



Dr. Hemanth R

ASSOCIATE PROFESSOR

CONTACT

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ORCID ID: 0000-0003-
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Professional Experiences: 24

Teaching: 18+ years

Industry: 06+ years

Research: Carried out research as a Part time scholar (June 2012 – Dec 2015)

Courses Taught:

Industrial Internet of Things, Additive manufacturing and Tool engineering courses for PG Program, Tribology and bearing design, Fluid Power Engineering/Fluid Power System, Computer aided design and manufacturing, additive manufacturing, Industrial safety, Computer aided machine drawing, Tool Engineering and Automobile Engineering for UG Program.

ABOUT ME

Has experience in tooling industries in the area of tool design, analysis and manufacturing. Actively participating as member in Industry Institute Interaction Panel (IIIP) of Confederation of Indian Industries (CII), Mysore. Has experience in designing curriculum for tailor made training courses. Has involved in training program for corporates as trainer. Has organized various workshops and hands on sessions in the area of Tool Engineering and Mechanical engineering.

RESEARCH INTERESTS:

Development of novel polymer composites and their characterization in the field of Mechanical, Thermal and Tribology. Presently, working on hybrid thermoplastic composites reinforced with micro/nano fillers for structural and bearing applications.

EDUCATION

- Ph. D – Design and Characterization of Polymer Composites
University – Karunya University, Coimbatore
Year of Graduation: 2015
- M.E/M.Tech. – Tool Engineering
Institute/University – VTU, Belagavi
Year of Graduation: 2010
- B.E., - Mechanical Engineering
Institute/University – VTU, Belagavi
Year of Graduation: 2007
- Diploma – Tool and Die Making
Institute – Government Tool Room & Training Center, Mysore
Year of Graduation: 1998

PUBLICATIONS

Book Chapters

- “What are microfibrillar and nanofibrillar composites? Basic concept, characterization and application”, In Micro and Nano Fibrillar Composites (MFCs and NFCs) from Polymer Blends, published by WOODHEAD Publications (imprint of ELSEVIER), UK, 2017, 57-72, (Citations – 04, as on 11th Oct 23).
- “Fabrication and Tribological behavior of Epoxy hybrid composites”, In Synthesis and Tribological Applications of Hybrid Materials, published by WILEY Publications, 2018, 163-196, (Citations – 02, as on 11th Oct 23).
- “Automotive Applications: Reinforced Material Components” in Encyclopedia of Polymer Applications, First Edition, <https://doi.org/10.1201/9781351019422-140000314> published by Taylor & Francis, 2018.
- “Characterization of mechanical and Tribological Properties of Vinyl ester- Based Hybrid Green Composites” In Hybrid Fiber Composites. Materials, Manufacturing, Process Engineering, Khan et al. (Eds.): WILEY Publications, ISBN: 978-3-527-34672-1, September 2020, 217-248.
- “Synergism of fillers on adhesive and abrasive wear of thermoplastic copolyester elastomer composites” In Tribology of Polymer Composites: Characterization, Properties and Applications, Sanjay et al. (Eds.): ELSEVIER Publications, pp. 321-354, ISBN: 978-0-12-819767-7, September 2020.
- “Thermal properties of the pineapple leaf fiber based hybrid composites” In Natural Fibre-Reinforced Hybrid Polymer Composites: Thermal Properties and Applications, K. Senthilkumar et al. (Eds.), WILEY Publications, Germany, <https://doi.org/10.1002/9783527831562.ch7> , published on 10th Dec 2021. (Citations – 01, as on 11th Oct 23)

Journal Publications (International)

