Faculty Profile

## PERSONEL INFORMATION:

**Dr. Ajeet Kumar Verma**
Assistant Professor, Mathematics
KS Saket PG College, Ayodhya, UP, India
Contact No.: +91 8299764229, +91 8896333269
Date of Birth: 18 July 1990
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Google Scholar: https://scholar.google.com/citations?user=WJUmktQAAAAJ&hl=en
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## RESEARCH INTERESTS:

1. Fluid Dynamics
2. Boundary Layer Flow
3. Nanofluid Flow
4. Flow of Fluids in Porous and Non-Porous Medium.

## EDUCATIONAL QUALIFICATIONS:

| University | Degree | Year of Passing |
|---|---|---|
| Banaras Hindu University | Ph.D. | 2022 |
| Banaras Hindu University | M.Sc. | 2014 |
| University of Lucknow | B.Sc. | 2011 |

## AWARDS:

1. Graduate Aptitude Test in Engineering **(GATE)** in Mathematics, 2017.
2. Junior Research Fellowship **(JRF-NET)** in Mathematical Sciences, 2016, under CSIR, Govt. of India.

## TECHNICAL KNOWLEDGE:

1. MATLAB
2. Mathematica
3. Python
4. C
5. Latex, MS Word, MS Excel

## TEACHING EXPERIENCE:

1. Graduate Course, Dept. of Mathematics, KS Saket PG College, Ayodhya, India, since 26 July, 2022
   Courses: Mathematical Methods, Abstract Algebra, Linear Algebra, Mechanics
2. Post-Graduate Course, Dept. of Mathematics, KS Saket PG College, Ayodhya, India, since 26 July, 2022
   Courses: Integral Equations, Fluid Dynamics, Python Programming

## ATTENDED WORKSHOP

1. Workshop on "**Annual Foundation School (AFS-I)**" during December 04-30, 2017 Organized by Bhaskaracharya Partishthana, Pune.

2. Workshop on "**Hands on training Programme on C & MATLAB**" during February 10-17, 2018 Organized by Banaras Hindu University, DST- CIMS.
3. Workshop on "**The training Programme on Tools for Scientific Documentation LATEX, JabRef, DocEar, and other Open-Source Software**" during May 01-11, 2018, Organized by Banaras Hindu University, DST- CIMS.
4. Workshop on "**Differential Equation Bifurcation and Chaos with Numerical Simulation in MATLAB** " during October 27-28, 2018, Organized by Department of Mathematics, Institute of Science, Banaras Hindu University.
5. Workshop on "**Exploring Some Applications of Mathematical Sciences**" held during January 19-20, 2019 Organized by Department of Mathematics, Institute of Science, Banaras Hindu University.
6. Workshop on "**Advances in Applications of Computational Fluid Dynamics (ACFD-2019)**" during March 06-11, 2019 Organized by Department of Mechanics, Motilal Nehru National Institute of Technology (MNNIT), Prayag Raj.
7. TEQIP-III sponsored one week online short-term training Programme on "**Computational Fluid Dynamics**" during August 17-22, 2020, Organized by the Department of Mechanical Engineering, NIT Srinagar.

## PRESENTED/ATTENDED CONFERENCE

1. "**36th Annual National Conference of The Mathematical Society Banaras Hindu University, on New Challenges Emerging in Mathematical Sciences (NCEMS-2021)**" during February 06-07, 2021, Organized by the Department of Mathematics, I. Sc., Banaras Hindu University, Varanasi.
2. "**1st International Conference on Applied Analysis, Computation and Mathematical Modelling in Engineering (AACMME-2021)**" during February 24-26, 2021, Organized by the Department of Mathematics, National Institute of Technology, Rourkela.
3. "**37th Annual National Conference of The Mathematical Society Banaras Hindu University, on Modern Mathematics and It's Applications (MMA-2022)"** during January 29-30, 2022, Organized by the Department of Mathematics, I. Sc., Banaras Hindu University, Varanasi.

## PUBLICATIONS

1. A.K. Verma, S. Rajput, K. Bhattacharyya, A.J. Chamkha, D. Yadav, "Comparison between graphene-water and graphene oxide-water nanofluid flows over exponential shrinking sheet in porous medium: Dual solutions and stability analysis", published in **"Chemical Engineering Journal Advances",** 2022. DOI: 10.1016/j.ceja.2022.100401

2. A.K. Gautam, S. Rajput, K. Bhattacharyya, A.K. Verma, Md.G. Arif, A.J. Chamkha, "Existence of multiple solutions for magnetohydrodynamic flows of second-grade and Walter's B fluids due continuously contracting flat sheet with partial slip", published in **"Partial Differential Equations in Applied Mathematics",** 2022. DOI: 10.1016/j.padiff.2022.100434

