

Areas of Research Interest:					
1.	Convective instability problems				
2.	Non-linear stability problems				
3.	Heat and mass transfer problems				
4.	Computational Fluid Dynamics				
5.	Magnetohydrodynamics				
Academic/Administrative responsibilities:					
1.	17.10.2019 to till date: Course-Coordinator at Department of Mathematics, Davangere University, PG-Center, Jnanagangotri, Chitradurga.				
2.	26.02.2021 to till date: IQAC Assistant Coordinator, Department of Mathematics, Davangere University, Davangere-577 002				
Research Projects:					
Sl. No.	Title of the Project	Funding Agency	Project Budget	Period	Status
1.	Investigations of stability of mixed multicomponent convection-diffusion in a porous medium	Davangere University	20,000/-	March-2021 to August-2021 (6 months)	On-going
Research Publications:					
a) International Journals					
1.	S. Kumbinarasaiah, K. R. Raghunatha , Study of special types of boundary layer natural convection flow problems through the clique polynomial method. Heat Transfer, 2021. (SCI Journal)				
2.	S. Kumbinarasaiah, K. R. Raghunatha , M. Rezazadeh, I. Mustafa, A solution of coupled nonlinear differential equations arising in a rotating micropolar nanofluid flow system by Hermite wavelet technique." Engineering with Computers, 1-22 (2021). (SCI Journal) (IF: 7.963)				
3.	K. R. Raghunatha , I. S. Shivakumara, Triple diffusive convection in a viscoelastic Oldroyd-B fluid layer. Physics of Fluids , 33(6), 063108-1-20 (2021) (SCI Journal) (IF: 3.521)				
4.	I. S. Shivakumara, K. R. Raghunatha , M. N. Savitha, M. Dhananjaya, Implication of cross-diffusion on the stability of double diffusive convection in an imposed magnetic field. Zeitschrift fuer Angewandte Mathematik und Physik (ZAMP), 72(3) 1-25 (2021) (SCI Journal) (IF: 1.934)				

5.	S. Kumbinarasaiah, K. R. Raghunatha , Laguerre wavelet numerical solution of micropolar fluid flow in a porous channel with high mass transfer. Journal of Interdisciplinary Mathematics, 1-14, (2021) (SCI Journal) (IF: 0.64)
6.	S. Kumbinarasaiah, K. R. Raghunatha , A novel approach on Micropolar fluid flow in a porous channel with high mass transfer via wavelet frames. Nonlinear Engineering. Modeling and Application (2021).
7.	S. Kumbinarasaiah, K. R. Raghunatha , The applications of Hermite wavelet method to nonlinear differential equations arising in heat transfer. International Journal of Thermofluids, 100066 (2021).
8.	K. R. Raghunatha , I. S. Shivakumara, Double-diffusive convection in a rotating viscoelastic fluid layer. ZAMM-Journal of Applied Mathematics and Mechanics, e201900025 (2021).) (SCI Journal) (IF: 1.603)
9.	K. R. Raghunatha , I. S. Shivakumara, G. Pallavi, Couple stress effects on the stability of three-component convection-diffusion in a porous layer. Heat Transfer, 2020.
10.	I. S. Shivakumara, K. R. Raghunatha , G. Pallavi, Intricacies of coupled molecular diffusion on double diffusive viscoelastic porous convection, Results in Applied Mathematics, 7, 100124 (2020). (SCI Journal)
11.	C. Hemanthkumar, K. R. Raghunatha , I. S. Shivakumara, Nonlinear convection in an elasticoviscous fluid-saturated anisotropic porous layer using a local thermal nonequilibrium model. Heat Transfer, 49(4), 1691-1712 (2020). (SCI Journal)
12.	I. S. Shivakumara, K. R. Raghunatha , Cross-diffusion and viscoelastic effects on multidiffusive porous convection. Heat Transfer, 49(4), 2167-2182 (2020). (SCI Journal)
13.	K. R. Raghunatha , I. S. Shivakumara, M. S. Swamy, Effects of cross-diffusion on linear and weakly nonlinear stability analyses of triple diffusive convection in a viscoelastic fluid layer. Zeitschrift fuer Angewandte Mathematik und Physik (ZAMP), 70(4) 100-121 (2019) (SCI Journal) (IF: 1.934)
14.	M. Ravisha, K. R. Raghunatha , I. S. Shivakumara, A. L. Mamatha, Boundary effects on electro-thermal convection in a dielectric fluid layer. Archives of thermodynamics, 40(1), 3-19 (2019). (SCI Journal) (IF: 0.53)
15.	K. R. Raghunatha , I. S. Shivakumara, Double-diffusive convection in an Oldroyd-B fluid layer-Stability of bifurcating equilibrium solutions. Journal of Applied Fluid Mechanics, 12(1), 85-94 (2019). (SCI Journal) (IF: 1.405)
16.	K. R. Raghunatha , I. S. Shivakumara, Stability of triple diffusive convection in a viscoelastic fluid-saturated porous layer. Applied Mathematics and Mechanics (English Edition), 39(10), 1385–1410 (2018). (Springer Journal SCI) (IF: 2.866)
17.	K. R. Raghunatha , I. S. Shivakumara, Sowbhagya, Stability of buoyancy-driven convection in an Oldroyd-B fluid-saturated porous layer. Applied Mathematics and Mechanics (English Edition), 39(5), 653–666 (2018) (Springer Journal SCI) (IF: 2.866)

