

Name of Faculty	Dr. MACHA MADHU	
Designation	Assistant Professor	
Nature of Job/Appointment	Regular	
Date of Joining	20 - 09 - 2021	
E-mail	madhum_maths@cbit.ac.in	
Education Qualifications	Name of the Degree	Class
Postdoc	Post-Doctoral Fellow (2017-20)	
Ph. D	Doctor of Philosophy	Awarded
PG	M.Sc. (Mathematics)	First Class with Distinction
UG	B.Sc (MPCs)	First Class with Distinction
Work Experience		
Teaching	5 Years	
Research	8 Years	
Industry	--	
Others	1 Year	
Area of Specialization	Computational Fluid Dynamics	
Professional Memberships		
Responsibilities held at Institution Level		
Responsibilities held at Department Level	<ol style="list-style-type: none"> <li>1. Department Research Coordinator (R&amp;D).</li> <li>2. Departmental Research Committee Member.</li> </ol>	
Research Guidance		
Awards Received	<ol style="list-style-type: none"> <li>1. UGC Dr. D. S. Kothari Postdoctoral Fellowship (2017-2020)</li> <li>2. CSIR-UGC Junior Research Fellowship (JRF), Mathematical Sciences, June 2011.</li> <li>3. CSIR-UGC Junior Research Fellowship (JRF), Mathematical Sciences, December 2010.</li> <li>4. Secured All India Rank 189 in GATE-2011.</li> </ol>	
Courses Handled at Under Graduate / Post Graduate Level.	Calculus, LA&C, VCDE, DENM and Applied Mathematics.	
No. of Papers Published	National Journals – 00	International Journals – 36
	National Conference –00	International Conference – 02
Projects Carried out		
Patents		
Technology Transfer		
Invited Speaker		
No. of Books / Chapter Published with details		
Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops/Other Trainings (Attended and/or Organized).	WS/ Seminars/ Conferences/ STTPS/ FDPs Attended	
	<ol style="list-style-type: none"> <li>1. Numerical &amp; Engineering Computation, Optimization for Physicists, Scientists &amp; Engineers using open-source- SCILAB 21<sup>st</sup> Feb- 05<sup>th</sup> March, 2022</li> <li>2. “A Five-Day Online FDP on Discrete Mathematics” organized by the Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Vellore, from 13 – 17, June, 2023.</li> <li>3. Global Initiative of Academic Networks (GIAN) course on “Introduction to Mathematical Theory of Complex Fluids” during</li> </ol>	

Details of Journal Publications/  
Conferences (National and  
International)  
International Journals from the year 2017

1. Surender Ontela, N. S. Shashikumar & **M Madhu** (2025). Thermal Analysis of MHD Tangent Hyperbolic Fluid Flow Through Microchannel. International Journal of Applied and Computational Mathematics, 11(2), 3.(SCOPUS)(Q3).
2. **M Madhu**, N.S. Shashikumar, K. Thriveni, B.J. Gireesha & B. Mahanthesh (2022) Irreversibility analysis of the MHD Williamson fluid flow through a microchannel with thermal radiation, Waves in Random and Complex Media, DOI: 10.1080/17455030.2022.2111473 (SCI) (Q2).
3. N. S. Shashikumar, S Sindhu, **M Madhu**, and B.J Gireesha (2022). Second law analysis of MHD Carreau fluid flow through a microchannel with thermal radiation. Waves in Random and Complex Media, 1-25 (SCI) (Q2).
4. **M Madhu**, N. S. Shashikumar, B. J., Gireesha and N Kishan (2022). Entropy Generation Analysis of MHD Micropolar Nanofluid Flow through a Micro Channel. Discontinuity, Nonlinearity, and Complexity, 11(04), 569-582 (SCOPUS) (Q4).
5. V Meenakshi, N Kishan, **M Madhu** (2022). Impact of Thermal Radiation on MHD Squeezing Flow of a Casson Fluid between Collateral Plates. Discontinuity, Nonlinearity, and Complexity, 11(02), 363-372 (SCOPUS) (Q4).
6. **M Madhu**, and B. Prabhakar (2021). Darcy-Forchheimer Flow of MHD Powell-Eyring Nanoliquid over a Nonlinear Radially Stretching Disk with the Impact of Activation Energy. Discontinuity, Nonlinearity, and Complexity, 10(04), 743-753 (SCOPUS) (Q4).
7. **M Madhu**, NS Shashi Kumar, BJ Gireesha, N Kishan (2021). "Second law analysis of MHD third-grade fluid flow through the microchannel", *Pramana*, Vol: 95(1), pp. 1-10. (SCIE) (Q2).
8. NS Shashikumar, K Thriveni, **M Madhu**, B Mahanthesh, BJ Gireesha and N Kishan (2021). "Entropy generation analysis of radiative Williamson fluid flow in an inclined microchannel with multiple slip and convective heating boundary effects", *Journal of Process Mechanical Engineering*, DOI: 10.1177/09544089211049863 (SCI) (Q2).
9. NS Shashikumar, **M Madhu**, S Sindhu, BJ Gireesha and N Kishan (2021). "Thermal analysis of MHD Williamson fluid flow through a microchannel", *International Communications in Heat and Mass Transfer*, Vol: 127, DOI: 10.1016/j.icheatmasstransfer.2021.105582 (SCIE) (Q1).
10. **M Madhu**, B Prabhakar (2021). "Darcy-Forchheimer Flow of MHD Powell-Eyring Nanoliquid over a Nonlinear Radially Stretching Disk with the Impact of Activation Energy", *Discontinuity, Nonlinearity, and Complexity*, Vol: 10(4), pp.743-753. (SCOPUS) (Q4).
11. **M Madhu**, NS Shashikumar, BJ Gireesha, N Kishan (2021). "Second Law Analysis of MHD Micropolar Fluid Flow through a Porous Microchannel with Multiple Slip and Convective Boundary Conditions", *Defect and Diffusion Forum*, Vol:409, pp.123-141 (SCOPUS) (Q4).
12. **M Madhu**, NS Shashikumar, BJ Gireesha, N Kishan (2021). "Thermal analysis of MHD Powell-Eyring fluid flow through a vertical microchannel", *International Journal of Ambient Energy*, DOI:10.1080/01430750.2021.1910566 (SCOPUS) (Q2).

