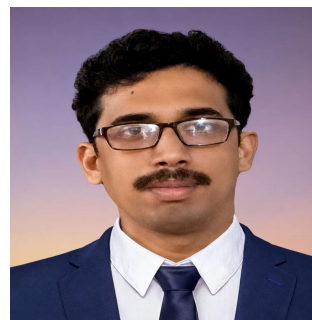


Curriculum Vitae



Dr. Rishi Raj Kairi

Email: rishirajkairi@gmail.com

Personal Information

Date of Birth: 24/04/1983

Nationality: Indian

Languages: English/Hindi/Bengali

Address: South of I.T.I Pilkhana Road,

P.O.+Dist.- Cooch Behar, Pin- 736101, West Bengal, INDIA.

Contact(Mobile):+91-8759218831

Academics

Educational Qualification: M.Sc., Ph.D. (**IIT Kharagpur**)

Ph. D. Supervisor: Prof. (Dr.) P.V.S.N. Murthy, **IIT Kharagpur**

Ph. D. Thesis: Convective Transport in Power-Law Fluid Saturated Non- Darcy Porous Medium.

Qualifications Details:

	Degree	Year	Subject	University/Institution	% of marks
1.	B. Sc.	2004	Mathematics	University of North Bengal	70(Rank-1)
2.	M. Sc.	2006	Mathematics	IIT Kharagpur	85.3(Rank-1)
3.	Ph.D.	2010	Mathematics	IIT Kharagpur	N.A.

Present Position:

Associate Professor (Level 13A), Department of Mathematics, Cooch Behar Panchanan Barma University, Cooch Behar-736101, West Bengal, India.

Research Interest:

Microchannel Flows, Bioconvection, Heat and Mass transfer, Non-Newtonian Fluid Mechanics.

Teaching and research experience:

Employer	Position held	Place of work	Duration	Nature of work
CSIR, Govt. of India	JRF	IIT Kharagpur	24.07.2006 – 23.07.2008	Research work for Ph.D.
CSIR, Govt. of India	SRF	IIT Kharagpur	24.07.2008 – 25.04.2010	Research work for Ph.D.
Islampur College, Uttar Dinajpur, West Bengal	Assistant Professor (AGP – Rs. 7000/-)	Department of Mathematics, Islampur College, Uttar Dinajpur, PIN – 733 202 West Bengal	26.04.2010 – 03.07.2018	Teaching Mathematics at B.Sc. (Honours) level
Cooch Behar Panchanan Barma University, Cooch Behar, West Bengal	Assistant Professor (AGP –Rs. 7000/-)	Department of Mathematics, Cooch Behar Panchanan Barma University, Cooch Behar, PIN – 736101 West Bengal	04.07.2018 – 25.04.2019	Teaching Mathematics at M.Sc. level and guidance for Ph.D.
Cooch Behar Panchanan Barma University, Cooch Behar, West Bengal	Assistant Professor (AGP – Rs. 8000/-)	Department of Mathematics, Cooch Behar Panchanan Barma University, Cooch Behar, PIN – 736101 West Bengal	26.04.2019 – 25.04.2022	Teaching Mathematics at M.Sc. level and guidance for Ph.D.
Cooch Behar Panchanan Barma University, Cooch Behar, West Bengal	Associate Professor	Department of Mathematics, Cooch Behar Panchanan Barma University, Cooch Behar, PIN – 736101 West Bengal	26.04.2022 – Till date	Teaching Mathematics at M.Sc. level and guidance for Ph.D.

Honors, Awards and Fellowships:

- **Best Student Award** for M.Sc. in Mathematics, **IIT Kharagpur, 2006.**
- MCM Scholarship, **IIT Kharagpur**, 2004- 2006.
- National Merit Scholarship, **Government of INDIA**, 2004.
- **Best Student Award** for B.Sc. in Mathematics (Honours), **University of North Bengal**, 2004.
- Junior Research Fellowship, **CSIR INDIA**, 2006-2008.
- Senior Research Fellowship, **CSIR INDIA**, 2008-2010.

