

# Curriculum Vitae

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**Official Corresponding Address:** : Dr. Jaydev Dabas  
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## **Research Interest:**

- (1) Differential Equations in Abstract Spaces
- (2) Initial and Boundary Value Problems
- (3) Approximation of Solutions
- (4) Inverse and Ill-posed Problems

## **Teaching and Research Experiences:**

| S.No. | Employer                         | Department        | Designation         | Duration                    |
|-------|----------------------------------|-------------------|---------------------|-----------------------------|
| 1.    | I.I.T. Roorkee <sup>1</sup>      | Applied Sci & Eng | Associate Professor | November-2015-at Present    |
| 2.    | I.I.T. Roorkee <sup>1</sup>      | Applied Sci & Eng | Assistant Professor | December-2010-November-2015 |
| 3.    | M.N.N.I.T.Allahabad <sup>2</sup> | Mathematics       | Assistant Professor | March-2009-December-2010    |
| 4.    | BITS Pilani <sup>3</sup>         | Mathematics       | Lecturer            | November-2008-March-2009    |
| 5.    | IIT Kanpur <sup>4</sup>          | Mathematics       | PhD Student         | July-2003-Oct-2008          |

I.I.T. Roorkee<sup>1</sup> : Indian Institute of Technology Roorkee.  
M.N.N.I.T.Allahabad<sup>2</sup> : Motilal Nehru National Institute of Technology Allahabad.  
BITS Pilani<sup>3</sup> : Birla Institute of Technology and Science Pilani Rajasthan.  
IIT Kanpur<sup>4</sup> : Indian Institute of Technology Kanpur.

## **Educational Qualifications (Starting from high-school onwards):**

| S.No. | Degree | University/Board                 | Year | Subjects                      | Division |
|-------|--------|----------------------------------|------|-------------------------------|----------|
| 1.    | X.     | UP Board Allahabad               | 1994 | Hindi,Eng,Sci,S.Sci,Maths,Bio | First    |
| 2.    | XII.   | UP Board Allahabad               | 1996 | Hindi,English,Phy,Chem,Maths  | First    |
| 3.    | BSc.   | C.C.S. Univ. Meerut <sup>1</sup> | 1999 | Phy,Chem, Maths               | First    |
| 4.    | MSc.   | C.C.S. Univ. Meerut              | 2001 | Mathematics                   | First    |
| 5.    | PhD*.  | I.I.T. Kanpur                    | 2009 | Mathematics                   | —        |

C.C.S. Univ. Meerut<sup>1</sup> : Choudhary Charan Singh University Meerut.  
PhD. March 2009 : Department of Mathematics & Statistics,  
Indian Institute of Technology Kanpur, India.

Thesis Title : The Method of Lines to Nonlocal Initial Boundary Value Problems  
Thesis Supervisor : Prof. Dhirendra Bahuguna.

**Sponsored Research Project:**

| S.No. | Title of the project  | Funding Agency            | Duration   | Total Fund  |
|-------|---|---------------------------|------------|-------------|
| 1.    | TO INVESTIGATE EXISTENCE AND UNIQUENESS OF SOME FRACTIONAL ORDER DIFFERENTIAL EQUATIONS WITH IMPULSIVE CONDITIONS | FIG-Scheme-A, IIT Roorkee | 20012-2015 | 2.75 Lakhs  |
| 2.    | TO STUDY THE EXISTENCE OF MILD SOLUTIONS FOR SOME FRACTIONAL FUNCTIONAL DIFFERENTIAL EQUATIONS.                   | DST-Fast Track            | 2012-2015  | 12.48 Lakhs |

**PhD Student Supervised:**

1. Archana Chauhan, Thesis Title: Study of Impulsive Fractional Differential Equations, Awarded-2013.
2. Ganga Ram Gautam, Thesis Title: To study the mild solutions for some fractional functional differential equations. Awarded in July-2015.
3. Mr. Mohd. Nadim, Thesis Title: The existence results for some fractional stochastic differential equations, Awarded in August-2016.
4. Vidushi Gupta Thesis Title: Existence and uniqueness results of fractional Initial boundary value problems, Awarded in January-2017.

