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GM UNIVERSITY

P. B. Road, Davanagere – 577 006 KARNATAKA | INDIA

## GMU - Faculty & Staff Profile



### Contact

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## Dr. Harsha H M

Associate Professor in Engineering Design

### Faculty

Faculty of Engineering and Technology

### School / Program

School of Engineering /Engineering Design

### Faculty Introduction (Five to Six Lines)

Dr. Harsha H M is an Associate Professor in the Department of Engineering Design, Faculty of Engineering and Technology, GM University, Davanagere. He holds a Ph.D. in Mechanical Engineering Sciences from UBDT College of Engineering, Davanagere (VTU, Belagavi). With over two decades of teaching experience, his research interests include Natural Fiber Hybrid Composites and Bio Composites, Fracture Mechanics of Composites, Finite Element Modelling and Analysis, Structural, Impact and Crash Analysis. Dr. Harsha has published 18 international journal papers and holds 2 patents in innovative engineering systems. He is a recognized Ph.D. supervisor under GM University, Davanagere and VTU, Belagavi. Also he is an active member of ISTE and IAENG.

### Qualifications

#### Ph.D. (Mechanical Engineering Sciences)

UBDT College of Engineering, Davanagere (VTU, Belagavi), 2023

#### M. Tech. (Design Engineering)

KLE Society's Dr. M S Sheshgiri College of Engineering and Technology, Belagavi (VTU Belagavi), 2004

#### BE (Mechanical Engineering)

SJM Institute of Technology, Chitradurga (Kuvempu University), 2000

### Experience

#### Teaching

- 21 Years at GM University, Davanagere

#### Industry

- Nil

#### Research

- Natural Fiber Hybrid Composites
- Fracture Mechanics of Composites



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### Training Program Attended

- Application Software for Enhanced Course Delivery (ASECD) on AUTO CAD 3D TOOL, 3rd October to 5th October 2024, held at Department of Engineering Design, GM University, Davanagere.
- VTU sponsored STTP on “FINITE ELEMENT METHODS & ANALYSIS” organized by Department of Mechanical Engineering, JNNCE, Shimoga between 27th to 31st January 2009.
- AICTE/MHRD sponsored STTP on RELIABILITY ASPECTS IN MECHATRONIC SYSTEMS AND MEMS (RAMS & MEMS) jointly organized by Department of Mathematical and Computational Sciences & Department of Mechanical Engineering during 11-22, August 2008 at NITK, Surathkal.

### Research Interest

- Natural Fiber Hybrid Composites and Bio Composites
- Fracture Mechanics of Composites
- Finite Element Modelling and Analysis
- Structural, Impact and Crash Analysis

### Awards & Achievements

- Scholarly Accomplishment award on 27th June 2024 at Founder’s Day, GM University, Davanagere
- Recognized as Ph.D supervisor (Mechanical Engineering) from 2025 under VTU, Belagavi

### Publication / Patents

- Ph.D. Dissertation:  
Title: “Experimental Investigation on Fracture Behavior of Epoxy Based Natural Fiber Hybrid Composites”

Harsha H M, Satish K G, “Experimental analysis of fracture behavior in ESET jute-natural fiber hybrid composites under eccentric tension”, Strength, Fracture and Complexity, 2024; 18(1): 3-17. doi:10.1177/15672069241302928

Harsha HM, Satish KG. A study on fracture behavior of SEN natural hybrid composite specimen under tensile load. Strength, Fracture and Complexity. 2023;16(2):73-88. doi:10.3233/SFC-230005

Harsha H M, Dr. K G Satish, “Fracture Toughness Optimization of Single Edge Notched Jute Hybrid Uniaxial Tension Composites”, International Research Journal of Modernization in Engineering Technology & Science, Volume 4, Year 2022, Pages 1257-1263

Harsha H M, Dr. K G Satish, “A Statistical Analysis on Tensile behaviour of Single Edge Notched Jute Hybrid Composites”, International Journal of Advanced Research in Science, Communication and Technology, Volume 2, Year 2022, Pages 522-528  
<http://dx.doi.org/10.48175/IJARSCT-7316>



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Harsha, HM and Satish, KG, “The Influence of Dimensional parameters on Mechanical Behavior of Fiber Reinforced Polymer Matrix Composites: A Review”, *International Journal of Engineering Research & Technology*, Volume 8, Year 2019, Pages 825--828  
<http://dx.doi.org/10.17577/IJERTV8IS110318>

