

Profile Page



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Qualification : Post Doc Mathematics (United Arab Emirates University, Al Ain, UAE)
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Research Interests :

Fluid Dynamics: Heat and Mass Transfer, Non-Newtonian Fluids, Nanofluids

Other Profile Links :

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Journal Publications :

Year	Journal	Publication
2023	Waves in Random and Complex Media (Taylor & Francis)	N. Santhosh, R. Sivaraj, V. Ramachandra Prasad, O. Anwar Bég, Ho-Hon Leung, Firuz Kamalov & S. Kuharat Computational study of MHD mixed convective flow of Cu/Al ₂ O ₃ -water nanofluid in a porous rectangular cavity with slits, viscous heating
2023	Physics of Fluids (American Institute of Physics)	K. Thirumalaisamy, R. Sivaraj, Comparative heat transfer analysis on Fe ₃ O ₄ -H ₂ O and Fe ₃ O ₄ -Cu-H ₂ O flow inside a tilted square porous cavity with shape effects

2022	Physics of Fluids (American Institute of Physics)	K. Thirumalaisamy, R. Sivaraj, V. Ramachandra Prasad, O. Anwar Beg, Ho-Hon Leung, Firuz Kamalov, Rathinam Selvam, Comparative heat transfer analysis of electroconductive Fe ₃ O ₄ -MWCNT-water and Fe ₃ O ₄ -MWCNT-kerosene hybrid nanofluids in a square porous cavity using the non-Fourier heat flux model
2022	Journal of Thermal Analysis and Calorimetry (Springer)	P. Vijayalakshmi, R. Sivaraj, Heat transfer analysis on micropolar alumina-silica-water nanofluid flow in an inclined square cavity with inclined magnetic field and radiation effect
2022	Waves in Random and Complex Media (Taylor & Francis)	A. Sumithra and R. Sivaraj, Impact of exothermic chemical reaction on MHD unsteady mixed convective flow in a rectangular porous cavity filled with nanofluid
2022	The European Physical Journal Plus 137 (2022) 1193 (Springer)	A. Sumithra, R. Sivaraj, Chemically reactive magnetohydrodynamic mixed convective nanofluid flow inside a square porous enclosure with viscous dissipation and Ohmic heating
2022	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering (SAGE)	P. Vijayalakshmi, R. Sivaraj, Numerical simulation of hybrid nanofluid (Cu/Al ₂ O ₃ -water) flow in a porous enclosure with heated corners and non-Fourier heat flux
2022	Physics of Fluids 34(7) (2022) 072001 (American Institute of Physics)	Thirumalaisamy K, Sivaraj Ramachandran, Ramachandra Prasad V, Anwar Bég O, Ho-Hon Leung, Firuz Kamalov, Vajravelu K, Comparative heat transfer analysis of γ -Al ₂ O ₃ /C ₂ H ₆ O ₂ and γ -Al ₂ O ₃ /H ₂ O electroconductive nanofluids in a saturated porous square cavity with Joule dissipation and heat source/sink effects
2022	Journal of Thermal Engineering 8(1) (2022) 38–51	H. Thameem Basha, R. Sivaraj, Heat and mass transfer in stagnation point flow of cross nanofluid over a permeable extending/contracting surface: A stability analysis
2022	Journal of Applied and Computational Mechanics 8(2) (2022) 566-579	H. Thameem Basha, R. Sivaraj, Stability analysis of Casson nanofluid flow over an extending/contracting wedge and stagnation point
2021	The European Physical Journal Plus 136 (11) (2021) 1107 (Springer)	G. Kumaran, R. Sivaraj, V.R. Prasad, O.A. Beg, H.H. Leung, F. Kamalov, Numerical study of axisymmetric magneto-gyrotactic bioconvection in non-Fourier tangent hyperbolic nano-functional reactive coating flow of a cylindrical body in porous media
2021	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering 235(5) (2021) 1575-1586 (SAGE)	H.T. Basha, R. Sivaraj, Entropy generation of peristaltic Eyring-Powell nanofluid flow in a vertical divergent channel for biomedical applications
2021	Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science 235(2) (2021) 441–460 (SAGE)	H.T. Basha, R. Sivaraj, Numerical simulation of blood nanofluid flow over a plate, wedge and stagnation point by means of gyrotactic microorganisms: Applications to the flow of a circulatory system
2021	The European Physical Journal E 44(3) (2021) 31 (Springer)	H.T. Basha, R. Sivaraj, Exploring the heat transfer and entropy generation of Ag/Fe ₃ O ₄ - blood nanofluid flow in a porous tube: a collocation solution
2021	Physica Scripta 96(2) (2021) 025222 (Institute of Physics)	G. Kumaran, R. Sivaraj, V.R. Prasad, O.A. Beg, R.P. Sharma, Finite difference computation of free magneto-convective Powell-Eyring nanofluid flow over a permeable cylinder with variable thermal conductivity
2021	Journal of Thermal Analysis and Calorimetry 143(3) (2021) 2273–2289 (Springer)	H.T. Basha, R. Sivaraj, V.R. Prasad, O.A. Beg, Entropy generation of tangent hyperbolic nanofluid over a circular cylinder in the presence of nonlinear Boussinesq approximation: a non-similar solution

