

Curriculum Vitae

MR. NEELAV SARMA (M.Sc., SET)

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PRESENT STATUS

- Assistant Professor, Department of Mathematics, Royal Global University, Guwahati.
- Research Scholar, Department of Mathematics, Cotton University, Guwahati.
- Joint Secretary, Assam Academy of Mathematics

ACADEMIC PROFILE

Exam	Institution	Result	Subjects	Year
HSLC	Salt Brook School	91.83%	English, Assamese, Social Science, Science, Mathematics, Advanced Mathematics	2014
HSSLC	Salt Brook Academy	91.80%	English, Alternative English, Physics, Chemistry, Statistics, Mathematics	2016
UG (B.Sc.)	Cotton University	8.94 CGPA/ 89.4%	Mathematics (Core), Physics (Elective), Chemistry (Elective)	2019
PG (M.Sc.)	Cotton University	8.94 CGPA/ 89.4%	Mathematics (Specialised in Relativity and Fluid Dynamics)	2021
Ph.D.	Cotton University	NA	The thesis entitled "A Numerical Study on Heat and Mass Transfer of Non-Newtonian Hybrid Nanofluids through Some Conventional Geometries" on Fluid Dynamics	Submission by 2025. FR was completed in April 2024.

ACADEMIC MEMBERSHIP

- Life Member of Assam Academy of Mathematics (Reg No.: 223146)
- Life Member of the International Association of Engineers (Membership number: 317260)
- Member of Foundations of Computational Mathematics and NAFEMS

ACADEMIC ROLE

- Assistant Secretary, Assam Academy of Mathematics (2022-2024)
- Joint Secretary, Assam Academy of Mathematics (2024-Present)
- Convenor, Media & Publicity Cell, Assam Academy of Mathematics
- Member, Assam Mathematics Olympiad (AMO) Examination Committee

OTHER ROLE

- Treasurer, Black Leopard Kung-Fu Do

OTHER QUALIFICATION

- Qualified **SET** for North-East region (2024)

RESEARCH INTEREST

- Fluid flows with heat and mass transfer; Computational Fluid Dynamics
- Relativity

LIST OF PUBLICATIONS

A. Published Research Papers:

1. Paul, A., **Sarma, N.**, & Patgiri, B. (2023). Mixed convection of shear-thinning hybrid nanofluid flow across a radiative unsteady cone with suction and slip effect. *Materials Today Communications (Elsevier)*, 37, 107522. **DOI:** 10.1016/j.mtcomm.2023.107522. **ISSN:** 2352-4928
2. Paul, A., **Sarma, N.**, & Patgiri, B. (2023). Thermal and mass transfer analysis of Casson-Maxwell hybrid nanofluids through an unsteady horizontal cylinder with variable thermal conductivity and Arrhenius activation energy. *Numerical Heat Transfer, Part A: Applications (Taylor and Francis)*, 1-26. **DOI:** 10.1080/10407782.2023.2297000. **ISSN (Electronic):** 1521-0634, **ISSN (Print):** 1040-7782.
3. **Sarma, N.**, & Paul, A. (2023). Thermophoresis and Brownian motion influenced bioconvective cylindrical shaped Ag–CuO/H₂O Ellis hybrid nanofluid flow along a radiative stretched tube with

inclined magnetic field. *BioNanoScience (Springer Nature)*, 1-27. **DOI:** 10.1007/s12668-023-01280-1. **ISSN (Electronic):** 2191-1649, **ISSN (Print):** 2191-1630.

4. Paul, A., Patgiri, B., & **Sarma, N.** (2024). Darcy-Forchheimer flow of Ag–ZnO–CoFe₂O₄/H₂O Casson ternary hybrid nanofluid induced by a rotatory disk with EMHD. *International Journal of Ambient Energy (Taylor and Francis)*, 45(1), 2313697. **DOI:** 10.1080/01430750.2024.2313697. **ISSN:** 2162-8246

5. Paul, A., Patgiri, B., & **Sarma, N.** (2024). Combined Effect of Non-Linear Mixed Convection, and Non-Uniform Heat Source/Sink on Casson Ternary Hybrid Nanofluid Flow Across a Stretched Rotatory Disk. *Journal of Nanofluids (American Scientific Publisher)*, 13(2), 586-599. **DOI:** 10.1166/jon.2024.2136. **ISSN (Electronic):** 2169-4338, **ISSN (Print):** 2169-432X.

