# CURRICULUM VITAE


## Dr. Y.S. RAMMOHAN

Professor,
Dept. of Mechanical Engineering
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## EDUCATION

***Ph.D:***

Department of Aerospace Engineering, IIT Madras, Chennai, India

*Year:* February, 2014

*Area*: Aerospace Structures

*Title of Dissertation*: Computational Studies on Three Dimensional Partial Slip Contacts under Combined Loading

*Thesis Advisor*: Dr. H S N Murthy, Professor, Dept. of Aerospace Engineering, IIT-Madras.

***M. Tech:***

*Year*: 2001

*Specialization*: Machine Design, I Class with Distinction

*College*: B.M.S. College of Engineering, Bengaluru

*University*: Visvesvaraya Technological University (VTU), Belagavi, India.

***B.E.:***

*Year:* 1995

*Discipline:* Mechanical Engineering, I Class

*College:* B.M.S. College of Engineering, Bengaluru

*University:* Bangalore University, Bengaluru, India.

## PROFESSIONAL EXPERIENCE

1. Professor, Dept. of Mechanical Engineering, B.M.S. College of Engineering: January, 2025 till date.

2. Professor & Head, Dept. of Aerospace Engineering, B.M.S. College of Engineering: September, 2020 to December, 2024.

3. Professor, Dept. of Mechanical Engineering, B.M.S. College of Engineering: February, 2014 to September, 2020.

4. Associate Professor, Dept. of Mechanical Engineering, B.M.S. College of Engineering : September, 2010 to February, 2014.

5. Selection grade Lecturer, Dept. of Mechanical Engineering, B.M.S. College of Engineering: September, 2007- September, 2010.
6. Senior Lecturer, Dept. of Mechanical Engineering, B.M.S. College of Engineering: September, 2003-September, 2007.
7. Lecturer, Dept. of Mechanical Engineering, B.M.S. College of Engineering: October, 1996-September, 2003.
8. Service Engineer: November, 1995- July, 1996

   *Company*: Metafusion Pvt. Ltd., Bangalore, India.

**RESEARCH AREAS OF EXPERTISE:**

- Machine Design, Aerospace structures
- Finite element methods
- Composite Materials
- Functionally graded materials
- Vibrational studies

**DOCTORAL SCHOLARS GUIDED: Completed-3; Supervising-4.**

1. Dr. Srinivasa M R, Professor & Head, PES College of Engineering, Mandya

Ph.D Title: Studies on Dynamic Characterization of Graphene Hydroxyl Reinforced Aluminium Composites.

Date of Defense: 25$^{th}$ October, 2021

University: *VTU, Belagavi*. Research Center: *Dept. of Mechanical Engineering, BMSCE*.

2. Dr. Chethana K Y, Assistant Professor, B.M.S. College of Engineering, Bengaluru.

Ph.D Title: Synthesis and Evaluation of functionally Graded Polymer Composites for Crashworthiness.

Date of Defense: 28$^{th}$ April, 2022

University: *VTU, Belagavi*. Research Center: *Dept. of Mechanical Engineering, BMSCE*.

Supervised along with Dr. M.G. Patil, Professor, Dept. of Mechanical Engineering, BMSCE.

3. Dr. Anilkumar Associate Professor & Head, Dept. of Mechanical Engineering, KS Institute of Technology, Bengaluru.

Dater of Defense: 24$^{th}$ January, 2025.

University: *VTU, Belagavi*. Research Center: *Dept. of Mechanical Engineering, BMSCE*.

Ph. D Title: Vibro-acoustic Analysis of Cylindrical Shell Structures

**DOCTORAL SCHOLARS UNDER GUIDANCE:**

1. Sundarraman P

Title: A study on Floating Bush Based Journal Bearing.

2. Vishwanath B R

Title: Fretting Studies of Functionally Graded Materials

3. Shailesh R Nayak:

Title: Advanced Materials for Electronic Packaging Enclosures.

4. Anil Sankar K

Title: Methods of Recycling Fiber Reinforced Composites.