1. “Role of graphene nanoplatelets and carbon fiber on mechanical properties of PA66 / thermoplastic copolyester elastomer composites”, Materials Research Express 07 (01), 1-16, 2020 <https://doi.org/10.1088/2053-1591/ab648d>, Suresha B, Hemanth G, Hemanth R and Lalla N P (Citations – 13, as on 11th Oct 23)
2. “Role of nano-fillers on tribological behaviour of ultra high molecular weight polyethylene composites”, Materials Today: Proceedings 27 (2020), pp. 2169-2173, <https://doi.org/10.1016/j.matpr.2019.09.089> B Suresha, B Harshavardhan, Ashwaj M Rao, U R Koushik, R Hemanth (Citations – 03, as on 11th Oct 23)
3. “Mechanical performance of HDPE/UHMWPE hybrid composites and tribological characterization using Taguchi method”, Materials Today Proceedings 24 (2020), pp. 1452-1461. B Suresha, Sriraksha, R Hemanth (Citations – 02, as on 11th Oct 23)
4. “The effect of hexagonal boron nitride on wear resistance under two and three-body abrasion modes of polyetherketone composites”, Surface Topography: Metrology and Properties, Vol. 07 (04), 2019, pp. 1-14, <https://doi.org/10.1088/2051-672X/ab500b>, G Hemanth, B Suresha and R Hemanth (Citations – 18, as on 11th Oct 23)
5. “Dry sliding wear performance of thermoplastic copolyester elastomer composites”, Applied Mechanics and Materials, Vol. 895, 2019, pp. 38-44, Hemanth R, Suresha B and Sekar M
6. “Effect of nanofillers on abrasion resistance of carbon fiber reinforced phenolic friction composites”, Materials Sciences and Applications, 2019, 10, 65-77, Bharath Basavaraj Pattanashetty, Suresha Bheemappa, Hemanth Rajashekaraiiah, Somashekar Hirehally Mahadevappa. (Citations – 02, as on 11th Oct 23)

7. "Role of fibers and filler on thermal behaviour of thermoplastic copolyester elastomer composites", AIP Conference Proceedings 2128, 020018 (2019). <https://doi.org/10.1063/105117930> R Hemanth, B Suresha and M Sekar.
8. "Optimization of wear behaviour of boron nitride filled polyaryletherketone composites by Taguchi approach", Materials Research Express, Vol. 06 (08), May 2019, <https://doi.org/10.1088/2053-1591/ab23e5> B Suresha, Roshan S Shenoy, Raviprasad Bhat, P K Sohan and R Hemanth. (Citations – 10, as on 11th Oct 23)
9. "Solid particle erosion behavior of short glass fiber and particulate reinforced polyoxymethylene/polytetrafluoroethylene composites", International Journal of Mechanical and Production Engineering Research and Development (IJMPERD) ISSN (p): 2249-6890; ISSN (e): 2249-8001 Vol. 8, Special Issue 8, Aug 2018, pp. 380-388. Krishna, B. Suresha, Hemanth R & Kamaraj.
10. "Mechanical and Tribological Behavior of Vinyl ester hybrid Composites", Tribology in Industry, Vol. 40, No. 02 (2018), pp. 283-299. P.A. Udaya Kumar, Ramalingaiah, B. Suresha, R. Hemanth (Citations – 13, as on 11th Oct 23)
11. "Effect of filler-filler interactions on mechanical properties of phenol formaldehyde based hybrid composites", International Journal of Engineering and Technologies, 2017, 13, pp. 24-38, P.B. Bharath, B. Suresha, R. Hemanth (Citations – 03, as on 11th Oct 23)
12. "Friction and wear performance of cenospheres filled carbon epoxy composites under dry and water lubricated conditions: A comparative study", Journal of Manufacturing Technology Research, 2017, 09 (3-4), pp. 107-120, B Suresha, S M Vinukumar, Hemanth R.
13. "Effect of short glass fiber and fillers on friction and wear performance of multi-phased thermoplastic copolyester elastomer composites", *International Journal of Nanotechnology*, 2017, 14(9/10/11), pp. 893-906. Hemanth R, Suresha B, Sekar M (Citations – 01, as on 11th Oct 23)
14. "Optimization of testing parameters on two-body abrasive wear behaviour of nano-oMMT filled carbon-epoxy composites based on the Taguchi method" *International Journal of Nanotechnology*, 2017, 14(9/10/11), pp. 915-929. Suresha B, R M Devarajaiah, Manpinder Singh, Hemanth R (Citations – 01, as on 11th Oct 23)
15. "Abrasive wear behaviour of thermoplastic copolyester elastomer composites: A statistical approach", *International Journal of Precision Engineering and Manufacturing*, 2016, 16(06), pp. 755-763. Hemanth R, Suresha B, Yang S-H and Sekar M (Citations – 14, as on 11th Oct 23)
16. "Abrasive wear behavior of thermoplastic copolyester elastomer composites", *Emerging Materials Research*, 2015, 04 (EMR1), 1-11. Rajashekaraiiah Hemanth, Mohan Sekar, Bheemappa Suresha (Citations – 03, as on 11th Oct 23)
17. "Physico-Mechanical behaviour of thermoplastic co-polyester elastomer / polytetrafluoroethylene composite with short fibers and microfillers", *Journal of Composite Materials*, 2015, 49(18), 2217-2229. R Hemanth, B Suresha and M Sekar (Citations – 24, as on 11th Oct 23)
18. "Dynamic mechanical analysis and three-body abrasive wear behaviour of thermoplastic copolyester elastomer composites", *Advances in Tribology*, 2014, 1-14. Hemanth Rajashekaraiiah, Sekar Mohan, Pramoda Kumari Pallathadka and Suresha Bhimappa (Citations – 33, as on 11th Oct 23)
19. "Effect of short glass fiber and fillers on dry sliding wear behaviour of thermoplastic copolyester elastomer composites", *International Journal of Mechanical Engineering and Technology*, 2014, 05(09), 71-80. R. Hemanth, Prakash Sam Thomas, B. Suresha, M. Sekar (Citations – 03, as on 11th Oct 23)