18.	B. M. Shankar, Jai Kumar, I. S. Shivakumara, K. R. Raghunatha , Stability of natural convection in a vertical non-Newtonian fluid layer with an imposed magnetic field. <i>Meccanica</i> , 53, 773–786 (2018). (Springer Journal SCI) (IF: 2.258)			
19.	K. R. Raghunatha , I. S. Shivakumara, B. M. Shankar, Weakly nonlinear stability analysis of triple diffusive convection in a Maxwell fluid saturated porous layer. <i>Applied Mathematics and Mechanics (English Edition)</i> , 39(2), 153–168 (2018) (Springer Journal SCI) (IF: 2.866)			
b) National Journals				
1.				
c) International Conference				
1.				
d) National Conference				
1.				
Book Published / Book Chapters Published:				
M. Ravisha, A. L. Mamatha, K. R. Raghunatha , Convective instability in a ferrofluid saturated porous layer, LAP LAMBERT Academic Publishing (2020). ISBN:978-620-2-67340-2				
Research Guidance Details (MPhil/PhD):				
Sl. No	Name of the Scholar	University	Registration month & Year	Research Area
1.				
Conference/Workshops/Trainings attended/organized:				
<i>International/National Conferences:</i>				
1. Participated in the 26th international conference (online) of international academy of physical sciences on advances in mechanics, organized by the Department of Mathematics and Statistics, Manipal University, Jaipur-303007 held during 18th – 20th, December, 2020.				
2. Participated through online in the two days “International Conference on Number Theory (ICNT-2020) on the occasion of Superannuation of Prof. M. S. Mahadeva Naika” organized by the Department of Mathematics, Bengaluru City University, Central College Campus, Bengaluru held during 28th – 29th October, 2020.				

3. Participated in the National webinar on “Mathematical Modeling and Physical Reality” held on September 2020, organized by the Department of Mathematics at Dr. Ambedkar Institute of Technology in association with Institute of Engineering and Technology and Dr. Rammanohar Lohia Avadh University, Ayodhya.
4. Participated in the National Webinar on “How to handle mathematical lectures using online Technological Tools” held on 05/09/2020 organized by the Guru Nanak Centre for Research (Gncr), Guru Nanak College (Autonomous), Guru Nanak Salai, Velachery, Chennai - 600 042.
5. Viscoelastic effects on triple diffusive porous convection. Presented in three days International Conference on “Innovations and Challenges in Science and Technology”(ICICST-2018), organized by the Department of science and humanities, Don Bosco Institute of Technology, Bengaluru, Karnataka during 24-26 May, 2018.
6. Multidiffusive convection in a viscoelastic fluid. Presented in two days UGC sponsored National Conference on “Analysis and its Applications”(NCAA-2018) under UGC-SAP DRS-III programme, organized by the Department of Mathematics, Karnatak University, Dharwad, Karnataka during 9-10 March, 2018.
7. Weakly nonlinear double diffusive convection in an Oldroyd-B fluid layer. Presented in two days National Conference on “Recent Advances in Mathematical Sciences and Applications” organized by the Department of Mathematics, Tumkur University, Tumakuru, Karnataka during 1st and 2nd December, 2017.
8. Linear and nonlinear triple diffusive convection in a viscoelastic fluid layer. Presented in two days National Conference on “Recent Advances in Mathematical Sciences-2017” held at Government Science College, Nrupathunga Road, Bangaluru on 9th and 10th February 2017.
9. Triple diffusive convection in a layer of Maxwell fluid saturated porous medium. Presented in one day national conference on “Recent Advances in Applied Sciences (RAAS-2016)” organized by the Department of Science and Humanities, AMC Engineering college, Bangaluru, on 25th April, 2016.
10. Stability criteria of triple diffusive convection of an Oldroyd-B fluid in a porous medium. Presented in two days International Conference on “Differential Equations and Applications ICDEA-2017” during March 15-16, 2017 at Department of Mathematics, Bharathiar University, Coimbatore.

