



## *Dr. Nilangshu Acharya*

**Assistant Professor (WBES),**

**Department of Mathematics**

**email: [nilangshu.acharya@prtgc.ac.in](mailto:nilangshu.acharya@prtgc.ac.in)**

**Specialization: Applied Mathematics**

**Major Interest Areas: Dynamics; Differential Equations; Mathematical Physics.**

### **Academic Credentials:**

<b>Examination passed</b>	<b>Board/ University</b>	<b>Year of passing</b>	<b>Class/Div.</b>	<b>% of marks</b>	<b>Subjects studied</b>
Madhyamik Examination	WBBSE	2004	I	77.25	Ben, Eng, His, Geo, Maths, Phy Sc., Life Sc.
Higher Secondary Examination	WBCHSE	2006	I	84.30	Ben, Eng, Maths, Bio, Phys, Chem
U.G.[B.Sc(H)]	University of Calcutta	2009	I	72.12	Maths(Hons.), Phys, Chem
P.G.[M.Sc.]	University of Calcutta	2011	I	77.30	Applied Mathematics
Ph.D(Sc.)	Jadavpur University	2016	-	-	Title of the Thesis <b>“Some aspects on the motion of electrically conducting liquid”</b>
NET( Joint CSIR & UGC)	CSIR-UGC	2011	Rank 15	-	Mathematical science
GATE	MHRD, GOI	2011	Rank 328	-	Mathematics

### Teaching Experience:

- Assistant Professor of Mathematics, P.R.Thakur Govt. College, Thakurnagar since 10<sup>th</sup> June, 2015.
- Assistant Professor of Mathematics, Govt. General Degree College, Rajarhat, New Town, 27<sup>th</sup> February, 2015 to 9<sup>th</sup> June, 2015.

### Courses taken:

- Teaching UG Mathematics under WBSU syllabus for both Honours and General courses.

### Research Interest:

- Nano-fluid Dynamics; MHD flow; Dynamical systems; CFD; Econometrics; Study of complex flow systems.

### List of Publications:

1. Flow features of a conducting fluid near an accelerated vertical plate in a porous medium with ramped wall temperature; P. K. Kundu, K. Das, **N. Acharya**; Journal of Mechanics, Cambridge University Press, 30, 277-288 (2014). ISSN: 17277191.
2. Effect of Magnetic field on Thermosolutal Marangoni boundary layer flow; K. Das, **N. Acharya**, P.K. Kundu; Acta Technica, 60, 237-252 (2015). ISSN: 12215848.
3. Thin film flow over an unsteady stretching sheet with Thermocapillarity in presence of magnetic field; K. Das, **N. Acharya**, P.K. Kundu; Thermal Science, 21(6A), 2363-2372 (2017). ISSN: 23347163.
4. Investigation of the Effects of Different Models of Nanofluids on their Flow and Heat Transfer Characteristics; K. Das, **N. Acharya**, P.K.Kundu; Journal of the Korean Physical Society (Springer), 67(7),1167-1174 (2015). ISSN: 03744884.
5. Radiative flow of MHD Jeffrey fluid past a stretching sheet with surface slip and melting heat transfer; K. Das, **N. Acharya**, P.K. Kundu ; Alexandria Engineering Journal (Elsevier), 54, 815- 821 (2015). ISSN: 11100168.
6. Effect of thermal radiation on MHD boundary layer flow of a perfectly conducting fluid; K.Das, **N. Acharya**, P.K. Kundu; Heat Transfer Research, Begell House Ltd, USA, 47(6), 529–543 (2016). ISSN: 10642285.
7. MHD micropolar fluid flow over a moving plate under slip conditions: An application of Lie group analysis; K. Das, **N. Acharya**, P.K. Kundu; U.P.B. Sci. Bull., Series A: Applied Mathematics and Physics, 78(2), 225-234 (2016). ISSN: 12237027.
8. Slip effects on Squeezing flow of nanofluid between two parallel disks; K.Das, S. Jana, **N. Acharya**; International Journal of Applied Mechanics and Engineering, 21(1), 5-20 (2016). ISSN: 17344492
9. Forced convective flow over a porous plate with variable fluid properties and chemical reaction: An application of lie group transformation; K. Das, **N. Acharya**, P. R. Duari; Moldavian Journal of the Physical Sciences, 16 ( N1-2) (2017). ISSN: 1810648.
10. Impact of Transverse Magnetic Field Thermal Radiation on Non-Darcy Forced Convection Flow; **N. Acharya**, S. Jana, K. Das; Journal of Siberian Federal University, Mathematics & Physics, 11(1), 1-13, 2018. ISSN: 19971397.
11. Identification of the Conditions for Increasing Dimensionality of the Income Expansion Path; S. Mitra, **N. Acharya**, S. K. Bhandari, Economics Bulletin, Volume 39, Issue 4, pages 2664-2673. 2019. ISSN: 15452921.
12. Slip flow of hybrid nanofluid in presence of solar radiation; K. Das, N. Acharya, T. Sk , P.R. Duari , T. Chakraborty. International Journal of Modern Physics C. 2022, 33(02): 2250017. ISSN: 02179792.
13. Magneto Chemically Reacting Micropolar Nanofluid Flow in Existence of Heat Source/Sink; K. Das, **N. Acharya**, P.K. Kundu, P. R. Duari, Journal of Nanofluids, 11, 539–547. 2022. ISSN: 2169-432X.
14. Squeezing flow of Cu-TiO<sub>2</sub>/H<sub>2</sub>O hybrid nanofluid with activation energy and chemical reaction in a Darcy-Forchheimer porous medium; K. Das, **N. Acharya**. International Journal of Ambient Energy (Taylor & Francis), 43(1), 8816 – 8829, 2022. ISSN: 21628246, 01430750.