20. "Conceptual design of transfer mould tool for rubber bumper spring", *International Journal of Research in Engineering and Technology*, 2014, 03(11), 51-54. Akash N, Hemanth R
21. "Design of ejection system in transfer mould tool and justifying material selection of rubber bumper spring component", *International Journal of Emerging Trends in Science and Technology*, 2015, 02(07), 2765-2770. Akash N, Hemanth R.
22. "Conceptual design of injection mold tool for the chair hand rest component", *International Journal of Research in Engineering and Technology*, 2014, 03(03), 791-794. Sampath A, Hemanth R.
23. "Conceptual design of injection mould tool for inlet chamber of an air inflator", *International Journal of Research in Engineering and Technology*, 2014, 03(03), 694-698. Ashwagosh R S, Hemanth R. (Citations – 02, as on 11th Oct 23)

Journal Publications (National)

24. "Effect of fillers on Erosive wear behaviour of polyoxymethylene / polytetrafluoroethylene blend and their composites: A statistical approach", *Indian Journal of Advances in Chemical Science*, S1, 2016, pp. 45-51. Krishna, B. Suresha, S.S. Kallesh and R. Hemanth. (Citations – 04, as on 11th Oct 23)
25. "Effects of Fibers and Fillers on Mechanical properties of Thermoplastic Composites", *Indian Journal of Advances in Chemical Science*, 2014, 02, 28-35. R Hemanth, M Sekar, B Suresha (GIF – 0.453, Citations – 80, as on 11th Oct 23)

Conference Publications (International)