Student Guidance

- **Ph.D. (2 completed); (3 running)**

Research, Publications and Academic Contributions

- Publications (*List of papers published in **SCI & SCIE Journals**, in year wise descending order*)

Sl. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1.	Debnath, D, Sen, R., Kairi, R. R., & Barman, P.	Physics-informed deep learning modelling of magnetohydrodynamic-driven electroosmotic thermal transport in tangent hyperbolic fluids within a microchannel	Physics of Fluids	In production	In production	2026
2.	Das, D., Ahmed, F., & Kairi, R. R.	Electroosmotic blood flow containing gold and silver nanoparticles through a microchannel: Effect of driving microorganisms	International Journal of Heat and Mass Transfer,	255(2)	127767	2026
3.	Sen, R., & Kairi, R. R.	Electroosmotic-driven unsteady mass transport of non-Newtonian fluids flow through a microchannel under the influence of thermal buoyancy and slip-induced zeta potential	European Journal of Mechanics - B/Fluids	117	204425	2026

4.	Sen, R., Wang, S., Kairi, R. R., & Vajravelu, K.	Buoyancy-driven linear instability in a porous layer with contrasting heat sources	<i>Journal of Fluid Mechanics</i>	1023	A42	2025
5.	Das, D., Dhar, S., Kairi, R. R., & Mondal, P. K.	Transport of reactive solutes in a couple-stress fluid through a microchannel: a focus on longitudinal uniformity	<i>Journal of Fluid Mechanics</i>	1022	A12	2025
6.	Sen, R., Wang, S., & Kairi, R. R.	Hydromagnetic oscillatory instability in non-linear thermohaline convection of chemically reactive Casson fluid through a porous layer: Effect of open boundary	Physica D: Nonlinear Phenomena	482	134883	2025
7.	Sen, R., Mondal, K. K., Dey, N., & Kairi, R. R.	Coupled electromagnetohydrodynamic and heterogeneous reactive solute transport in non-Newtonian third-grade fluid flow through a microchannel	Chinese Journal Of Physics	96	1385-1409	2025
8.	Sen, R., Mondal, K. K., & Kairi, R. R.	Electroosmotic magnetohydrodynamics-driven solute dispersion in couple stress fluid flow through microchannel: Effect of transverse electric field	Physics of Fluids	37(2)	023138	2025
9	Debabrata Das, K. Vajravelu, and R. R. Kairi	Irreversibility estimation in electroosmotic MHD shear thinning nanofluid flow through a microchannel with slip-dependent zeta potentials	Chinese Journal Of Physics	95	118-139	2025
10	Debabrata Das, N. Poddar, and R. R. Kairi	Modulating solute transport in magnetohydrodynamic pulsatile electroosmotic micro-channel flow: Role of symmetric and asymmetric wall zeta potentials.	Physics of Fluids	36(9)	092030	2024
11	Debabrata Das, O. D. Makinde,	Analysis of Entropy Generation and MHD Thermo-Solutal Convection Flow	ZAMM	104(10)	e202300831	2024

	and R. R. Kairi	of Ellis Nanofluid through inclined Microchannel				
12	R. Sen, S. Roy, P. A. L. Narayana and R. R. Kairi	Instability of Jeffrey Fluid Throughflow In a Porous Layer Induced By Heat Source and Soret Effect	ASME Journal of Heat and Mass Transfer	146(7)	072702	2024
13	D. Das, S. Shaw and R. R. Kairi	Irreversibility estimation in triply Stratified Bio-Marangoni convection in Powell-Eyringnanofluid under the influence of external flow	Physica Scripta	99(5)	055253	2024
14	D. Das, S. Dhar, R. R. Kairi, K. K. Mondal and N. Poddar	Analysis of environmental transport of suspended sediment particles in a tidal wetland flow under the effect of floating vegetation absorption.	Communication s in Nonlinear Science and Numerical Simulation	132	10788	2024
15	R. R. Kairi, S. Roy and S. Raut	Stratified Thermosolutal Marangoni Bioconvective Flow of Gyrotactic Microorganisms in Williamson Nanofluid	European Journal of Mechanics B/Fluids	97	40-52	2023
16	S. Roy, S. Raut, R. R. Kairi and P. Chatterjee	Bilinear Bäcklund, Lax pairs, breather waves, lump waves and soliton interaction of (2+1)-dimensional non-autonomous Kadomtsev–Petviashvili equation	Nonlinear Dynamics	111	5721-5741	2023
17	D. Das, S. Shaw, K. K. Mondal, R. R. Kairi	Analyzing the impact of boundary slip and absorption effects on the dispersion of solute in a pulsatile channel flow of Casson fluid under magnetic field.	The European Physical Journal Plus	138(5)	372	2023
18	S. Roy, R. R. Kairi	Bio-Marangoni Convection of Maxwell Nanofluid Over an Inclined Plate in a	Journal of Magnetism and	572	170581	2023