**PROFESSIONAL COURSES TAUGHT:**

- ✓ Materials for Aerospace Engineering
- ✓ Design of Machine Elements
- ✓ Advanced Machine Design
- ✓ Finite Element Analysis
- ✓ Composite Materials
- ✓ Continuum Mechanics
- ✓ Theory of Elasticity
- ✓ Mechatronics
- ✓ Experimental Stress Analysis
- ✓ Engineering Drawing
- ✓ Aerospace/Machine Drawing
- ✓ Design Laboratory
- ✓ CAD/CAM laboratory
- ✓ Material Testing Laboratory
- ✓ Computer Graphics
- ✓ Mechanical Vibrations

**Student Projects guided at Masters Level**: **35-** Students of Machine Design and Product Design and Manufacturing.

**Projects guided at undergraduate Level:** More than **50-** Students of Mechanical Engineering and Aerospace Engineering.

**Research Projects:** Executed Research Projects worth 16 lakhs under TEQIP.

**INDUSTRIAL CONSULTANCY:**

Have executed Consultancy worth more than 2 lakhs on Friction Evaluation and Wear.

**PATENTS:**

1. Dry Waste Collector with Compactor, Indian Patent No. 566607, Date of Grant: 23/05/2025.

**BOOKS PUBLISHED:**

1. Rajiv Tiwari, Y. S. Rammohan, Ashish K. Darpe, V. Arun Kumar, Mayank Tiwari, 'Vibration Engineering and Technology of Machinery, Select proceedings of VETOMAC XVI 2021, Springer Verlag, Singapore.

   Volume I: 2023 edition (13 December 2023) ISBN-10 : 9819947200, ISBN-13 : 978-9819947201, DOI: https://doi.org/10.1007/978-981-99-4721-8

   Volume II: 01 April, 2024, **ISBN**978-981-99-8985-0 & **ISBN**978-981-99-8986-7, DOI: https://doi.org/10.1007/978-981-99-8986-7

**INTERNATIONAL JOURNALS**

1. Y.S. Rammohan and H. Murthy, 'Influence of an Edge Fillet in Three Dimensional Partial Slip Contacts"' *AES-ATEMA-2011*, Intl. Conf. Series, Advances and Trends in Engineering Materials and their Applications, ISBN 978-0-9866504-7-5, p: 415-422.

2. Y.S. Rammohan and H. Murthy, 'Three dimensional finite element analysis of partial slip contacts subjected to combined loading', Finite Elements in Analysis and Design, Elsevier Journals, 2012, 56, p: 9-19.

3. Y.S. Rammohan and K.R. Ganapathy, 'Numerical Analysis of Piezoelectric Adaptive Sandwich Plate made of FGM', 2015, International Journal of Applied Engineering Research, ISSN 0973-4562, 10 (24), p: 20982-20987.

4. Prathik Jain S, Ravindra H V, Ugrasen G, Naveen Prakash G V, Y S Rammohan, 'Study of Surface Roughness and AE Signals while Machining Titanium Grade-2 Material using ANN in WEDM', Materials Today, Proceedings 4, ICEMS 2016, 2017, Page: 9557-9560.

5. M.R. Srinivasa, Y.S. Rammohan, 'Analysis of Dynamic Properties of Alumium 6061 Reinforced with Varying Percentage of Graphene', International Journal of Engineering Research in Mechanical and Civil Engineering, Vol. 2, Issue 4, 2017, Page: 745-752.

6. Prasanna R, Rammohan Y.S., Venkateshwaran R, CH Satyaprasad, 'Development of Testing Fixture for Space Borne Optical Component Measurement, International Journal of Innovative Technology and Exploring Engineering, Vol. 6, Issue 12, 2017, Page: 17-20.

7. T. Archana, S. Anand Kumar, R.R. Elangovan, Y.S. Rammohan, Ravikumar Dumpala, B. Ratna Sunil, R.K. Kumar, 'Fracture Toughness and Fatigue Behaviour of Spider Silk and S-Glass Epoxy Composites: An FEM Approach', Materials Today, Proceedings 5, ICAMA-2016, 2018, Page: 2627-2634.

8. Sudheera, Y S Rammohan, Pradeep M S, 'Split Hopkinson Pressure Bar Apparatus for Compression Testing: A Review', Materials Today, Proceedings 5, ICAMA-2016, 2018, Page: 2824-2829.