2021	Computational Thermal Sciences 13(6) (2021) 85-99 (Begell House)	A. Sumithra, R. Sivaraj, A. Jasmine Benazir, O. D. Makinde, Non-linear thermal radiation and activation energy effects on bioconvective flow of Eyring-Powell fluid
2021	Computational Thermal Sciences 13(5) (2021) 61–81 (Begell House)	G. Kumaran, R. Sivaraj, Nonlinear thermal radiation effect on MHD Williamson nanofluid past a wedge/flat plate/stagnation point of the plate with activation energy
2021	Special Topics and Reviews in Porous Media - An International Journal 12(2) (2021) 51–70 (Begell House)	H. Thameem Basha, R. Sivaraj, On the stability of copper oxide/water non-Darcy nanofluid flow over an extending/contracting wedge and stagnation point
2020	International Journal of Numerical Methods for Heat and Fluid Flow 31(5) (2020) 1475–1519 (Emerald)	H.T. Basha, R. Sivaraj, V.R. Prasad, O.A. Beg, Computation of non-similar solution for magnetic pseudoplastic nanofluid flow over a circular cylinder with variable thermophysical properties and radiative flux
2020	AIMS Mathematics 5(5) (2020) 4197	H.T. Basha, R. Sivaraj, A.S. Reddy, A.J. Chamkha, H.M. Baskonus, A numerical study of the ferromagnetic flow of Carreau nanofluid over a wedge, plate and stagnation point with a magnetic dipole
2020	Computational Thermal Sciences 12(6) (2020) 491-508 (Begell House)	H. Thameem Basha, R. Sivaraj, Stability analysis on Ag-MgO/water hybrid nanofluid flow over an extending/contracting Riga wedge and stagnation point
2020	SN Applied Sciences 2(3) (2020) 477 (Springer)	HT Basha, R. Sivaraj, AS Reddy, AJ Chamkha, M Tilioua, Impacts of temperature-dependent viscosity and variable Prandtl number on forced convective Falkner–Skan flow of Williamson nanofluid
2019	The European Physical Journal Special Topics, 228 (2019) 2531-2551 (Springer)	H.T. Basha, R. Sivaraj, A.S. Reddy, A.J. Chamkha, SWCNH/diamond-ethylene glycol nanofluid flow over a wedge, plate and stagnation point with induced magnetic field and nonlinear radiation–solar energy application
2019	The European Physical Journal Special Topics, 228 (2019) 2647-2659 (Springer)	G. Kumaran, R. Sivaraj, A. Subramanyam Reddy, B. Rushi Kumar, V. Ramachandra Prasad, Hydromagnetic forced convective flow of Carreau nanofluid over a wedge/plate/stagnation of the plate
2019	The European Physical Journal Special Topics 228 (2019) 35–53 (Springer)	R. Sivaraj, A. Jasmine Benazir, S. Srinivas, A.J. Chamkha, Investigation of cross-diffusion effects on Casson fluid flow in existence of variable fluid properties
2019	Journal of Heat Transfer-Transactions of the ASME 141 (2019) 022402 (American Society of Mechanical Engineers)	I.L. Animasaun, B. Mahanthesh, A.O. Jagun, T.D. Bankole, R. Sivaraj, N.A. Shah, S. Saleem, Significance of Lorentz force and thermoelectric on the flow of 29 nm CuO–water nanofluid on an upper horizontal surface of a paraboloid of revolution
2018	Multidiscipline Modeling in Materials and Structures 14(4) (2018) 695-721 (Emerald)	R. Sivaraj, I.L. Animasaun, A.S. Olabiyi, S. Saleem, N. Sandeep, Gyrotactic microorganisms and thermoelectric effects on the dynamics of 29 nm CuO-water nanofluid over an upper horizontal surface of paraboloid of revolution
2018	Defect and Diffusion Forum 389 (2018) 50-59	H. Thameem Basha, R. Sivaraj, I. L. Animasaun, O. D. Makinde, Influence of non-uniform heat source/sink on unsteady chemically reacting nanofluid flow over a cone and plate
2018	Defect and Diffusion Forum 387 (2018) 343-351	H. Thameem Basha, S. Rao Gunakala, O.D. Makinde, R. Sivaraj, Chemically reacting unsteady flow of nanofluid over a cone and plate with activation energy
2018	Defect and Diffusion Forum 387 (2018) 615-624	H. Thameem Basha, O. D. Makinde, Akshay Arora, Amandeep Singh, R. Sivaraj, Unsteady flow of chemically reacting nanofluid over a cone and plate with heat source/sink