15. Three-dimensional rotating flow of Cu–Al<sub>2</sub>O<sub>3</sub>/kerosene oil hybrid nanofluid in presence of activation energy and thermal radiation; **N. Acharya**, K.Das. Numerical Heat Transfer, Part A: Applications (Taylor & Francis), 84(6), 586-603, 2023. ISSN: 15210634, 10407782.
16. Unfolding flow features of MHD Hybrid Nanofluid (Ag-Al<sub>2</sub>O<sub>3</sub>-H<sub>2</sub>O) and mono nanofluid (Al<sub>2</sub>O<sub>3</sub>-H<sub>2</sub>O) flow over exponentially expanded sheet soaked in a Darcy-Forchheimer absorbent medium co-existing non-uniform heat generation/absorption; T. Chakraborty, P.R.Duari, **N.Acharya**. Waves in Random and Complex Media (Taylor & Francis), 2023. ISSN: 1745-5049.
17. Exploration of Hall current effect and multiple convections in a Darcy Forchheimer flow of hybrid nanofluid over rotating permeable disk: a Stefan blowing approach; S.S.Giri, **N. Acharya**, K. Das. International Journal of Ambient Energy (Taylor & Francis), 45(1), 2344547, 2024. ISSN: 21628246, 01430750.

#### List of Books/Book Chapters:

1. “Mathematical Logic and Set Theory”; D.Chakraborti, **N.Acharya**, S.K.Bhandari. *Santra Publication Pvt. Ltd.*, 2023, ISBN: 9789392426094.
2. “Essential Mathematics for class XII & All India Engineering Entrances”, S. Jana, C.K. Bandyopadhyay, **N. Acharya**, *Santra Publication Pvt. Ltd.*, 2024, ISBN: 978-93-92426-62-9.
3. “Ucchatara Ganit for Class XI & XII”, S. Jana, C.K. Bandyopadhyay, **N. Acharya**, *Santra Publication Pvt. Ltd.*, 2023.
4. Book entitled “Advanced Materials-Based Fluids for Thermal Systems”; Chapter no. 10 entitled “Non-axisymmetric Homann stagnation point flow of nanofluid towards a flat surface in presence nanoparticle diameter and solid-liquid interfacial layer.”, 233-252.; K.Das, S.Giri, **N. Acharya**; *Elsevier*, 2024, ISBN: 978-0-443-21576-6.

#### List of Honours/Awards:

1. SERB-ITS (International Travel Support) to attend a conference “The 6th International Conference on Engineering Mathematics and Physics: 2017” at Cape Town, South Africa during April, 2017.
2. Recipient of Merit cum means scholarship from Department of Higher Education, Govt. of West Bengal for pursuing Master Degree during 2009- 2011.

#### Membership in scientific bodies:

- Life Member of Calcutta Mathematical Society, Kolkata, West Bengal.
- Life member of Mathematics Teachers’ Association (India), HBCSE, Mumbai.

#### Editor/or Editorial Board Member/Reviewer:

- Review board member of many journals with international indexing like International Journal of mass and heat transfer, Applied Mathematics and computing, Numerical Heat Transfer: Part A applications.

#### Lecture Presentations:

- ‘Lecture Series on Engineering Mathematics 2024’, organized by Department of Science and Humanities (Mathematics), NIT, Nagaland, during 17th April to 4th May, 2024. Title of talk: Laplace Transforms. (*Invited*)
- International Conference on Applied Mathematics (ICAM – 2024), Dept. of Applied Mathematics, Vidyasagar University, West Bengal, during 27 – 28th June, 2024.
- International Conference on “Multidisciplinary Research Methodology & IPR 2023”; during 12 -13 October, 2023; Bhairab Ganguly College, India; Swami Vivekananda University, India, in association with Azteca University, Mexico.

- International Seminar on “Systematic Approach to Modern Sciences and its Philosophical impacts”; during 6 – 8 February, 2020; Bajkul Milani Mahavidyalaya, in collaboration with Prabhat Kumar College, Contai, West Bengal.
- ‘Recent Trends on Mathematical Application on Computer Science’, organized by Department of Computer Science in collaboration with Dept. of Mathematics, Bajkul Milani Mahavidyalaya, Purba Medinipur, West Bengal, on 25th May, 2019. (*Invited*)
- 2017 The 6th International Conference on Engineering Mathematics and Physics: 2017 (ICEMP 2017) during April, 2017; Cape Town, South Africa.
- National conference on Emerging Trends in Physics of Fluid & Solids: -2016 (NCETPFS-2016) during March 2016; JU, Kolkata.
- National conference on Emerging Trends in Physics of Fluid & Solids: -2015 (NCETPFS-2015) during February 2015; JU, Kolkata.
- National conference on Emerging Trends in Physics of Fluid & Solids: -2014 (NCETPFS-2014) during March 2014; JU, Kolkata.