Harsha H M, Dr. K G Satish, "A Study on Uniaxial Tensile Strength of Single Edge Notched Jute Natural Hybrid Composites", *International Journal of Emerging Technologies and Innovative Research* ([www.jetir.org](http://www.jetir.org)), ISSN:2349-5162, Vol.6, Issue 1, page no.418-424, January-2019, <http://www.jetir.org/papers/JETIR1901G58.pdf>

Harsha H M, Dr. K G Satish, “Fracture Toughness Evaluation of Single Edge Notched Jute/Glass Hybrid Composites Subjected to Uniaxial Tension”, *IJRAR - International Journal of Research and Analytical Reviews (IJRAR)*, Volume 6, Year 2019, Pages 103-108, [http://ijrar.org/viewfull.php?&p\\_id=IJRAR19J5427](http://ijrar.org/viewfull.php?&p_id=IJRAR19J5427)

Harsha, HM and Satish, KG, "Experimental Investigation on Mechanical Behavior of Epoxy based Jute/Glass Fiber Reinforced Hybrid Composite", *International Journal of Emerging Technologies and Innovative Research* ([www.jetir.org](http://www.jetir.org)), ISSN:2349-5162, Vol.5, Issue 12, page no.162-169, December-2018, Available :<http://www.jetir.org/papers/JETIR1812625.pdf>

- International Conference Papers:

Manjunatha G.B., Bharath K.N., Harsha H.M., Sivaprakash P, “Mode-I fracture toughness evaluation of bio based short areca fibers reinforced polymer composites”, *IOP Conference Series: Materials Science and Engineering*, Volume 925, Year 2020, <https://doi.org/10.1088/1757-899X/925/1/012010>

- International Journal Papers:

Chate, G. R., Kulkarni, R. M., Gowdru Chandrashekarappa, M. P., Lakshmikanthan, A., Harsha, H., Tophakhane, S., ... Iranavar, P. (2022). Synthesis and Characterization of Fe<sub>2</sub>O<sub>3</sub> Nanoparticles Reinforced to Recycled Industrial Aluminium Scrap & Waste Aluminium Beverage Cans for Preparing Metal Matrix Nanocomposites. *Fracture and Structural Integrity*, 16(60), 229–242. <https://doi.org/10.3221/IGF-ESIS.60.16>

Patel G C, M., N B, P., L, G., H M, H., & Shettigar, A. K. (2020). Experimental analysis and optimization of plasma spray parameters on microhardness and wear loss of Mo-Ni-Cr coated super duplex stainless steel. *Australian Journal of Mechanical Engineering*, 20(5), 1426–1438. <https://doi.org/10.1080/14484846.2020.1808760>

N, V., Lakshmikanthan, A., Patel GC, M., Selvan, C. P., S Jain, V. K., Srinivasan, S. A., & hm, H. (2021). Mechanical, Microstructure and Wear properties of Al 6113 Fly Ash reinforced Composites: Comparison of as-cast and Heat-treated Conditions. *Advances in Materials and Processing Technologies*, 8(3), 2603–2618. <https://doi.org/10.1080/2374068X.2021.1927649>



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Hanumantharaya Rangaswamy, Harsha H. M, Manjunath Patel Gowdru Chandrashekarappa, Danil Yu Pimenov, Khaled Giasin, Szymon Wojciechowski, “Experimental investigation and optimization of compression moulding parameters for MWCNT/glass/kevlar/epoxy composites on mechanical and tribological properties”, Journal of Materials Research and Technology, Volume 15, 2021, Pages 327-341, ISSN 2238-7854, <https://doi.org/10.1016/j.jmrt.2021.08.037>.

Ganesh R. Chate, Manjunath Patel G.C., Harsha H.M., Shubham U. Urankar, Salim A. Sanadi, Akshay P. Jadhav, Shubham Hiremath, Anand S. Deshpande, “Sustainable machining: Modelling and optimization using Taguchi, MOORA and DEAR methods”, Materials Today: Proceedings, Volume 46, Part 18, 2021, Pages 8941-8947, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2021.05.365>.

G.B. Manjunath, K.N. Bharath, D.B. Ganesh, D.G. Raj Kumar, P. Shivprakash, H.M. Harsha, “ANOVA and Response Surface Methodology for the Optimization of Fracture Toughness parameters on Jute Fabric-Epoxy composites using SENB specimens”, Materials Today: Proceedings, Volume 4, Issue 10, 2017, Pages 11285-11291, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2017.09.052>.