Workshops/Seminars/Symposium Attended:

1. Triple diffusive convection in a viscoelastic Oldroyd-B fluid layer. Presented in one day National Symposium on Mathematics and its Applications(NSMA), organized by the Department of Mathematics, Bangalore University, Bengaluru-560 056, Karnataka, on April 27, 2019
2. Advanced instructional school on “Linear Partial Differential Equations” held at TIFR centre for applicable mathematics, Bangalore, during June 19 - July 08, 2017. .
3. Three days Science Academies Lecture Workshop on “Applications of Differential Equations in Engineering and Biology” held during March 9-11, 2017 at the Department of Mathematics, Sri Venkateswara University, Tirupati.
4. Two days Science Academies Lecture Workshop on “Computational Fluid Dynamics” held at the Department of P.G. Studies and Research in Mathematics, Kuvempu University, Jnana Sahyadri, Shankaraghatta-577451, Shivamogga on 21st and 22nd October 2016.
5. Three days Short-term course for Research Scholar on “Research Methodology” organized by UGC-Human Resource Development Centre, Bangalore University, Bengaluru, from 28th to 30th March, 2016.
6. Two days Science Academies Lecture workshop on “Theoretical and Computational Fluid Dynamics(SALW-2016)” on during 21st and 22nd March, 2016 organized by the Department of Mathematics, Sri Venkateswara University, Tirupati.
7. Two days national workshop on “Partial Differential Equations and Numerical Methods in Fluid Dynamics” held on 4th and 5th March 2016 at Department of Mathematics, Government First Grade College, Koppa, Chikmagalur Dist., Karnataka.
8. One day state level seminar on ”Analysis and Algebraic Geometry” held on 5th April 2014 organized by the P. G. Department of Studies in Mathematics, P. E. S. College of Science, Arts and Commerce, Mandya, Karnataka.
9. One day national seminar on “Graphs in Network Theory” (GNT-2014) organized by Government First Grade College Bettampady, Puttur Taluk D.K., Karnataka in association with Forum of Mathematics Teachers of Mangalore University on 15th February 2014.

Training Programme :

1. Participated in Faculty Development Programme organized by Davangere University- January-2020.
2. Participated in 4-week (from September 01-September 30, 2020) induction/orientation programme organized by Ramanujan college, University of Delhi.
3. Participated in Online FDP on “RECENT DEVELOPMENTS IN MATHEMATICAL SCIENCES (RDMS)”, Department of Mathematics Central University of Jharkhand Ranchi, Jharkhand-835222.
4. Participated in Online FDP on Linear Algebra and its Applications, Department of Mathematics, BMS Institute of Technology and Management, Bangalore-64.

Achievements/Awards / Abroad visit/ Professional Membership		
1.	Government of India, Ministry of Science and Technology, Department of Science and Technology (DST) , New Delhi has awarded INSPIRE Fellowship in Basic and Applied science for University First Rank holders. Order number: DST/INSPIRE Fellowship/[IF150253] Dated: 10.04.2015 <ul style="list-style-type: none"> ❖ Junior Research Fellow From 11-April-2015 to 08-Dec-2017. ❖ Senior Research Fellow From 09-Dec-2017 to 31-Aug-2018. 	
2.	First Rank in M.Sc. (Mathematics) , Bangalore University, Bengaluru, Karnataka (2013).	
3.	Sri Belegere Seetharama Sastry Gold Medal, Sri S Nijalingappa's 62th Birthday Commemoration Gold Medal, Professor C N Srinivas Iyengar Gold Medal for Highest marks in M.Sc. Mathematics Awarded by Bangalore University, Bengaluru-560 056.	
4.	Secured Highest marks in B.Sc. (Mathematics) examination held during 2011, with an aggregate of 99.63% , Tumkur University, Tumakuru, Karnataka.	
Personal Details		
Gender	Male	
Date of Birth	07-05-1987	
Contact details	Address for Communication	
	Permanent address	
	<p>Dr. Raghunatha K. R. Department of Mathematics, Davangere University, Shivangotri, Davangere (Dist), Karnataka-577 002.</p>	<p>Dr. Raghunatha K. R. S/O Rangadhamappa K. R. #501, K T Halli (P), Pavagada (Tq), Tumakuru (Dist), Karnataka, Pin Code-572116</p>
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