2018	Defect and Diffusion Forum 387 (2018) 653-665	G. Kumaran, O. D. Makinde, R. Sivaraj, Unsteady magnetohydrodynamic flow past a slendering stretching surface with thermophoresis and Brownian motion
2018	International Journal of Engineering and Technology(UAE), 7 (4.10) (2018) 256-260	K. Venkateswara Raju, P. Durga Prasad, M. C. Raju, R. Sivaraj, Numerical investigation on MHD Marangoni convective flow of nanofluid through a porous medium with heat and mass transfer characteristics
2018	Heat Transfer - Asian Research 47 (2018) 806-823 (Wiley)	OK Koriko, IL Animasaun, B Mahanthesh, S Saleem, G Sarojamma, R Sivaraj, Heat transfer in the flow of Blood-Gold Carreau Nanofluid induced by partial slip and buoyancy
2018	Defect and Diffusion Forum 388 (2018) 265-280	B. Rushi Kmar, M. Sathish Kumar, N. Sandeep, R. Sivaraj, Cross diffusion effects on heat and mass transfer micropolar fluid flow past a stretching surface
2017	Thermal Science 21 (2017) 2719 – 2730	M.M. Rashidi, R. Sivaraj, D. Mythili, Z. Yang, Numerical solution for thermophoresis effects on heat and mass transfer over an accelerating surface with heat source/sink
2017	International Journal of Numerical Methods for Heat and Fluid Flow 27 (2017) 156-173 (Emerald)	D. Mythili, R. Sivaraj, M.M. Rashidi, Heat generating/absorbing and chemically reacting Casson fluid flow over a vertical cone and flat plate saturated with non-Darcy porous medium
2017	Applied Thermal Engineering 115 (2017) 363–377 (Elsevier)	V.M. Job, S.R. Gunakala, B. Rushi Kumar, R. Sivaraj, Time-dependent hydromagnetic free convection nanofluid flows within a wavy trapezoidal enclosure
2016	Journal of Molecular Liquids 216 (2016) 466-475 (Elsevier)	D. Mythili, R. Sivaraj, Influence of higher order chemical reaction and non-uniform heat source/sink on Casson fluid flow over a vertical cone and flat plate
2016	Journal of Heat Transfer-Transactions of the ASME 138(11) (2016) 112005 (American Society of Mechanical Engineers)	A. Jasmine Benazir, R. Sivaraj, M.M. Rashidi, Comparison between Casson fluid flow in the presence of heat and mass transfer from a vertical cone and flat plate
2016	Special Topics and Reviews in Porous Media 7 (2016) 195-205 (Begell House)	B. Rushi Kumar, G. Sreedhara Rao, R. Sivaraj and Victor M. Job, Influence of thermal radiation and thermophoresis on viscoelastic fluid flow over a vertical cone
2015	Special Topics and Reviews in Porous Media 6 (2015) 267–281 (Begell House)	R. Sivaraj and A. Jasmine Benazir, Unsteady MHD mixed convective oscillatory flow of Casson fluid in a porous asymmetric wavy channel
2015	International Journal of Engineering Research in Africa 21 (2015) 69-83	A. Jasmine Benazir, R. Sivaraj and O.D. Makinde, Unsteady MHD Casson fluid flow over a vertical cone and flat plate with non-uniform heat source/sink
2015	Journal of Naval Architecture and Marine Engineering 15 (2015) 125-136	D. Mythili, R. Sivaraj, M.M. Rashidi and Z. Yang, Casson fluid flow over a vertical cone with non-uniform heat source/sink and higher order chemical reaction
2015	International Journal of Pure and Applied Mathematics, 101(5) (2015) 821–828	B. Rushi Kumar, R. Sivaraj, A. Jasmine Benazir, Chemically reacting MHD free convective flow over a vertical cone with variable electric conductivity
2014	Walailak Journal of Science and Technology 11 (2014) 939-954	J. Prakash, B. Rushi Kumar and R. Sivaraj, Radiation and Dufour effects on unsteady MHD mixed convective flow in an accelerated vertical wavy plate with varying temperature and mass diffusion
2013	International Journal of Heat and Mass Transfer 61 (2013) 119–128 (Elsevier)	R. Sivaraj, B. Rushi Kumar, Viscoelastic fluid flow over a moving vertical cone and flat plate with variable electric conductivity
2013	Ain Shams Engineering Journal 4 (2013) 93–101 (Elsevier)	R. Sivaraj, B. Rushi Kumar, Chemically reacting dusty viscoelastic fluid flow in an irregular channel with convective boundary

