

CURRICULUM VITAE

Dr. Mukesh Kumar

PRESENT POSITION

Assistant Professor

Address for Correspondence

Department of Mathematics
M NNIT Allahabad-211004, India.

E mail

mukesh@mnnit.ac.in,
mukeshkumar12@rediffmail.com

Phone:

+91-532-2271256



• Educational qualifications:

Ph. D. IIT Roorkee

M. Phil. IIT Roorkee

M.Sc. IIT Roorkee

**Throughout first class academic career.*

• National Level Examinations:

- NET(CSIR-UGC) JRF 1998, 2000, 2001, 2004
- GATE 1999 Percentile Score 99.34, **All India Rank – 5th**

• Area of Interest:

Partial Differential Equations, Fluid Mechanics, Numerical Analysis, General Theory of Relativity.

• Teaching Experience:

- Assistant Professor, Department of Mathematics, **Motilal Nehru National Institute of Technology, Allahabad** from May 19, 2006 till date (Present Grade Pay 8000/- since 2012).
- Lecturer at Department of Mathematics, **Birla Institute of Technology and Science, Pilani (Rajasthan)** from March 1, 2005 to May 17, 2006.

• Research:

Ph.D. Thesis supervised:

1. Ms. Archana Chauhan (awarded, 2013)
2. Mr. Raj Kumar (awarded, 2014)
3. Mr. Amit Kumar Mishra (submitted, 2015)
4. Mr. Anshu Kumar (in progress)
5. Mr. Atul Kumar Tiwari (in progress)

M. Sc. Thesis supervised:

1. Mr. Pawan Kumar Mishra, (2008MSC04) (2010)
2. Ms. Parimita Roy, (2009MSC09) (2011)
3. Mr. Anand Pratap Singh, (2010MSC07) (2012)
4. Mr. Vivek Kumar Srivastava, (2010MSC10) (2012)
5. Ms. Saumya Bhatnagar (2011MSC03) (2013)
6. Mr. Gyan Prakash Navendu, (2011MSC07) (2013)
7. Ms. Nishtha Shukla (2012MSC03) (2014)
8. Mr. Pravesh Tomar, (2013MSC01) (2015)

• Publications:

JOURNAL

- **Mukesh Kumar**, Raj Kumar and Anshu Kumar, “Some more *similarity solutions of the (2+1)-dimensional BLP system*”, *Computers & Mathematics with Applications*, **Elsevier**, **70(3)**, 212-221 (2015), Impact factor: **1.996**.
- Amit Mishra and **Mukesh Kumar**, “*A weakly non linear stability analysis of heat transport in anisotropic porous cavity under Time Periodic temperature modulation*”, *Journal of Applied Fluid Mechanics*, **JAFM**, **8(4)**,1-11, (2015), Impact factor: **0.505**.
- **Mukesh Kumar**, Raj Kumar and Anshu Kumar, “*On similarity solutions of Zabolotskaya-Khokhlov equation*”, *Computers & Mathematics with Applications*, **Elsevier** **68(4)**, 454-463, (2014), Impact factor: **1.996**.
- **Mukesh Kumar** and Raj Kumar, “*On new similarity solutions of the Boiti-Leon-Pempinelli system*”, *Communications in Theoretical Physics*, **Chinese Physical Society and IOP Publishing Ltd**, **61(1)**, 121-126, (2014), Impact factor: **1.049**.
- **Mukesh Kumar** and Raj Kumar, “*On some new exact solutions of incompressible steady state Navier-Stokes equations*”, *Meccanica-An International Journal of Theoretical and Applied Mechanics AIMETA*, **Springer**, **49(2)**, 335-345, (2014), Impact factor: **1.815**.
- Amit Mishra and **Mukesh Kumar**, “*Chaotic convection in a couple stress liquid saturated in porous cavity*”, *International Journal of Energy & Technology*, **American society of science and engineering**, **6(6)**, 1-8, (2014).
- Amit Mishra and **Mukesh Kumar**, “*A weakly non linear stability analysis of heat transport in anisotropic porous cavity under G-jitter*”, *International Journal of Mathematical Archive*, **IJMA**, **4(11)**, 330-337, (2013).