		Stratified Darcy-Forchheimer Porous Medium	Magnetics Materials			
19	S. Roy, S. Raut, R. R. Kairi and P. Chatterjee	Integrability and the multi-soliton interactions of non-autonomous Zakharov–Kuznetsov equation	The European Physical Journal Plus	137(5)	1-14	2022
20	S. Roy, S. Raut and R. R. Kairi	Thermosolutal Marangoni Bioconvection of a Non-Newtonian Nanofluid in a Stratified Medium	ASME Journal of Heat Transfer	144(9)	093601	2022
21	S. Roy, S. Raut, and R. R. Kairi	Nonlinear analysis of the ion acoustic shock solitary and periodic wave solutions for nonextensive dusty Plasma in the framework of Modified Korteweg-de Vries-Burgers equation	Pramana Journal of Physics	96(2)	67	2022
22.	S. Dhar, N. Poddar, B. S. Mazumder, R. R. Kairi, K, K, Mondal	Numerical study on dispersion of fine settling particles in a depth dominated wetland flow	Communications in Nonlinear Science and Numerical Simulation	96	105707	2021
23.	N. Poddar, S. Dhar, B. S. Mazumder, R. R. Kairi, and K, K, Mondal	Effects of bulk degradation and boundary absorption on dispersion of contaminant in wetland flow	International Journal of Heat and Mass Transfer	179	121669	2021
24.	D. Das, N. Poddar, S. Dhar, R. R. Kairi, and K, K, Mondal	Multi-scale approach to analyze the dispersion of solute under the influence of homogeneous and inhomogeneous reactions through a channel	International Communications of Heat and Mass Transfer	129	105709	2021

25.	S. Roy, R. R. Kairi and S. Raut	Cylindrical and Spherical Dust–Ion-Acoustic Shock Solitary Waves by Korteweg–de Vries–Burgers Equation	Brazilian Journal of Physics	51(6)	1651-1660	2021
26.	R. R. Kairi, S. Roy, S. Raut and S. Shaw	Thermosolutalmarangoni impact on bioconvection in suspension of gyrotactic microorganisms over an inclined stretching sheet	ASME Journal of Heat Transfer	143	031201	2021
27.	R. R. Kairi	Free convection around a slender paraboloid of non-Newtonian fluid in a porous medium	Thermal Science	23(5)	3067-3074	2019
28.	Rishi Raj Kairi, P.V.S.N. Murthy	Soret effect on free convection from a melting vertical surface in a non-Darcy porous medium.	Journal of Porous Media	16(2)	97-104	2013
29.	Rishi Raj Kairi, P.V.S.N. Murthy	Effect of melting on mixed convection heat and mass transfer in a non-Newtonian fluid saturated non-Darcy porous medium.	ASME Journal of Heat Transfer	134	042601-042608	2012
30.	Rishi Raj Kairi, P.V.S.N. Murthy	Effect of viscous dissipation on natural convection heat and mass transfer from vertical cone in a non-Newtonian fluid saturated non-Darcy porous medium, vol. 217, pp. 8100-8114, 2011.	Applied Mathematics and Computation	217	8100-8114	2011
31.	R. R. Kairi	Viscosity and dispersion effects on natural convection from a vertical cone in a non-Newtonian fluid saturated porous medium.	Thermal Science	15(2)	307-316	2011
32.	R. R. Kairi, P.V.S.N. Murthy	The effect of double dispersion on mixed convection heat and mass transfer in a non-Newtonian fluid saturated non-Darcy porous medium,	Journal of Porous Media	13(8)	749-757	2010