2013	International Communications in Heat and Mass Transfer 40 (2013) 1-6 (Elsevier)	B. Rushi Kumar, R. Sivaraj, MHD viscoelastic fluid non-Darcy flow over a vertical cone and a flat plate
2013	International Journal of Heat and Mass Transfer 56 (2013) 370–379 (Elsevier)	B. Rushi Kumar, R. Sivaraj, Heat and mass transfer in MHD viscoelastic fluid flow over a vertical cone and flat plate with variable viscosity
2012	International Journal of Heat and Mass Transfer 55 (2012) 3076–3089 (Elsevier)	R. Sivaraj, B. Rushi Kumar, Unsteady MHD dusty viscoelastic fluid Couette flow in an irregular channel with varying mass diffusion

Conference Publications :

Year	Conference	Publication
2021	International Conference on Applications of Fluid Dynamics, 13–15 December 2018, VIT Vellore	P. Durga Prasad, R. Sivaraj, B. Madhusudhana Rao, C.S.K. Raju, K. Venkateswara Raju, S.V.K. Varma, Unsteady Casson MHD flow due to shrinking surface with suction and dissipation. Advances in Fluid Dynamics. Lecture Notes in Mechanical Engineering. Springer, Singapore, 2021, pp. 549-558.
2021	International Conference on Applications of Fluid Dynamics, 13–15 December 2018, VIT Vellore	K. Venkateswara Raju, P. Durga Prasad, M.C. Raju, R. Sivaraj, MHD Casson fluid flow past a stretching sheet with convective boundary and heat source. Advances in Fluid Dynamics. Lecture Notes in Mechanical Engineering. Springer, Singapore, 2021, pp 559-572.
2019	International Conference on Advances in Mathematical Sciences, December 1-3, 2017, VIT Vellore	H. Thameem Basha, I.L. Animasaun, O.D. Makinde, R. Sivaraj, Effect of Electromagnetohydrodynamic on chemically reacting nanofluid flow over a cone and plate. Applied Mathematics and Scientific Computing. Trends in Mathematics. Birkhäuser, Cham, 2019, pp 99 - 107.
2019	International Conference on Advances in Mathematical Sciences, December 1-3, 2017, VIT Vellore	P. Vijayalakshmi, S. Rao Gunakala, I.L. Animasaun, R. Sivaraj, Chemical Reaction and Nonuniform Heat Source/Sink Effects on Casson Fluid Flow over a Vertical Cone and Flat Plate Saturated with Porous Medium. Applied Mathematics and Scientific Computing. Trends in Mathematics, 2019, pp 117 - 127.
2018	International Conference on Applications of Fluid Dynamics (ICAFD 2016) ISM Dhanbad, Jharkhand	V. Job, S.R. Gunakala, B. Rushi Kumar, R. Sivaraj, Effects of heat-generating component size and porous layer thickness on MHD mixed convection flow of Ag-water nanofluid through an L-shaped channel, Lecture Notes in Mechanical Engineering, 204369, 2018, Pages 109-126.
2018	International conference on Science, Engineering and Technology VIT Vellore	B. Rushi Kumar, H. Thameem Basha, R. Sivaraj, N. Sandeep, Effect of thermal radiation on chemically reacting magnetohydrodynamic dusty viscous fluid flow in a porous channel, IOP Conference Series: Materials Science and Engineering, 263(6), 062028, 2018