Harsha, H. M, Muruges, M. C, & Bharath, K. N (2013). Influence of Filler Materials on Pinned Joints of Woven Glass Fiber Reinforced Epoxy Composites. Journal of Composites and Biodegradable Polymers, 1(1), 47–55. <https://doi.org/10.12974/2311-8717.2013.01.01.6>

- Patents:

Patent No. 202141031659, Engineering and Technology , Filed 14-07-2021, Published 16-08-2021, “A System and Method for An Artificial Intelligence Based Automatic Adjustable User Comport Seat for Two Wheelers”, Dr. Y Vijayakumar, Sivaprakash Palleda, Deepti Palleda, Harsha H M, Mallikarjuna M S, Patent No. 202141031659, Engineering and Technology , Filed 14-07-2021, Published 16-08-2021

Patent Application No. 202441100117, 2024, “Bioplastics”, Harsha H M, Praveen Kumar B, Santhosh Kumar C S, Pramod B V, Prashanth G B

### Professional Membership

- Indian Society for Technical Education. (Membership No. LM 43061) (Life Member)
- International Association of Engineers. (Membership No. 292454) (Life Member)

### Awards & Recognitions

- Scholarly Accomplishment award on 27<sup>th</sup> June 2024 at Founder’s Day, GM University, Davanagere
- Recognized as Ph.D supervisor (Mechanical Engineering) from 2025 under VTU, Belagavi

### Administrative Responsibilities

- Department Level



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Academic Coordinator, NAAC Criteria-6

- University Level
- BoE (2020-21) -IP/IM/MA ( Composite) Board, VTU Belagavi

### Workshops / FDPs / Seminars Attended

- Two-Day Product Design Workshop on 22nd and 23rd August 2025, organized by GM University, in association with the Idea Lab
- One day Workshop on 3D printing conducted at Department of Mechanical Engineering, GMIT, Davanagere on 24-09-2021.
- Five day FDP on “Information and Communication Technology (ICT) and outcome Based Education (OBE)” organized by RVCE, Bengaluru, under the Margadarshan – AICTE Scheme, conducted at GMIT during 21st – 25th January 2020.
- Three-day workshop on “Research Methodologies & Latex ” organised by VTU e-Learning Centre, Mysuru from 19th to 21st June 2019 at Don Bosco Institute of Technology, Bengaluru.
- Two day workshop on “Intellectual Property Rights (IPR)” organised by KSCST-GMIT IPR Cell in association with Patent Information Centre (PIC), Karnataka State council for science & Technology (KSCST), Bengaluru, held on 17th and 18th September 2018.
- Two day workshop on “Advanced Mathematical Techniques in Research and Engineering Applications” organized by Department of Mathematics and Indian Society for Technical Education, IQAC-GMIT, held on 29th and 30th January 2018, at GM Institute of Technology, Davanagere.
- Three day FDP on “Feel Teacher” Learning and Development Intervention organized by GM Institute of Technology, Davanagere and conducted by CLHRD, Mangalore, from 27 through 29 July 2015, at GM Institute of Technology, Davanagere.
- One day FDP on “Plagiarism Issues and Essential Tools for Research Write-ups” organized by the Department of Electronics & Communication, Jain Institute of Technology, Davanagere on 18th April 2015.
- TEQIP Sponsored Four-day workshop on “Numerical and Experimental based Stress Analysis” organized by the Department of Mechanical Engineering, National Institute of Technology Karnataka, Surathkal from 16th to 19th December 2013.
- Two day National Seminar and 12th ISTE State Level Annual Convention about “Role of Faculty in the Examination System” on 20th and 21st November 2009 at GM institute of Technology, Davanagere.
- One day Workshop on “Mechatronics & Microprocessors” sponsored by ISTE Local Chapter, Industry Institute Partnership Cell & Prod-Mech Forum held on 7th March 2009 at Bapuji Institute of Engineering & Technology, Davanagere.
- One day Workshop on “Micro Electro Mechanical System (MEMS) & Its applications” sponsored by ISTE Local Chapter, Industry Institute Partnership Cell & Prod-Mech Forum held on 8th November 2008 at Bapuji Institute of Engineering & Technology, Davanagere.
- One day Workshop on “Hydraulics & Pneumatics” held on 16th October 2007 at GM Institute of Technology, Davanagere.



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- Two days Workshop on “New trends in Materials & Manufacturing” sponsored by World Bank Aid TEQIP Project on 18th & 19th February 2006, held at University BDT College of Engineering, Davangere.