1. "A comparative study of Single Point and Progressive cutting tool, during turning operations", *International Conference on Advanced Manufacturing, Materials, Management and Thermal science (AMMMT)* 2010, SIT, Tumkur, Karnataka, November 2010, Hemanth R, Srinivas Bhat, Ramesha N
2. "Effect of micro-filler additions on the flexure and impact properties of short glass fiber reinforced Thermoplastic Copolyester Elastomer / Polytetrafluoroethylene blend composites", *International Conference on Advanced Manufacturing, Materials, Management and Thermal science (AMMMT)* 2013, SIT, Tumkur, Karnataka, May 2013. Hemanth R, Sekar M, Suresha B and Pavitra Ajagol
3. "Characterization of Thermoplastic Co-polyester elastomer / polytetrafluoroethylene blend and their composites", *International Conference on Advanced Polymeric Materials (ICAPM)* 2013, Mahatma Gandhi University, Kottayam, Kerala. October 2013. Hemanth R, Suresha B and Sekar M
4. "Role of short fibers and micron sized ceramic fillers on three-body abrasive wear behavior of thermoplastic copolyester elastomer / polytetrafluoroethylene blend composites", *International Conference on Advances in Tribology (ICAT)* 2014, NIT, Calicut, Kerala, February 2014. Hemanth R, Suresha B, Sekar M and Pavitra Ajagol
5. "Effect of short glass fiber and fillers on dry sliding wear behaviour of thermoplastic copolyester elastomer composites", *International conference on current trends on Engineering and management (ICCTEM)* 2014, Vidhyavardhaka college of Engineering, Mysore, Karnataka, July 2014. R Hemanth, Prakash Sam Thomas, B Suresha, M Sekar
6. "Abrasive wear behaviour of thermoplastic copolyester elastomer composites", *International conference on Advances in Materials and Materials Processing (AMMP)* 2015, Karunya University, Coimbatore, TamilNadu, January 2015. Hemanth R, Suresha B, Sekar M

7. "Role of fillers on mechanical properties of selected thermoplastic composites", *International conference on Advancements in Polymeric Materials (APM)* 2015, IISc, Bengaluru, Karnataka, February 2015. Hemanth R, Sekar M and Suresha B.
8. "Effect of short glass fiber and fillers on friction and wear performance of multi-phased thermoplastic copolyester elastomer composites", *Indo-Canadian symposium on Nano-Science and Technology (ICSNST)* 2016, NIE, Mysore, Karnataka, February 2016. Hemanth R, Suresha B and Sekar M
9. "Optimization of testing parameters on two-body abrasive wear behaviour of nano-oMMT filled carbon-epoxy composites based on the Taguchi method", *Indo-Canadian symposium on Nano-Science and Technology (ICSNST)* 2016, NIE, Mysore, Karnataka, February 2016. Suresha B, Devarajaiah R M, Manpinder Singh and Hemanth R
10. "Effect of fillers on Erosive wear behaviour of polyoxymethylene / polytetrafluoroethylene blend and their composites: A statistical approach", *International Conference on Advanced Materials and Technology (ICMAT)* 2016, SJCE, Mysore, Karnataka, May 2016. Krishna, B. Suresha, S.S. Kalleth and R. Hemanth.
11. "Friction and wear behaviour of polymer nanofiber interleaved composite laminates", *International Symposium on Advanced Materials for Engineering Applications (ISAMEA)* 2017, NIE Mysore, Karnataka, March 2017. B. Suresha, Kunigal Shivakumar and R. Hemanth.
12. "Tribological performance of Polyphenylene sulfide composite", *International Symposium on Advanced Materials for Engineering Applications (ISAMEA)* 2017, NIE Mysore, Karnataka, March 2017. Avin Ganapathi, R. Hemanth, B. Suresha and Rupesh Roshan.
13. "Role of silicon carbide nanoparticles on dry sliding wear behaviour of epoxy composites", *International Symposium on Advanced Materials for Engineering Applications (ISAMEA)* 2017, NIE Mysore, Karnataka, March 2017. Deepa Rani, Sriraksha, R. Hemanth and B. Suresha.
14. "Effect of short carbon fibers on the friction and wear behavior of polyphenylene sulfide composites", *Indo-Brazil bilateral second International Conference on Advanced Materials & Processing*, Jointly by Kalasalingam University, India and Universidade de Brasília, Brazil. 27-28th March 2017, International Research Centre, KLU. Avin Ganapathi, Hemanth R, Suresha B, Rupesh Roshan.
15. "Study of the effects of polymer nanofiber on wear behavior of fiber reinforced epoxy nanocomposites in abrasion and fretting wear modes", *26th International Conference on the Processing and Fabrication of the Advanced Materials (PFAM-XXVI)* 2017, Chonbuk National University, Jeonju, Republic of KOREA, 16th -21st October 2017. Suresha B, Shivakumar K, Hemanth R
16. "Solid particle erosion behavior of short glass fiber and particulate reinforced polyoxymethylene / polytetrafluoroethylene composites", *International Conference on Automobile, Marine and Mechanical Engineering (ICAMME)* 2018, Sri Venkateswara College of Engineering, Sriperumbudur, Kancheepuram, Tamilnadu, India, 4th & 5th, May 2018, Krishna, B. Suresha, Hemanth R, Kamaraj M.
17. "Mechanical performance of HDPE/UHMWPE hybrid composites and tribological characterization using Taguchi method", *International Conference on Advances in Materials and Manufacturing Applications (IConAMMA)* 2018, Amrita Vishwa Vidyapeetham Deemed University, Bangalore, India, 16th – 18th August 2018, Suresha B, Hemanth R
18. "A review on substitution of automotive parts from metal to polymer composites", *International Conference on Innovations in Engineering*