33.	R. R. Kairi, P.V.S.N. Murthy, P. A. L. Narayana	The Effect of double dispersion on natural convection heat and mass transfer in a non-Newtonian fluid saturated non-Darcy porous medium.	Transport in Porous Media	76	377-390	2009
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- Publications (*List of papers published in **Scopus** Journals, in year wise descending order*)

Sl. No	Authors	Title	Journal	ISBN/ISSN/ Categorization Refereed/NonRefereed
1.	R. Sen, S. Roy, R. R. Kairi	Irreversibility Estimation of MHD Thermosolutal Convection of Powell-Eyring Fluid Flow Through An Inclined Microchannel	International Journal of Ambient Energy	45(1), 1-13,2024
2.	R. R. Kairi, Ch. Ramreddy, S. Roy	Influence of Heat Generation/Absorption on the Nonlinear Convective Flow of a Casson Fluid over a Horizontal Plate	Discontinuity, Nonlinearity & Complexity	523-538, 2022
3.	S. Raut, S. Roy, R. R. Kairi, P. Chatterjee,	Approximate Analytical Solutions of Generalized Zakharov–Kuznetsov and Generalized Modified Zakharov–Kuznetsov Equations	International Journal of Applied and Computational Mathematics	Vol. 7 (4), pp. 1-25, 2021
4.	R. R. Kairi, Ch. Ramreddy	Nonlinear Double Diffusive Convection from a Radiative Slender Paraboloid in a non-Darcy Porous Medium.	Journal of Theoretical and Applied Mechanics	Vol. 50 pp. 205-221, 2020
5.	V. M. Magagula, S. Shaw, R. R. Kairi	Double dispersed bio-convective Cassonnanofluid flow over a nonlinear convective stretching sheet in suspension of	Heat Transfer-Asian Research(Wiley)	DOI: 10.1002/htj.21730 pp. 1-23, 2020

		gyrotactic microorganism		
6.	R. R. Kairi, S. Roy, S. Raut	Influence of viscous dissipation and thermo-diffusion on double diffusive convection over a vertical cone in a non-Darcy porous medium saturated by a non-Newtonian fluid with variable heat and mass fluxes.	Non-Linear Engineering	Vol. 7(1), pp. 65-72, 2018
7.	RR Kairi, Ch RamReddy	The effect of melting on mixed convection heat and mass transfer in non-Newtonian nano fluid saturated in porous medium.	Frontiers in Heat and Mass Transfer	Vol. 6, pp. 1-6, 2015
8.	Ch RamReddy, RR Kairi, NR Reddy	Combined Radiation and thermo-diffusion effects on natural convection over a melting plate in porous medium saturated with an electrically conducting fluid of variable viscosity.	Procedia Engineering	Vol. 127, pp. 1095-1101, 2015
9.	RR Kairi, Ch RamReddy	Solutal dispersion and viscous dissipation effects on non-Darcy free convection over a cone in a Power-law fluids.	Heat Transfer-Asian Research(Wiley)	Vol. 43(5), pp. 476-488, 2014
10.	R. R. Kairi, P. V.S. N. Murthy	Melting and Soret effect in presence of magnetic field on natural convection from a horizontal plate.	International Journal of Applied Mathematics and Mechanics	Vol. 7 (14), pp. 42-56, 2011
11.	R. R. Kairi, P. V.S. N. Murthy, CO Ng	Effect of viscous dissipation on natural convection in a non-Darcy porous medium saturated with non-Newtonian fluid of variable viscosity.	The Open Transport Phenomena Journal	Vol. 3, pp. 1-8, 2011.
12.	R. R. Kairi, P. V.S. N. Murthy	Free convection in a thermally stratified non-Darcy porous	International Journal of Fluid Mechanics Research	Vol. 36(5), pp. 413-423, 2009.

		media with a non-Newtonian fluid.		
13.	R. R. Kairi, P. V. S. N. Murthy	Effect of melting and thermo-diffusion on natural convection heat and mass transfer in a non-Newtonian fluid saturated non-Darcy porous media.	The Open Transport Phenomena Journal	Vol. 1, pp. 7-14, 2009.