### Workshops / FDPs / Seminars Organized

- Seminar on “PPT Presentations with Microsoft PowerPoint: Tips and Tricks” organized at Department of Engineering Design, GM University on 21st November, 2024

### Projects Guided

- UG Projects
  - Junaid Khan M, Mohammed Rehan Malik, Noor Mohammed, Sadik M, “Agro-Crane: Smart Lifting Solutions for Small-Scale Farmers”, 2024
  - Rakesha P, Sachin C, Shashank P J, Vidyashree B V, “Development of portable, solar-powered water purification system”, 2024
  - Bhavana M N, Darshan K A, Harshavardhan T U, Vinay G S, “Characterization of eco-plastic from fish scale”, 2024
  - Patel Mohammed Faizan, Shivakumar A S, Shridhar R Malagi, Tousif Ahamed, “Automatic Fire Protection System”, 2023
  - Santhosh Kumar C S, Pramod B V, Prashanth G B, Praveen Kumar B, “Biodegradable Plastic”, 2023
  - Nikhil A U, Anil B R, Sharath P S, Poornachandra N Sappali, “Experimental and Numerical Analysis of Epoxy Based Fiber Reinforced Composite”, 2021
  - Kirankumar M, Sunil B T, Arun B S, Praveen Yallappa Talawar, “Automated Solar Grass Cutter”, 2021
  - Sagargouda P Patil, Shashank H M, Nagarjuna A S, Prashanth G R, “Performance Evaluation of Natural Fibre reinforced Epoxy Composites under Bending Load”, 2020
  - Dileep kumar N, Syed Shueab, Vivek R P, “Mechanical Characterization of Epoxy based Natural Fibre reinforced Composites”, 2020
  - Murugesh M R, Sachin N M, Anup I S, Darshan D S, “Experimental Investigation on Fracture Toughness of Silk And Glass Fiber Reinforced Composites”, 2019
  - Chethan V, Girish K J, Kumareppa Chavhana, Nissar Ahamadd S, “Experimental Investigation on Fracture of Glass/Jute Fiber Reinforced Hybrid Composite at High and Low temperature”, 2018
  - Kotresha G H, Chandrappa Padesur, Kiran P U, Guruprasad H M, “Experimental Investigation on Fracture of Glass/Jute Fiber Reinforced Hybrid Composite at room temperature”, 2017
  - Ravi K Baseganni, Sachin I Valamannavar, Vikram S Patil, Vinayak Y Ujjani, “Performance Evaluation on Mechanical Properties of Jute/Cotton Hybrid Composite”, 2016
  - Mayur M Kulkarni, Karthik K M, Karthik K M, Gurushanthaiah M S, Karthik K B, “Mechanical Characterization of Glass/Jute fiber – Epoxy Composite: Experimental Approach”, 2015
  - Mechanical Characterization of Glass and Jute reinforced Epoxy composites, 2014



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- Influence of Filler Materials on Pinned Joints of Woven Glass Fiber Reinforced Epoxy Composites, 2013
- Mallikarjuna M. G, Poornachandra Tejasvi K. S, Praveen Kumar R. G, Rajesh S. V, “Finite element study of hollow tube under impact load”, 2006
- PG Projects
  - Vinayaka K S, “Experimental Investigation on Fracture of Glass/Jute Fiber Reinforced Hybrid Composite at room temperature”, 2017

#### **Funded Projects / Grants Received**

- GMU SEED MONEY, “Development And Evaluation of HVOF Sprayed Ceramic Coating on Wear properties of Medium Carbon Steel for High Temperature Applications”, Dileepkumar S G, Bharath K N, Harsha H M
- K-Tech NAIN, “Development and Characterization of Bio Plastic from Fish Scales”, Harsha H M, Harshavardhan T U, Darshan D Palankar, Mohammed Suhail Shaik, Darshan K A, Bhavana M N, Varsha A Raichur, Vinay G S, Chethan B R
- KSCST sponsored UG project, “Construction of an Automated Packaging Machine”, 2008, KARTHIK P, KEERTI NARAYAN N. S, DEEPAK U. S.
- KSCST sponsored UG project, “Zero Emission Vehicle”, 2007, Harsha H M, Mallikarjun U Belagavi, Ramakrishna J, Santosh Kumar L, Shashi Kumar D C

#### **Any Other Contributions**

- Coordinating offline software training program on PTC Creo Parametric under LEAP, GM University.