- Technology and Sciences (ICIETS)* 2018, NIE Institute of Technology, Mysore, India, 20th – 21st September 2018, Chetan R, Hemanth R, Mallur S B.
19. “A review on rolling contact fatigue and shielding of locomotive wheels”, *International Conference on Innovations in Engineering Technology and Sciences (ICIETS)* 2018, NIE Institute of Technology, Mysore, India, 20th – 21st September 2018, Pavitra J, Jayaraju T, Hemanth R.
 20. “Optimization of tribological parameters in dry sliding wear mode of thermoplastic copolyester elastomer composites”, *International Conference on Green Trends in Mechanical Engineering Sciences (GTMES)* 2018, Malnad College of Engineering, Hassan, India, 3rd – 5th October 2018, Hemanth R, Suresha B, Sekar M
 21. “Optimization of wear behaviour of Boron Nitride filled Polyaryletherketone composites by Taguchi approach”, *International Conference on Polymer Composites (ICPC)* 2018, National Institute of Technology, Surathkal, Mangalore, India, 13th – 15th December 2018, B Suresha, Roshan S Shenoy, Raviprasad Bhat, P K Sohan, R Hemanth
 22. “Role of fiber and fillers on thermal behaviour of thermoplastic copolyester elastomer composites”, *International Conference on Materials, Manufacturing and Machining (ICMMM)* 2019, Bannari Amman Institute of Technology, Sathyamangalam, Tamil Nadu, India, 8th – 9th March 2019, Hemanth R, Suresha B, Sekar M
 23. “Role of Nano-fillers on tribological behaviour of ultra high molecular weight polyethylene composites”, *International Conference on Materials and Manufacturing Methods (IC3M)* 2019, National Institute of Technology, Trichy, Kerala, India, 5th – 7th July 2019, B Suresha, Harshavardhan B, Ashwij M Rao, Koushik U R, Hemanth R
 24. “Role of fibers and fillers on density and wettability of thermoplastic copolyester elastomer composites”, *International Conference on Advanced Materials and Technology (ICMAT)* 2020, JSSS & TU, SJCE, Mysuru, India, 16th – 18th Jan 2020, Hemanth R, B Suresha, Sekar M

Conference Publications (National)