3. A.K. Verma, S. Rajput, K. Bhattacharyya, A.J. Chamkha, "Nanoparticle's radius effect on unsteady mixed convective copper-water nanofluid flow over an expanding sheet in porous medium with boundary slip", published in **"Chemical Engineering Journal Advances",** 2022. DOI: 10.1016/j.ceja.2022.100366

4. S. Rajput, K. Bhattacharyya, A.K. Verma, M.S, Mani, A.J. Chamkha, D. Yadav, "Unsteady stagnation-point flow of CNTs suspended nanofluid on a shrinking/expanding sheet with partial slip: multiple solutions and stability analysis", published in **"Waves in Random and Complex Media",** 2022. DOI: 10.1080/17455030.2022.2063986

5. A.K. Verma, K. Bhattacharyya, S. Rajput, M.S, Mani, A.J. Chamkha, D. Yadav, "Buoyancy driven non-Newtonian Prandtl-Eyring nanofluid flow in Darcy-Forchheimer porous medium over inclined non-linear expanding sheet with double stratification", published in **"Waves in Random and Complex Media",** 2022. DOI: 10.1080/17455030.2022.2062482

6. A. Banerji, K. Bhattacharyya, S.K. Mahato, A.K. Verma, A.K. Gautam, A.J. Chamkha, "Exact solutions for 2D boundary layer flow of two types of viscoelastic fluids and heat transfer on a permeable shrinking sheet

with thermal radiation and variable surface temperature: existence of multiple solutions", published in **"Waves in Random and Complex Media",** 2022. DOI: 10.1080/17455030.2021.2023786

7. A.K. Singha, G.S. Seth, K. Bhattacharyya, D. Yadav, A.K. Verma, A.K. Gautam, "Soret and Dufour Effects on Hydromagnetic Flow of H 2 O-Based Nanofluids Induced by an Exponentially Expanding Sheet Saturated in a Non-Darcian Porous Medium", published in **"Journal of Nanofluids",** 2021. DOI: 10.1166/jon.2021.1800
8. S. Rajput, A.K. Verma, K. Bhattacharyya, A.J. Chamkha, "Unsteady nonlinear mixed convective flow of nanofluid over a wedge: Buongiorno model", published in **"Waves in Random and Complex Media",** 2021. DOI: 10.1080/17455030.2021.1987586
9. A.K. Verma, A.K. Gautam, K. Bhattacharyya, A. Banerji, A.J. Chamkha, "Boundary layer flow of non-Newtonian Eyring–Powell nanofluid over a moving flat plate in Darcy porous medium with a parallel free-stream: Multiple solutions and stability analysis", published in **"Pramana",** 2021. DOI: 10.1007/s12043-021-02215-9
10. A.K. Gautam, A.K. Verma, K. Bhattacharyya, S. Mukhopadhyay, A.J. Chamkha, "Impacts of activation energy and binary chemical reaction on MHD flow of Williamson nanofluid in Darcy–Forchheimer porous medium: a case of expanding sheet of variable thickness", published in **"Waves in Random and Complex Media",** 2021. DOI: 10.1080/17455030.2021.1979274
11. A.K. Verma, A.K. Gautam, K. Bhattacharyya, R.P. Sharma, "Existence of boundary layer nanofluid flow through a divergent channel in porous medium with mass suction/injection", published in **"Sadhana",** 2021. DOI: 10.1007/s12046-021-01588-2
12. A.K. Verma, A.K. Gautam, K. Bhattacharyya, I. Pop, "Entropy generation analysis of Falkner–Skan flow of Maxwell nanofluid in porous medium with temperature-dependent viscosity", published in **"Pramana",** 2021. DOI: 10.1007/s12043-021-02083-3
13. B. Mandal, K. Bhattacharyya, A. Banerjee, A.K. Verma, A.K. Gautam, "MHD mixed convection on an inclined stretching plate in Darcy porous medium with Soret effect and variable surface conditions", published in **"Nonlinear Engineering",** 2020. DOI: 10.1515/nleng-2020-0029
14. A.K. Gautam, A.K. Verma, K. Bhattacharyya, A. Banerjee, Soret and Dufour effects on MHD boundary layer flow of non-Newtonian Carreau fluid with mixed convective heat and mass transfer over a moving vertical plate", published in **"Pramana",** 2020. DOI: 10.1007/s12043-020-01984-z

**BOOKs (UG/PG Courses)**

1. "**A Text Book of Mathematical Methods**", published in "Vandana Prakashan", **ISBN: 978-93-91245-01-6**, 2023.
2. "**A Text Book of Integral Calculus**", in "Vandana Prakashan", **ISBN: 978-81-951497-8-0**, 2023.

**DECLARATION:** I hereby certify that all the information provided here is correct to the best of my knowledge.

**Place:** Ayodhya (India)

**Date: 21/08/2023** **Dr. Ajeet Kumar Verma**