13. V Meenakshi, N Kishan, **M Madhu** (2021). "MHD and Thermal Radiation Effects on Channel Flow of Nanofluid with Nanoparticles in Different Shapes", *Journal of Applied Nonlinear Dynamics*, Vol: 10(2), pp.329-338 (SCOPUS) (Q4).

14. **M Madhu**, B Mahanthesh, NS Shashikumar, SA Shehzad, SU Khan, BJ Gireesha (2020). "Performance of second law in Carreau fluid flow by an inclined microchannel with radiative heated convective condition". *International Communications in Heat and Mass Transfer*, Vol: 117, 104761 (SCIE) (Q1).

15. Surender Ontela, **M Madhu** (2020). "Non-Darcian Effects on Nanoliquid Flow Past a Stretching Sheet with Temperature Jump Condition and Thermal Radiation", *Journal of Applied Nonlinear Dynamics*, Vol: 9(4), pp: 643-654 (SCOPUS) (Q4).

16. NS Shashikumar, **M Madhu**, BJ Gireesha and N Kishan (2020). "Finite element analysis of micropolar nanofluid flow through an inclined microchannel with thermal radiation". *Multidiscipline Modeling in Materials and Structure*, Vol: 166, pp: 521-1538 (SCOPUS) (Q2).

17. SA Shehzad, **M Madhu**, NS Shashikumar, BJ Gireesha and B Mahanthesh (2020). "Thermal and entropy generation of non-Newtonian magneto-Carreau fluid flow in microchannel". *Journal of Thermal Analysis and Calorimetry*, Vol: 143, pp. 2717-2727 (SCIE) (Q2).

18. G Sowmya, BJ Gireesha, and **M. Madhu**, (2020). "Analysis of a fully wetted moving fin with temperature-dependent internal heat generation using the finite element method". *Heat Transfer*, Vol: 49(4), pp. 1939-1954 (SCOPUS) (Q2).

19. **M Madhu**, NS Shashikumar, BJ Gireesha and N Kishan (2019). "Second law analysis of Powell-Eyring fluid flow through an inclined microchannel with thermal radiation". *Physica Scripta*, Vol: 94(12), 125205 (SCIE) (Q2).

20. **M Madhu**, NS Shashikumar, B Mahanthesh, BJ Gireesha and N Kishan (2019). "Heat transfer and entropy generation analysis of non-Newtonian flu flow through vertical microchannel with convective boundary condition". *Applied Mathematics and Mechanics*, Vol: 40(9), pp. 1285-1300 (SCIE) (Q2).

21. BJ Gireesha, G Sowmya and **M Madhu** (2019). "Temperature distribution analysis in a fully wet moving radial porous fin by finite element method", *International Journal of Numerical Methods for Heat & Fluid Flow*, Vol. 32(2), pp. 453-468 (SCIE) (Q1).

22. BJ Gireesha, CT Srinivasa, NS Shashikumar, **M Madhu**, JK Singh and B Mahanthesh (2019). "Entropy generation and heat transport analysis of Casson fluid flow with viscous and Joule heating in an inclined porous microchannel". *Journal of Process Mechanical Engineering*, Vol: 233(5), pp. 1173-1184 (SCI) (Q2).

23. SA Shehzad, B Mahanthesh, BJ Gireesha, NS Shashikumar and **M Madhu** (2019). "Brinkman-Forchheimer slip flow subject to exponential space and thermal-dependent heat source in a microchannel utilizing SWCNT and MWCNT nanoliquids". *Heat Transfer—Asian Research*, Vol: 48(5), pp. 1688-1708 (SCOPUS) (Q2).

24. C. S. Reddy, N Kishan and **M Madhu** (2018). "Finite element analysis of Eyring-Powell nano fluid over an exponential stretching sheet". *International Journal of Applied and Computational Mathematics*, Vol:4(1), pp. 1-13 (SCOPUS) (Q3).

25. **M Madhu**, N Kishan and A.J. Chamkha (2017). "Unsteady flow of a Maxwell nanofluid over a stretching surface in the presence of magnetohydrodynamic and thermal radiation effects". *Propulsion and Power research*, Vol: 6(1), pp. 31-40 (SCOPUS) (Q1).