6. Paul, A., **Sarma, N.**, & Patgiri, B. (2024). Numerical assessment of MHD thermo-mass flow of Casson ternary hybrid nanofluid around an exponentially stretching cylinder. *BioNanoScience (Springer Nature)*, 1-16. **DOI:** 10.1007/s12668-024-01306-2. **ISSN (Electronic):** 2191-1649, **ISSN (Print):** 2191-1630.

7. Paul, A., Patgiri, B., & **Sarma, N.** (2024). Transformer oil-based Casson ternary hybrid nanofluid flow configured by a porous rotating disk with hall current. *ZAMM-Journal of Applied Mathematics and Mechanics/Zeitschrift für Angewandte Mathematik und Mechanik (Wiley)*, 104(4), e202300704. **DOI:** 10.1002/zamm.202300704. **ISSN (Electronic):** 1521-4001, **ISSN (Print):** 0044-2267.

8. Paul, A., Patgiri, B., & **Sarma, N.** (2024). Mixed convective flow of engine oil-based non-Newtonian tri-hybrid nanofluid across a porous rotating disk. *World Journal of Engineering (Emerald)*. **DOI:** 10.1108/WJE-01-2024-0025. **ISSN:** 1708-5284

9. Patgiri, B., Paul, A., & **Sarma, N.** (2024). Numerical assessment of viscoelastic tetra hybrid nanofluid flow across a stretchable rotatory disk under the Soret and Dufour aspects. *Multidiscipline Modeling in Materials and Structures (Emerald)*. **DOI:** 10.1108/MMMS-12-2023-0416. **ISSN:** 1573-6105

10. **Sarma, N.**, & Paul, A. (2024). Cattaneo-Christov heat flux effect on Darcy-Forchheimer dual-phase dusty shear-thickening Carreau hybrid nanofluid flow along a stretched vertical cylinder. *Numerical Heat Transfer, Part B: Fundamentals (Taylor and Francis)*, 1-25. **DOI:** 10.1080/10407790.2024.2364786. **ISSN (Electronic):** 1521-0626, **ISSN (Print):** 1040-7790.

11. **Sarma, N.**, & Paul, A. (2024). Thermal and Flow Transfer Characteristic of Two-Phase Dusty Viscoelastic Maxwell Hybrid Nanofluid Over a Porous Radiative Cylinder. *International Journal of Computational Materials Science and Engineering (World Scientific)*. **DOI:** 10.1142/S2047684124500192. **ISSN (Electronic):** 2047-685X, **ISSN (Print):** 2047-6841.

12. Paul, A., **Sarma, N.**, & Patgiri, B. (2024). MHD Al₂O₃/Cu-water Casson hybrid nanofluid flow across a porous exponentially stretching sheet. *Latin American Applied Research-An International Journal*, 54(4), 467-476. **DOI:** 10.52292/j.laar.2024.3282. **ISSN (Electronic):** 1851-8796, **ISSN (Print):** 0327-0793.

13. **Sarma, N.**, & Paul, A. (2024). Engine oil blended Casson hybrid nanofluid flow along a uniformly heated curved surface with Arrhenius activation energy and suction: A computational study. *Hybrid Advances (Elsevier)*, 5, 100161. **DOI:** 10.1016/j.hybadv.2024.100161. **ISSN:** 2773-207X.

14. **Sarma, N.**, Paul, A., & Patgiri, B. (2024). Computational study of Jeffrey Hybrid nanofluid flow over on a non-uniformly heated permeable exponentially stretching surface with Arrhenius activation energy and inclined magnetic field. *Hybrid Advances (Elsevier)*, 6, 100194. **DOI:** 10.1016/j.hybadv.2024.100194. **ISSN:** 2773-207X.

B. Accepted Research Papers:

1. Paul, A., **Sarma, N.**, & Patgiri, B., “Numerical Analysis of Maxwell Hybrid Nanofluid Flow Implementing Modified Fourier-Fick's Model Through an Unsteady Vertical Cylinder with Brownian Motion & Thermophoresis”, *Numerical Heat Transfer, Part A: Applications (Taylor and Francis)*.

2. **Sarma, N.**, Paul, A., & Patgiri, B., “Insights Using Hamilton-Crosser Model in Williamson Hybrid Nanofluids with Homogeneous-Heterogeneous Reactions and Diagonal Electromagnetic Effects”, *Proceedings of the Institution of Mechanical Engineers, Part N: Journal of Nanomaterials, Nanoengineering and Nanosystems (Sage Journals)*.