9. Chethana K Y, Y S Rammohan, M G Patil, Lokesh G Reddy, 'Drop Weight Impact Energy Absorption Capacity of Elastomer Filled Aluminium Tubes', IJSART, Vol. 4 Issue 1, Page: 94-99, January 2018, ISSN: 2395-1052.

10. Chethana K Y , M G Patil, Y S Rammohan, Lokesh G Reddy, 'Quasi Static Energy Absorption Capacity of Polymer Filled Aluminium Tubes', IJSART, Vol. 4, Issue 1, Page: 82-87, January 2018, ISSN: 2395-1052.

11. K.Y. Chethana, Y.S. Rammohan, M.G. Patil, Lokesh C Reddy, 'Influence of MWCNT addition on Mechanical Properties of density graded E-glass fiber reinforce polyester resin composites', AIP Conference Proceedings, Vol. 2057, 2019, Page: 020040-1-7.

12. K Y Chethana, Y.S. Rammohan & M.G. Patil, 'Effect of collapse trigger mechanism on the energy absorption capability of GFRP tubes', AIP Conference Proceedings, 2247, 020010 (2020): https://doi.org/10.1063/5.0003824.

13. Srinivasa M R, Y S Rammohan, Karthik U N, Sadashiva M, 'Analysis on wear properties of Graphene Hydroxyl Reinforced Aluminum Composites', International Journal of Advanced Science and Technology, Vol. 29, No. 9s, (2020), pp. 8059-8065.

14. M. R. Srinivasa, Y S Rammohan & M. Sadashiva, 'Analysis of the effect of shock waves on Fretting Behavior of Graphene Hydroxyl Reinforced Aluminum 6061 Composites', Part of Lecture Notes in Mechanical Engineering book series (LNME), Advances in Engineering Design, Springer Proceedings, pp 521-529, February, 2021. https://doi.org/10.1007/978-981-33-4018-3_49.

15. M. Ravikumar, R. Suresh, H N Reddappa, Y S Rammohan, C R Nagaraja and E R Babu, 'Investigations on tensile fractography and wear characteristics of Al7075-Al203-SiC Hybric Metal Matrix Composites routed through liquid metallurgical techniques', Fractura ed Integrita Structurale, Vol. 15, No. 56(2021), April 2021. https://doi.org/10.3221/IGF-ESIS.56.13

16. Srinivasa M R, Y S Rammohan, M Sadashiva, M K Yatish, K Ramesha, 'Studies on Tensile Properties of Graphene Hydroxyl Reinforced Aluminium 6061 Composites for Vehile Structure Applications', International Journal of Vehicle Structures & Systems, Vol. 14, Issue 2, 2022, Pg.223-225, DOI:10.4273/ijvss.l4.2.16m.

17. A Sivan, D Saravanan, Y S Rammohan, 'A numerical study to reduce the drag effects in hypersonic flow over the backward facing step', Materials Today: Proceedings, Vol. 52, 2022, Pg. 963-970. https://doi.org/10.1016/j.matpr.2021.10.429.

18. M Ravikumar, HN Reddappa, R Suresh, YS Rammohan, E R Babu, CR Nagaraja, 'Machinability study on Al7075/Al203-SiC Hybrid Composites', Metallurgical and Materials Engineering. Vol.28(1), 2022, pg.61-77.https://doi.org/10.30544/749.

19. M Ravikumar, R Naik, Y S Rammohan, S Raghavendra, R Suresh,' Evaluation of mechanical, wear and fracture behaviour of Silicon Carbide particulates reinforced Al7075 composites using response surface methodology technique', Journal of Materials and Engineering Structures, Vol. 10 (4), 2023, pg: 601-613.

20. M Ravikuar, R Naik, B R Vinod, K Y Chethana, Y S Rammohan, 'Study on nanosized Al203 and Al203-Sic on mechanical, wear and fracture surface of Al7075 composites for soil anchoring applications', Materials Physics and Mechanics, Vol. 51(6), 2023, pg:24-41. http://dx.doi.org/10.18149/MPM.5162023_3.