2016	Fifth International Conference on Soft Computing for Problem Solving	Jasmine Benazir and R. Sivaraj, Influence of Double Dispersion on Non-Darcy Free Convective Magnetohydrodynamic Flow of Casson Fluid, Proceedings of Fifth International Conference on Soft Computing for Problem Solving, Advances in Intelligent System Computing, Volume 436, 537-551, 2016 Springer.
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Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISSN No.	Year
Book	Ratio of Momentum Diffusivity to Thermal Diffusivity: Introduction, Meta-Analysis, and Scrutinization	Chapman and Hall/CRC, New York	IL Animasaun, NA Shah, A Wakif, B Mahanthesh, R Sivaraj, OK Koriko	9781003217374	2022

Events Organized :

Category	Type	Title	Venue	From	To	Designation
Conference	International	International Conference on Recent Trends in Mathematics (ICRDM 2022)	Canadian University Dubai, United Arab Emirates	24-08-22	26-08-22	Organizing Chair
Conference	International	8th International Conference on Mathematics and Computing (ICMC 2022)	Vellore Institute of Technology, Vellore, India	06-01-22	08-01-22	Co-Organizing Chair
Conference	International	International Conference on Applications of Fluid Dynamics (ICAFD 2018)	Vellore Institute of Technology, Vellore, India	13-12-18	15-12-18	Organizing Secretary
Conference	International	International Conference on Advances in Mathematical Sciences (ICAMS 2017)	Vellore Institute of Technology, Vellore, India	01-12-17	03-12-17	Organizing Secretary
Workshop	International	International Workshop on Mathematics Meets the World: Recent Trends and Developments (RTDM 2020)	Vellore Institute of Technology, Vellore, India	30-01-20	03-02-20	Organizing Secretary
Workshop	International	International Workshop on Mathematical Modelling and Scientific Computing (IWMSC 2018)	Vellore Institute of Technology, Vellore, India	09-04-18	10-04-18	Organizing Secretary

Seminar	International	International Seminar on Emerging Trends in Mathematics (ISETM 2018)	Vellore Institute of Technology, Vellore, India	29-03-18	31-03-18	Organizing Secretary
Seminar	International	International Seminar on Advances in Statistics (ISAS 2017)	Vellore Institute of Technology, Vellore, India	18-12-17	20-12-17	Organizing Secretary
Symposium	International	International Symposium on Recent Trends in Mathematical Sciences	Vellore Institute of Technology, Vellore, India	15-07-19	16-07-19	Organizing Secretary

Professional Affiliations :

Designation	Organization
Lifetime Member (L0026)	Indian Science Congress Association
Lifetime Member (L/2018/100)	Indian Mathematical Society
Lifetime Member (L/874)	Indian Society of Theoretical and Applied Mechanics
Joint Secretary	Academia for Advanced Research in Mathematics Society

PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
G. Kumaran	Numerical analysis on MHD boundary layer flow of nanofluids	Awarded	2022	
H. Thameem Basha	Numerical analysis on transport properties of boundary layer flow of nanofluids	Awarded	2021	
D. Mythili	Boundary layer analysis of the flows of Casson fluid with heat and mass transfer characteristics	Awarded	2017	
A. Jasmine Banazer	Heat and mass transfer characteristics of MHD Casson fluid flows	Awarded	2017	

Award and Honours :

Title	Activity	Given by	Year
VIT Research Award	Research Publication	Vellore Institute of Technology, Vellore, India	2020
Visiting Scientist	Research Collaboration	National Defense University of Malaysia, Kuala Lumpur, Malaysia	2019
Royal Society Commonwealth Science Conference Fellow on Grant	Research Collaboration	Royal Society of London	2016
Faculty Exchange Programme	Teaching	Guangdong University of Technology, Guangzhou, China	2014