C. Under Review Research Papers:

1. Paul, A., Patgiri, B., **Sarma, N.**, “Computational Simulation of Casson Tetra-Hybrid Nanofluid Flow Across a Stretched Spinning Disk with Nonlinear Chemical Interactions and Varying Fluid Properties”, Under Review at *International Journal of Computational Materials Science and Engineering (World Scientific)*

D. Published Book Chapters:

1. “Chapter 2: Numerical Analysis of Unsteady MHD Free Convection Casson Fluid Flow Past an Inclined Oscillating Plate With Soret Effect” in the book *Contemporary Research Trends in Mathematical and Statistical Sciences* by EDGE BOOK HOUSE (**ISBN:** 978-81-964711-3-2).

2. “Chapter 10: Flow and thermal behavior of Ellis hybrid nanofluid” in the book *Nanofluids Technology for Thermal Sciences and Engineering: Research, Development, and Applications* by CRC PRESS [**ISBN:** 9781032799117 (hbk), 9781032799131 (pbk), 9781003494454 (ebk)], **DOI:** 10.1201/9781003494454

3. “Chapter 7: Enhancement of Casson SWCNT-MWCNT-graphene/ethanol tri-hybrid nanofluid’s heat transfer over a spinning disk” in the book *Nanofluid Dynamics and Transport Phenomenon*

by CRC PRESS [ISBN: 9781032863757 (hbk), 9781032863733 (pbk), 9781003527251 (ebk)], DOI: 10.1201/9781003527251

4. “Chapter 26: A Review of the Bounds on the Spectral Radius of a Graph in terms of Various Parameters” in the book *STEAM-Volume II* by IQAC, TINGKONG COLLEGE (ISBN: 978-81-19958-78-8)

PAPER PRESENTED IN CONFERENCES

1. Neelav Sarma, CASSON HYBRID NANOFLUID FLOW OVER AN EXPONENTIALLY STRETCHING POROUS SURFACE WITH CHEMICAL REACTION, *National Conference on Mathematics and its Applications-II 2023 (NCMA-II, 2023)*, Cotton University, Guwahati, November 7-8, 2023.

2. Neelav Sarma, CHEMICALLY REACTIVE Al_2O_3-Cu/H_2O SHEAR-THINNING HYBRID NANOFLUID FLOW ACROSS AN EXPONENTIALLY STRETCHED SHEET WITH NON-UNIFORM HEAT FLUX, *International Conference on Role of Mathematics for the Development of Science and Society (ICRMDSS-2023)*, Tripura University, Agartala, December 21-22, 2023.

RESEARCH PAPER REVIEWED FOR

- Multidiscipline Modeling in Materials and Structures, Emerald Publication, ISSN: 1573-6105
- Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, Semarak ILMU Publishing, Malaysia, ISSN: 2289-7879
- Journal of Applied and Computational Mechanics, Journal published by Shahid Chamran University of Ahvaz, ISSN: 2383-4536
- Hybrid Advances, Elsevier, ISSN: 2773-207X
- Journal of Computational Design and Engineering, Oxford Press, ISSN: 2288-5048
- Plos One, ISSN: 1932-6203
- Journal of Applied and Computational Mechanics, ISSN: 2383-4536
- Numerical Heat Transfer, Part B: Fundamentals, Taylor and Francis, ISSN: 1040-7790
- Numerical Heat Transfer, Part A: Applications, Taylor and Francis, ISSN: 1521-0634
- CFD Letters, Semarak ILMU Publishing, Malaysia, ISSN: 2180-1363
- Journal of Nanotechnology, Wiley, ISSN: 1687-9503 (Print), 1687-9511 (Online)
- Indian Journal of Pure and Applied Physics, CSIR-NIScPR journal, ISSN: 0019-5596 (Print), 0975-1041 (Online)
- Journal of Advanced Research in Numerical Heat Transfer, Semarak ILMU Publishing, Malaysia, ISSN: 2735-0142 (Online)

ASSOCIATE EDITOR IN

- Frontiers in Chemistry, ISSN: 2296-2646 (Online) indexed in PubMed Central (PMC), Scopus and Web of Science (SCIE) with Impact Factor 3.8.

DECLARATION

I hereby declare that all the information furnished above is true and correct to the best of my knowledge and belief.

Mr. Neelav Sarma