**Courses Taught:**

1. MA-001(Mathematics-I)
2. MA-002 (Mathematics-II)
3. IMA-11(Numerical Methods)
4. IMA-01 (Adv. Eng. Maths.)
5. MA-202M(Numerical Analysis)
6. MA-501F(Numerical and Statistics).

**Membership:**

1. Member of American Mathematical Society USA
2. Member of SIAM, USA

**Conference/Seminar/Workshop Attended:**

1. International conference Equadiff-2017 (July 24-28, 2017) organized by the Slovak University of Technology at Bratislava, Slovakia.
2. International Conference of Nonlinear Operators, Differential Equations and Applications (July 14- 17, 2015) at Cluj-Napoca, Romania.
3. The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications (July 7 - 11, 2014) at Madrid, Spain.
4. The 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications (July 1 - 5, 2012) at Orlando, Florida, USA.
5. The 30th Annual Southeastern-Atlantic Regional Conference on Differential Equations (Oct 01-02, 2010) at Virginia Tech University Blacksburg, Virginia, USA.

6. The 29th Annual Southeastern-Atlantic Regional Conference on Differential Equations (Oct 16-17, 2009) at Mercer University Macon, Gorgia, USA.
7. Participated in the two days Workshop on Mathematics, (Sep 19-20, 2009) at The National Academy of Sciences, Allahabad, India.
8. The 6th International Conference on Differential Equations & Dynamical Systems' (May 22-26, 2008) at Morgan State University Baltimore, Maryland, USA.
9. Symposium on Nonlinear Evolution Equations, April 18-19, 2008 at Department of Mathematics, Indian Institute of Science, Bangalore, India.
10. 73rd Annual Conference Indian Mathematical Society, (Dec 27-30, 2007) at Department of Mathematics, University Of Pune, India.
11. Open House Seminar, (Feb 2007 and April 2008) at IIT Kanpur and presented my work on Differential Equations with Nonlocal Boundary conditions.
12. Second National Workshop on Techniques in Applied Mathematics, (June 20-28, 06) at Department of Applied Mathematics University of Calcutta, India.
13. National Symposium on Scientific Computing with Application to Partial Differential Equations, (Nov 19-21, 2005) at Indian Institute of Technology Kanpur, India.