- Books/Reports/Chapters/General articles etc

S. No	Title	Author's Name	Publisher	Year of Publication
1.	Local Nonsimilarity Solution for Nonlinear Convection of Casson Fluid Flow with Nonuniform Heat Source/Sink. In <i>International Conference on Nonlinear Dynamics and Applications</i> .	Sen, R., Roy, S., & Kairi, R.R.	Springer Nature Switzerland.	2024
2.	Das, D., & Kairi, R. R. (2024, February). Thermo-Solutal Marangoni Convection in Maxwell Nanofluid Flow Through Darcy-Forchheimer Porous Medium. In <i>International Conference on Nonlinear Dynamics and Applications</i> (pp. 632-646). Cham: Springer Nature Switzerland.	Das, D. & Kairi, R.R.	Springer Nature Switzerland.	2024
3.	Shock, Solitary, and Periodic Wave Solutions of the Ion Acoustic Waves for Nonextensive Dusty Plasma in the Framework of Korteweg-de Vries-Burgers Equation with Forcing and Damping Terms. Advances in- Book Chapter (Intelligent Systems and Computing, vol 1437)	S.Raut, S. Roy & R. R.Kairi	Springer, Singapore.	2023
4.	Effects of Slip Velocity and Bed Absorption on Transport Coefficient in a Wetland Flow, Nonlinear Dynamics and Applications: Proceedings of the ICNDA, 2022, (443-455)	D. Das, S. Dhar, N. Poddar, R. Kairi, Kajal Kumar Mondal,	Springer, Singapore.	2022

5.	Cylindrical and Spherical Ion-Acoustic Shock and Solitary Waves in a Nonplanar Hybrid q-nonextensive Nonthermal Plasma, Nonlinear Dynamics and Applications: Proceedings of the ICNDA, 2022 (127-137)	S. Roy, S. Raut, R. R. Kairi	Springer, Singapore.	2022
6.	Unsteady Mixed Convection Flow of a Second Grade Nanofluid over a Permeable Stretching Surface with Variable Heat Source/Sink, Proceeding of International Conference on Mathematical Modelling and Simulation in Physical (MMSPS-2021), ISBN: 978-81-928100-1-0	R. R. Kairi,	Excellent Publishers	2021
7.	Combined radiation and thermo-diffusion effects on natural convection over a vertical cone in porous medium saturated with a fluid of variable viscosity (Chapter)	Rishi Raj Kairi	Progressive Publishers, Kolkata 978-81-8064-231-9	2017
8.	Double Diffusive Convection of Power-Law Fluid	Rishi Raj Kairi	Sahajpath Publications, 978-81-931261-6-5	2016
9.	Combined Radiation and Thermo-Diffusion Effects on Natural Convection over a Melting Plate in Porous Medium Saturated with an Electrically Conducting Fluid of Variable Viscosity.	RamReddy, C., Kairi, R. R., & Reddy, N. R.	<i>Elsevier: Procedia Engineering</i>	2015
10.	Numerical investigation of thermo-diffusion and melting effects of MHD natural convection over a plate in porous medium saturated with a fluid of variable viscosity (Chapter)	Rishi Raj Kairi	Modern Trends in Social and Basic Sciences ISBN: 978-93-82623-51-9	2015
11.	Thermo-diffusion and Soret effects on non-Darcy natural convection flow of variable viscosity fluid on vertical plate in a porous medium	Rishi Raj Kairi	UGC sponsored National Seminar- 2011,	2011

			Siliguri College, West Bengal 978-81-909694- 2-0	
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Paper presented in International Conferences:

