechanical and Materials Engineering (October 16-18, 2014).PTU Punjab
3. Effect of Temperature on the Dynamic Characteristics of Magnetorheological Fluid Long Squeeze Film Damper", International Conference ASIATRIB 2014, Agra, 17-20th February 2014
4. Damping and stiffness characteristics of grease based squeeze film damper, International Conference ASIATRIB 2014, Agra,17-20th February 2014
5. Performance analysis of magnetorheological fluid squeeze film damper used as external damping medium at the International Conference 'AMMMT13' held at SIT, Tumkur during 3-4, May 2013.
6. Temperature effect on the dynamic characteristics of MR fluid squeeze film damper at 'ETME 2012' April 2012, KLNCE, Madurai.
7. Experimental investigation on the performance of MR fluid squeeze film damper at 'NCETME 2011' June 2011, MSRIT, Bangalore.
8. Theoretical analysis of static and dynamic characteristics of MR fluid rectangular squeeze film dampers, ICTACEM 2010, December-2010, IIT-Kharagpur.

9. Effect of temperature on static and dynamic characteristics of MR fluid squeeze film dampers, December-2010, ICIT, Ranchi.
10. Study on smart autotronics, ETIME-2008, 28-29, August- 2008, BMSCE, Bangalore.
11. Vibration analysis of stiffened laminated plates by finite element approach, ETIME-2008, 28-29, August-2008, BMSCE, Bangalore.
12. Flutter instability analysis of plate with damage subjected to follower forces, International conference on Theoretical, applied, Computational and Experimental Mechanics, ICTACEM-2007, Indian Institute of Technology, Kharagpur. December 27-29, 2007.
13. Simulated Annealing Approach for the Formation of Manufacturing Cell, at the International Conference named "Responsive Supply Chain and Organisational Comptitiveness – 2004" held at Coimbatore Institute of Technology, Coimbatore, 5-7 January 2004.
14. Cost Based Design of Cellular Manufacturing System by Genetic Algorithm, at a National Seminar on Recent Advancements in Engg. and Technology conducted by Mepco Schlenk Engg. College, Sivakasi.

Projects Guided at BMSCE

Name of Candidates	Registered under VTU	Area of Specialization	Status
Venkatesha A	VTU	Low Cost Water Purifier for Rural Areas	Completed
Sandeshkiran	VTU	Solar Water Distiller	Completed
UG	VTU	Guided Several Projects	

Administrative Activities at BMSCE

- 1) Placement coordinator for ME department from 2018
- 2) TEQIP coordinator for the department from 2016 to till date.
- 3) Timetable coordinator for the department from 2014 to 2019.
- 4) BoE member for the department from 2015-2017.
- 5) Core member for Departmental Procurement Committee during the academic year 2012-2014.

- 6) Worked as Coordinator for VTU run M.Tech. (PDM) course for 2 years from 2008 - 2010.
- 7) Actively participated as a member in preparing syllabus for MTech for VTU.
- 8) Scrutinized Technical Papers for the National conference, 'ETIME' in 2006 & 2008 held at BMSCE, Bangalore.
- 9) Coordinated the Evaluation of answer scripts of VTU in 2006 in BMSCE.
- 10) Participated in the coordination of Department level programmes.

Training/ workshops Attended

S. No.	Short Term Course	From	To	Number of Weeks
1	Hydraulics and Pneumatics Controls	24/11/2003	29/11/2003	1
2	CNC Training on Milling and Turning Machines	23/12/2003	02/01/2004	2
3	NDT & Quality control of castings	04/03/2006	04/03/2006	One day
4	Preparation of Draft syllabus for M.Tech.(Mech) for VTU	04/08/2008	05/08/2008	Two days
5	Finite Element Method for Engineering Analysis	27/01/2009	31/01/2009	1
6	Hydraulics and Pneumatics	23/03/2009	26/03/2009	1
7	Research Methodologies & Report Writing	28/05/2009	29/05/2009	Two days
8	Work shop on Modern Teaching Methods	20/07/2009	24/07/2009	1
9	Satellite Orbits: Applied Perturbation, Launch and Maintenance	31/05/2010	04/06/2010	1
10	Teaching Engg using Autodesk Inventor	11/02/2011	12/02/2011	Two days
11	Alternate Fuels and Engine Electronics	16/05/2011	29/05/2011	2
12	Joining Techniques for Micro and Nano Material Fabrication	03/05/2012	13/05/2012	3
13	ISTE Workshop on Engg. Thermodynamics	11/12/2012	21/12/2012	1
14	Rotating Machinery	19/04/2013	20/04/2013	Two days

	Dynamics			
15	GIAN International Workshop on Industrial Tribology	04/07/2016	09/07/2016	1
16	GIAN workshop on Pseudospectral Methods applied to Partial Differential Equations	15/01/2018	25/01/2018	2
17	GIAN course on Lightweight Technologies for Automotive Applications	24/06/2019	29/06/2019	1
18	Deep Dive Sessions on Industrial Automation Systems and Controls	29/07/2019	02/08/2019	1

Other Academic Achievements

- 1) Consultancy work undertaken in Surface Roughness Measurement of Tooth Implants.
- 2) Consultancy work carried out in SEM Evaluation of Tooth Implants.
- 3) GIAN Course on Modeling and Simulation of Turbulence is sanctioned.

Areas of Interest

- Mechanical Vibrations and Rotordynamics
- Magnetorheological Fluid Dampers
- Hydraulics and Pneumatics
- Finite Element Methods

Subjects Taught in the last five years:

- Strength of Materials
- Computer Aided Engineering drawing
- Computer Aided Machine Drawing
- Hydraulics and Pneumatics
- Robotics
- Mechanical Vibrations
- Kinematics of Machines
- Heat and Mass Transfer

Declaration

I hereby declare that all the statements mentioned above are true to the best of my knowledge and belief.

Sincerely,

Place : Bengaluru
Date : 24-10-2022

(Dr. Saravanakumar G)