25. “Influence of fillers on mechanical, morphological and thermal properties of glass fiber reinforced thermoplastic copolyester elastomer hybrid composites”, *National conference on Advances in Polymeric Materials (NCAPM)* 2014, SJCE, Mysore, Karnataka, April 2014. Hemanth R, Suresha B, Sekar M
26. “Role of fiber, micro and nano-fillers on physico-mechanical behaviour of thermoplastic copolyester elastomer composites”, *National conference on Nano Structured Materials (NCNSM)* 2014, NSS Hindu College Changancherry, Kottayam, Kerala, August 2014. Hemanth R, Suresha B, Sekar M
27. “Design of gate location in transfer mould tool for rubber bumper spring”, *National conference on Advances in Mechanical Engineering (NCAME)* 2014, AMC Engineering College, Bangalore, May 2014. Akash N and Hemanth R
28. “Conceptual design of transfer mould tool for rubber bumper spring”, *National conference on Advancements in Mechanical, Environment, Safety and Health Engineering (NCAMESHE)* 2014, Knowledge Institute of Technology, Salem, Tamil Nadu, May 2014. Akash N and Hemanth R
29. “Processing and study of mechanical, thermal and tribological behaviour of particulate filled polymer composites”, *National conference on Research Advances in Science and Technology (NCRASST)* 2017, CSI College of Engineering, Ooty, Tamil Nadu, 26th and 27th May 2017. Hemanth R, Suresha B and Sekar M.

30. “Design and development of the multipurpose agricultural mobile bot”, *National Conference on Mechanical and Automobile Engineering (NCMAE) 2023*, 29th July 2023, Bangalore, India. Punith B O and Hemanth R

FDP/STTP/ WORKSHOPS/CONFERENCES/SEMINARS ATTENDED:

Sl. No.	Title of the Program	Venue
01.	“E-Mobility and Innovations in Sheet Metal Forming” under Continuing Education and Quality Improvement Program	IIT Bombay, 03 rd to 07 th October 2017
02.	“Instructional Design and Delivery System” under Quality Improvement Program conducted by NITTTR, Chennai	NIEIT, Mysuru, from 01 st to 06 th January 2018
03.	Five day workshop on “Engineering Graphics and Design-Teaching Methodology and Evaluation Procedure”, TEQIP – III, NPIU	8 th – 12 th July 2019, Dept. of Mechanical Engineering, Sri Jayachamarajendra College of Engineering, Mysuru – 570 006
04.	AICTE online FDP through NPTEL on “Fundamentals of Manufacturing Process”	July – October 2019.
05.	VTU TEQIP sponsored Five day workshop on “OBE and NBA Accreditation”	organized by Vidhyavardhaka College of Engineering, Mysuru from 16 th – 20 th Dec 2019
06.	AICTE online FDP through NPTEL on “Composites”	September – December 2020.
07.	Completed “Online Orientation Training Programme for Mentors” organized by AICTE in collaboration with NITTTR.	From 14 th to 18 th June 2021 under National Initiative for Technical Teachers Training
08.	AICTE online FDP through NPTEL on “Ergonomics workplace analysis”	July – Dec 2022.
09.	Training program on Build Your Own Robot (BYOR) by HoloWorld sponsored by NIE	02 nd Nov 2022 to 07 th Nov 2022 in HoloWorld training center, Mysuru.
10.	AICTE online FDP through NPTEL on “Introduction to Internet of Things”	Jan – June 2023.

OTHER INFORMATION:

(Patents Filed/ Membership/Administration/Consultancy/Evaluator/Research Guidance and funding/Awards/Key Roles/Invited Talks Delivered, etc)

Professional Society Membership – Indian Plastics Institute, (IPI) Mumbai, India.

Institute of Engineers, India, (IEI) Mysore Chapter

Research Guidance – 01 candidate in VTU.

Awards – DST INSPIRE Fellowship.

Administration – Program Coordinator for PG in Industrial Automation and Robotics