21. Anilkumar A, Rammohan Y S & B S Suresh, 'Impact of Boundary Conditions and Radius of Curvature on Vibro-Acoustic Behaviour of Cold-Rolled Carbon Steel Structure', Journal of Vibration Engineering & Technologies, Vol.12, pg:8551-8565, 2024. https://doi.org/10.1007/s42417-024-01375-3.

22. Anilkumar A, Rammohan Y S & B S Suresh, 'Optimization of Vibro-Acoustic Characteristics of Cold Rolled Sandwich Steel Cylindrical Shell with internal Voids Using Response Surface Methodology ', Journal of Vibration Engineering & Technologies, Vol.12, pg:1995-2011-8565, 2024. DOI:10.1007/s42417-024-01515-9.

## INTERNATIONAL CONFERENCES

1. Y.S. Rammohan and H. Murthy, "Effects of finite width in fretting contacts under partial slip conditions". In proc. of *5th Intl. conf. on theoretical, analytical, computational and experimental mechanics-2010*, pp 354-357, December 27-29, IIT Kharagpur, India.

2. Y.S. Rammohan and H. Murthy, "Effect of Integration Schemes in the Three Dimensional Contact Analysis of Partial Slip Contacts", In proc. *IN-TECH 2011, International Conference on Innovative Technologies,* October 01-04, 2011, pg: 458-461, Bratislava, Slovakia.

3. Y.S. Rammohan and H. Murthy, "Numerical Simulation of Bulk Stress Effects in Partial Slip Contacts of Finite Width", *ESMC 2012, 8th European Solid Mechanics Conference*, July 9-13, 2012, Graz, Austria.

4. Rajalakshmi, S, J. Sharana Basavaraja, Y. S. Rammohan and B. S. Suresh, "Analysis, Simulation and Optimization of Piezoelectric Microactuator", *ETMN-2013, International Conference on Emerging Technologies - Micro to Nano,* February 23-24, 2013, BITS, Pilani - KK Birla Goa Campus, India.

5. Y.S. Rammohan and K.R. Ganapathy, "Numerical Analysis of Piezoelectric Adaptive Sandwich Plate made of FGM", *ICAD&M'14, International Conference on Advances in Design & Manufacturing,* December 5-7, 2014, NIT Tiruchirapalli, India.

6. Y.S. Rammohan and K. Venkatesh, "Vibration Control of Smart Beams Using Piezoelectric Composites", *ICCMEH-2014, International Conference on Computational Methods in Engineering and Health Sciences*, December 17-19, 2014, Manipal University, Manipal, India.

## AWARDS

The journal paper titled "Three dimensional finite element analysis of partial slip contacts subjected to combined loading" was listed as Top 25 Hottest Articles in *Finite Elements in Analysis and Design* for the period April to June, 2012. https://doi.org/10.1007/s42417-024-01515-9.

## INVITED LECTURES:

1. Total Life Approach, at Workshop on 'Design Aspects of Fatigue and Fracture in Structures', BMSIT, Bengaluru, 18th January, 2016.

2. Research and Career Opportunities in Mechanical Engineering at Coorg Institute of Technology, Coorg, India, 28th February, 2016.

3. Fretting Fatigue, at National workshop on Fatigue and Fracture, BMSCE, Bengaluru, 2nd August, 2016.

4. Conducted 2-Day FDP on LaTeX at KSIT, Bengaluru, 25-26 July, 2019.

**OTHER PROFESSIONAL ACTIVITIES:**

- ✓ Member of Departmental Academic Audit Committee, Board of Examiners & Board of Studies at BMS College of Engineering and other Colleges.
- ✓ Conducted academic auditing at Engineering colleges.
- ✓ On Doctoral committees of VTU PhD students.
- ✓ Contributed to syllabus committee of VTU for M.Tech in Machine Design.
- ✓ Member of ISTE and FPSI.

**PERSONAL INFORMATION**

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|---|---|---|
| Date of Birth | : | 24-01-1974 |
| Father's Name | : | Sreeramaiah Y |
| Nationality | : | Indian |
| Residential Address | : | Bikasipura, Bengaluru-560 061 |

Dr. Rammohan Y.S.