1. Impact of the thermosolutal Marangoni convection on the stratified bioconvective second grade nanofluid flow over an inclined plate, 13TH Annual Workshop on Computational Mathematics and Modelling (05.07.21-09.07.2021), **University of KwaZulu-Natal, South Africa**, Pietermaritzburg Campus
2. Unsteady Mixed Convection Flow of a Second Grade Nanofluid over a Permeable Stretching Surface with Variable Heat Source/Sink, International Conference on Mathematical Modelling and Simulation in Physical (MMSPS-17.04.2021-18.04.2021), Department of Applied Mathematics & Humanities and Department of Physics, **S. V. National Institute of Technology, Surat, India**
3. Analytical Solitary Wave Solution and their structure with Zakharov-Kuznetsov equation, Cognitive Science, Language & Reality – An International Conference, **Cooch Behar Panchanan Barma University, Cooch Behar, West Bengal, India.**
4. Double diffusive convection of nano fluid over a vertical cone in Darcy porous medium, International Seminar on Changing World, Changing Scenario: Challenges and Developments in Contemporary Times (27.03.2018 – 28.03.2018), **Islampur College, Islampur, West Bengal, India**
5. Numerical Difficulties and Challenges in Environment Modelling, International Conference on Environmentalism, Globalism and Morality (10.01.2018-12.01.2018), The Institute of Cross-Cultural Studies and Academic Exchange, ELON, NC, USA (**In collaboration with Alipurduar College, Maynaguri College & Cooch Behar Panchanan Barma University**)
6. Double diffusive convection of power-law fluids from a vertical plate in a non-Darcy porous medium with variable heat and mass fluxes, UGC-Assited International Interdisciplinary seminar on “Contemporary Development in Social and Basis Sciences in times of global crisis”, **Surya Sen Mahavidyala, West Bengal (27.03.2017-28.03.2017), India.**
7. Numerical investigation of thermo-diffusion and melting effects of MHD natural convection over a plate in porous medium saturated with a fluid of variable viscosity, International Conference on Modern Trends in Social and Basic Science (MTSBS-2015) (27.03.2015-28.03.2015), **Alipurduar College, West Bengal, India.**
8. Dispersion of solute from a vertical cone in a non-Newtonian fluid saturated non-Darcy porous medium in presence of viscous dissipation, Frontier of Mathematical Sciences with application (07.12.2012- 09.12.2012), **Calcutta Mathematical Society, West Bengal, India.**
9. Effect of Melting and thermo-diffusion on natural convection heat and mass transfer in a non-Newtonian fluid saturated Darcy Porous Medium, 54th Congress of Indian Society of Theoretical and Applied Mechanics (18.12.2009-21.12.2009), **Netaji Subhas Institute of Technology, New Delhi, India.**
10. The effect of double dispersion on natural convection heat and mass transfer in non-Newtonian fluid saturated non-Darcy porous medium, 53rd Congress of Indian Society of Theoretical and Applied Mechanics (27.12.2008-30.12.2008), **Osmania University, Hyderabad, India.**

Papers presented in National Conferences:

1. MHD natural convection over a melting horizontal plate in porous medium saturated with fluid of variable viscosity, UGC-CPE Assisted Inter-Disciplinary (Science) National seminar on Frontiers in Science and Technology Towards National Development. **ABN Seal College, West Bengal, India**(10.04.2016– 11.04.2016)
2. Combined radiation and thermo-diffusion effects on natural convection over a vertical cone in porous medium saturated with fluid of variable viscosity, National Seminar on Trends and Developments in Science, Social Science and Humanities, **Islampur College, West Bengal, India (22.08.2015)**
3. Thermo-Diffusion and Soret effects on non-Darcy natural convection flow of variable, UGC Sponsored National Seminar in Recent Advances in the Application of Mathematical Analysis and Computational Techniques in Applied Science **Siliguri College, West Bengal, India**(02.12.2011-04.12.2011)

Projects:

Sl. No	Title	Agency (Funding, Commissioning and/or Collaborating)	Period	Grant(s)/ Amount mobilized (so far) in Rs. (Lakhs)	Whether Principal Investigator/ Co-investigator or Consultant/Quality evaluator
1.	Theoretical investigation on transport of microbes in non-Newtonian fluid flows	DST (SERB-SURE)	3 Years	19.76 Lakh	Principal Investigator
2.	Theoretical Investigation of Convective Transport of non-Newtonian fluids with emphasis on second order effects in porous media.	UGC (2017)	2 Years	2.20 Lakh	Principal Investigator

Invited lectures:

Sl. No.	Title of the Paper presented	Title of Conference / Seminar	Organised by	Whether International / National/State/Regional / University/College level
1.	TRANSPORT OF MICROBES IN NON-NEWTONIAN FLUID FLOW THROUGH POROUS MEDIUM	2 nd International Conference on Nonlinear Dynamics and Applications (ICNDA-2024)	Sikkim Manipal Institute of Technology, Rangpo, Sikkim funded by SERB-DST,	International