## Publications:

### Referred Journals: Published/Accepted

1. M. Nadeem, **J. Dabas**, Impulsive stochastic fractional order integro-differential equations with infinite delay, Accepted in *Journal of Nonlinear Evolution Equations and Applications (JNEEA)*, Vol.... (2017) pp.....
2. M. Nadeem, **J. Dabas**, Existence Results for Mild Solution for a Class of Impulsive Fractional Stochastic Problems with Nonlocal Conditions, *Nonlinear Dynamics and Systems Theory*, Vol.(4) (2017) pp 376-387.
3. M. Nadeem, **J. Dabas**, Existence of Solution for Nonlinear Stochastic Differential Equations of Order  $\alpha \in (1, 2)$ , *Progress in Fractional Differentiation and Applications*, Vol. 2, No. 3 Jul. (2016), pp 217–224.
4. Ganga Ram Gautam, **J. Dabas**, Mild solution for nonlocal fractional functional differential equation with not instantaneous impulse, *International Journal of Nonlinear Science*. Vol. 21 (2016) No.3, pp. 151–160.
5. Ganga Ram Gautam, **Jaydev Dabas**, Existence of mild solutions for impulsive fractional functional integro-differential equations, *Fractional Differential Calculus*, 5(1), 65-77, (2015).
6. Vidushi Gupta, **J. Dabas**, Existence Results for a Fractional Integro-Differential Equation with Nonlocal Boundary Conditions and Fractional Impulsive Conditions, *Nonlinear Dynamics and Systems Theory*. 15 (4) (2015) 370-382.
7. Vidushi Gupta, **Jaydev Dabas**, Existence of solution for fractional impulsive integro-differential equation with integral boundary conditions, *Func. Anal.-TMA* 1 (2015), 56–68.
8. M. Nadeem, **J. Dabas**, Mild solutions for semi-linear fractional order functional stochastic differential equations with impulse effect, *Malaya Journal of Matematik*,. 3(3)(2015) pp. 277-288.
9. Ganga Ram Gautam and **Jaydev Dabas**, Controllability for a Class of Nonlocal Impulsive Neutral Fractional Functional Differential Equations, *Progr. Fract. Differ. Appl.* Vol.1, No. 4,(Oct. 2015) 295–302.
10. Ganga Ram Gautam and **Jaydev Dabas**, Mild solution for nonlocal fractional functional differential equation with not-instantaneous impulses, *Applied Mathematics and Computation*, 259 (2015) pp. 480-489. **Impact Factor 1.55**
11. Vidushi Gupta, **Jaydev Dabas**, Fractional Functional Impulsive Differential Equation with Integral Boundary Condition, *Springer proceedings of Mathematical Analysis and its Applications*. 143, 2014, 417–428.
12. **Jaydev dabas**, Ganga Ram gautam, and Archana Chauhan, Existence and uniqueness of mild solution for nonlocal impulsive integro-differential equation with state dependent delay, *Fractional differential calculus*, Volume 4, Number 2 (2014), pp. 137-150.
13. M. Nadeem, **J. Dabas**, Controllability result of impulsive stochastic fractional functional differential equation with infinite delay, *Int. J. Adv. Appl. Math. and Mech.*, 2(1) (2014) pp. 9-18.
14. Ganga Ram Gautam and **Jaydev Dabas**, Mild solution for fractional functional integro-differential equation with not instantaneous impulse *Malaya Journal of Matematik*, 2(3)(2014) pp. 428-437.
15. Ganga Ram Gautam and **Jaydev Dabas**, Results of local and global mild solution for impulsive fractional differential equation with state dependent delay *Differential Equations & Applications*, Volume 6 Issue 3 August 2014, pp. 429–440.
16. Ganga Ram Gautam and **Jaydev Dabas**, Existence result of fractional functional integro-differential equation with not instantaneous impulse *Int. J. Adv. Appl. Math. and Mech*, 1(3) (2014) pp. 11–21.
17. Archana Chauhan and **Jaydev Dabas**, Local and global existence of mild solution to an impulsive fractional functional integro-differential equation with nonlocal condition, *Communications in Nonlinear Science and Numerical Simulation*, Vol. 19, Issue 4, April 2014, pp. 821-829. **Impact Factor 2.87**
18. **Jaydev Dabas** and Ganga Ram Gautam, Impulsive neutral fractional integro-differential equations with state dependent delays and integral condition, *Electron. J. Diff. Equ.*, Vol. 2013 (2013), No. 273, pp. 1-13.