- Raj Kumar, **Mukesh Kumar** and Anshu Kumar, “Some Soliton Solutions of Non Linear Partial Differential Equations by Tan-Cot Method”, *IOSR Journal of Mathematics*, **ISORJM**, 6(6), 23-28, (2013).
- Archana Chauhan, Jaydev Dabas and **Mukesh Kumar**, "Integral Boundary-value Problem for impulsive fractional Functional Differential Equations with Infinite Delay" *Electronic Journal of Differential Equations*, **Texas State University-San Marcos**, 2012(229), 1-13, (2012), Impact factor: **0.419**.
- Jaydev Dabas, Archana Chauhan and **Mukesh Kumar**, "Existence of the mild Solutions for impulsive fractional equations with infinite delay" *International Journal of Differential Equations*, **Hindawi Publishing Corporation**, 2011, Article ID 793023, 20 pages doi:10.1155/2011/793023, (2011).
- **Mukesh Kumar** and Y. K. Gupta, “Some Invariant Solutions for Non Conformal Perfect Fluid Plates in 5-flat Form in General Relativity”, *Pramana- Journal of Physics*, **Springer**, 74(6), 883-893, (2010), Impact factor: **0.72**.
- **Mukesh Kumar** and Y. K. Gupta, “Some type D Accelerating Fluid Distributions of Embedding Class One”, *International Journal of Applied Mathematics and Mechanics*, **IJAMM** 6(12), 42-67,(2010).
- Y. K. Gupta and **Mukesh Kumar**, “On Charged Analogues of Buchdahl’s Type Fluid Spheres”, *Astrophysics and Space Science*, **Springer**, 299(1), 43-59,(2005), Impact factor: **2.401**.
- Y. K. Gupta and **Mukesh Kumar**, “On the General Solution for a Class of Charged Fluid Spheres”, *General Relativity and Gravitation*, **Springer-Verlag**, 37(1), 233-236, (2005), Impact factor: **1.725**.
- Y. K. Gupta and **Mukesh Kumar**, “A Superdense Star Model as Charged Analogue of Schwarzschild’s Interior Solution”, *General Relativity and Gravitation*, **Springer-Verlag** 37(3), 575-583,(2005). Impact factor: **1.725**.
- **Mukesh Kumar**, Raj Kumar and Anshu Kumar, “Some New Similarity Solutions of KDV Equations” *Computers & Mathematics with Applications* **Elsevier**.(Communicated).
- **Mukesh Kumar**, Raj Kumar and Anshu Kumar “Some Closed Form Solutions of BLP System” *Communications in Theoretical Physics*, **Chinese Physical Society and IOP Publishing Ltd**, (Communicated)

CONFERENCES

- Y. K. Gupta and **Mukesh Kumar**, “On Some Accelerating and Shearing Fluid Spheres of Embedding Class One with Non-Vanishing Conformal Curvature Tensor”, *International Conference on Mathematical Modelling*, IIT Roorkee, India Jan 29-31, 2001. ISBN: 0-07-044758-6, Nature: **Oral**.
- **Mukesh Kumar** and Raj Kumar “Some More Solutions of Burger’s equation”, *International Conference on Mathematical Modelling in physical science*, **IOP Publishing Ltd**, The IC-

MSQUARE Secretariat **Madrid (Spain), Aug 28-31, (2015)**. (doi:10.1088/1742-6596/574/1/012038), Nature: **Oral**.

- **Mukesh Kumar** (2012) “*On Invariant Solutions of Steady State Navier-Stokes Equations*” **32nd annual Southeastern-Atlantic Regional Conference on Differential Equations (SEARCDE)** Oct 19-20, 2012, Wake Forest University, Winston-Salem, NC, USA.

- **Invited Talks:**

- “Similarity Transformations Method for non-linear differential equations” at National Conference on Mathematical Modelling and Application in Sciences and Engineering held at NIT Patna on March 09-10, 2013.
- “Similarity Transformation Methods” at National Workshop on Application of Mathematics in different fields of Science held at Govt. Nagarjuna P.G. College of Science Raipur on Oct 12-14, 2012.
- “Mathematical Techniques” at SVNIT Surat, Gujrat on August 29, 2011.

- **Workshop:**

- Conducted a National workshop on optimization techniques and their applications from June 5-11, 2013 as organizing secretary.
- Attended a “Faculty Orientation Programme” on January 12-13, 2013, held at MNNIT Allahabad.
- Attended a Short Term Course on “Partial Differential Equations and their Application on August 27-28, 2011, held at SVNIT Surat, Gujrat.
- Attended a Workshop on “Teaching and Learning Pedagogy” from March 25-26, 2011, held at MNNIT Allahabad.
- Attended a Workshop from Oct 1-7, 2008, held at Banasthali University Rajasthan.

- **Department/ Institute responsibilities:**

- **Warden I**, Sir C.V. Raman hostel, MNNIT Allahabad from January, 2012 to February 2015.
- Convener DUGC, Department of Mathematics, MNNIT Allahabad from Nov, 2010 to July 2012.
- Deputy Coordinator, Cultural Activity Committee, MNNIT Allahabad from July-2010.
- Office-in charge Time Table committee Department of Mathematics, MNNIT Allahabad from July-2008 to July 2009.