			Government of India	
2.	Differential Equations in Real-life		Cooch Behar College, Cooch Behar, West Bengal (02.12.2025)	College Level
3.	Electroosmotic Controlled Blood Flow through a Microchannel containing Gold and Silver Nanoparticles: Effect of Driving Microorganisms	Lecture Series on Fluid Dynamics	ISI, Kolkata	National
4.	Machine Learning for Prediction and Decision-Making	Prasanta Chanddra Mahalanobis Memorial Lecture-II	ABN SEAL College, Cooch Behar, West Bengal	College Level

Chaired a session:

Sl. No.	Acted as	Title of Conference / Seminar	Organised by	Whether International / National/State/Regional / University/College level
1.	Chaired a session	2 nd International Conference on Nonlinear Dynamics and Applications (ICNDA-2024)	Sikkim Manipal Institute of Technology, Rangpo, Sikkim funded by SERB-DST, Government of India	International
2.	Chaired a session	International Conference on Recent Advances in Mathematics and Data Science (ICRAMDS-2024) June 27 th - 28 th , 2024	MANIT, Bhopal, funded by SERB-DST, Government of India	International

3.	Chaired a session	Frontiers in Mathematical Sciences: Theory, Applications and Innovations (FMSTAI-2025) 22 nd - 24 th , 2025	Department of Mathematics, University of North Bengal, funded by ANRF & CSIR, Government of India	International
4.	Chaired a session	3 rd International Conference on Nonlinear Dynamics and Applications (ICNDA-2026) 8 th - 10 th April, 2026	Sikkim Manipal Institute of Technology, Rangpo, Sikkim funded by ANRF & CSIR, Government of India	International

Activities in Professional association:

Editorial Board Member:

- Discover Fluid Mechanics (Springer Nature)

Reviewer:

- International Journal of Heat and Mass Transfer (ELSEVIER)
- International Communications in Heat and Mass Transfer (ELSEVIER)
- Physics of Fluids (AIP)
- The European Physical Journal Plus (SPRINGER)
- Journal of Heat Transfer (American Society of Mechanical Engineering)
- Numerical Heat Transfer, Part A: Applications (TAYLOR & FRANCIS)

Member of the Learned Societies

Life Member of Indian Society of theoretical and applied Mechanics (I.S.T.A.M.)

Training courses:

Sl.No	Name of the course	Duration	Organized by
1.	Orientation Programme	28 days	ASC, University of North Bengal

		(18.07.2012 – 14.08.2012)	
2.	Workshop on Latex	3 days (29.08.2016 – 31.08.2016)	Department of Computer Science, Cooch Behar College, Cooch Behar (In collaboration with IIT BOMBAY)
3.	Refresher Course in Mathematics (Interdisciplinary)	21 days (08.01.2014 – 28.01.2014)	ASC, University of North Bengal
4.	Refresher Course in Mathematics (Interdisciplinary)	21 days (08.12.2018 – 28.01.2018)	HRDC, University of North Bengal
5.	Recent Development in Science and Technology (Refresher Course)	14 days (15.02.2022 – 28.02.2022)	HRDC, University of North Bengal

Brief summary of previous and current research work

My research continues to be aimed to improve the understanding of convective transport phenomena in different non-Newtonian fluids. During the past ten years, I have extensively studied and analyzed the convection phenomena of Newtonian/non-Newtonian fluids with considering several second-order effects like dispersion, dissipation, thermo-diffusion, radiation, and melting. Recently, I have shifted my area of interest to the Bioconvection of microorganisms in different nanofluids. Since there is a lack of experimental research in the field of bioconvective transport and experimentation with microorganisms is generally not easy to carry out and becomes even more complicated with nanofluids. Thus, there is a scope for the theoretician and more so for experimentalist to explore the bioconvection phenomena for nanofluids. One of my tenets of research has been “**Transport of Microorganisms in Nanofluids with Emphasis on Second Order Effects**”. In addition to that, my future research includes the bioconvection of non-Newtonian nanofluids with: (1) considering different geometry (2) anisotropy (3) relaxing the condition of local equilibrium (4) stability of convection (5) considering different boundary conditions.

Rishi Raj Kairi

Date: 29/07/2026
Place: Cooch Behar

Dr. Rishi Raj Kairi