19. **Jaydev Dabas** and Archana Chauhan, Existence and uniqueness of mild solution for an impulsive neutral fractional integro-differential equation with infinite delay, *Mathematical and Computer Modelling*. 57 (2013) pp. 754-763. **Impact Factor 1.351**
20. Archana Chauhan, **Jaydev Dabas**, Mukesh Kumar; Integral boundary-value problem for impulsive fractional functional differential equations with infinite delay, *Electronic Journal of Differential Equations*. Vol. 2012 (2012), No. 229, pp. 1-13.
21. N. Tomar and **Jaydev Dabas**, Controllability of impulsive fractional order semi-linear evolution equations with nonlocal conditions, *Journal of Nonlinear Evolution Equations and Applications*. 2012 (5), pp. 57-67, published on August 26, 2012.
22. **Jaydev Dabas**, Existence and Uniqueness of a Solution to a Quasilinear Integro-differential equations by the Method of Lines, *Nonlinear Dynamics and Systems Theory*. 11 (4) (2011) pp. 393-405.
23. **Jaydev Dabas** and Archana Chauhan, Existence of mild solutions for impulsive fractional order differential equations with infinite delay, *International Journal of Differential Equations*. Volume 2011 (2011), Article ID 793023, 20 pages.
24. Archana Chauhan and **Jaydev Dabas**, Fractional order Impulsive functional differential equations with nonlocal initial conditions, *Electronic Journal of Differential Equations*. Vol. 2011 (2011), No. 107, pp. 1–10. **Impact Factor 0.44**
25. **Jaydev Dabas** and D. Bahuguna, Existence and uniqueness of the solution of the strongly damped wave equation with integral boundary conditions, *Nonlinear Dynamics and Systems Theory*. 11 (1) 2011, pp. 65–82.
26. A. Guezane-Lakoud, **Jaydev Dabas** and D. Bahuguna, Existence and Uniqueness of Generalized Solutions to a Telegraph Equation with an Integral Boundary Condition via Galerkin Method, *International Journal of Mathematics and Mathematical Sciences*. Volume 2011 (2011), Article ID 451492, 14 pages.
27. **Jaydev Dabas** and D. Bahuguna, Integro-differential parabolic problem with an integral boundary condition, *Mathematical and Computer Modelling*. (50) 2009, pp. 123–131. **Impact Factor 1.351**
28. D. Bahuguna and **Jaydev Dabas**, Existence and uniqueness of solutions to a semi-linear partial delay differential equation with an integral condition, *Nonlinear Dynamics and Systems Theory*. 8 (1) 2008, pp. 7–19.
29. D. Bahuguna, S. Abbas and **Jaydev Dabas**, Partial functional differential equation with an integral condition and applications to population dynamics, *Nonlinear Analysis, Theory, Methods and Applications*. Volume 69, Issue 8, 2008, pp. 2623–2635. **Impact Factor 1.579**
30. D. Bahuguna and **Jaydev Dabas**, Existence and uniqueness of solution to a partial integro-differential equation by the Method of Lines, *Electronic Journal of Qualitative Theory of Differential Equations*. No. 4. (2008), pp. 1–12. **Impact Factor 0.557**
31. D. Bahuguna, **Jaydev Dabas** and R. K. Shukla, Method of Lines to Hyperbolic Integro-differential Equations in  $R^n$ , *Nonlinear Dynamics and Systems Theory*. 8 (4) 2008, pp. 317–328.

#### **Published in Conference Proceedings:**

1. Vidushi Gupta, **Jaydev Dabas**, Fractional functional impulsive integro-differential equations with integral boundary conditions, (ICRTMAA-2014, Conference in IIT Roorkee).
2. Ganga Ram Gautam, **Jaydev Dabas**, Mild solutions for impulsive functional differential equations of order  $\alpha \in (1, 2)$ , (ICRTMAA-2014, Conference in IIT Roorkee).
3. M. Nadeem, **J. Dabas**, Existence of solution for fractional stochastic integro- differential equation with impulsive effect, (ICRTMAA-2014, Conference in IIT Roorkee).
4. **Jaydev Dabas** and D. Bahuguna, Partial integro-differential equations with an integral boundary condition, *Proceedings of the 6th International Conference on Differential Equations and Dynamical Systems*, (2009) pp. 148–154 DCDIS A Supplement.

#### Presented in International/National Conferences:

1. **Jaydev Dabas**, *Existence results for the class of impulsive fractional differential equation*, presented in International conference Equadiff-2017 (July 24-28, 2017) Slovak University of Technology at Bratislava, Slovakia.
2. Vidushi Gupta, **Jaydev Dabas**, *Anti-periodic boundary value problem of fractional order (1, 2) with Reimann type jump impulsive conditions*, presented in International Conference on Mathematics 2015 (ICM-2015) November 26–28, 2015, University of Kerala, India.
3. J. Dabas, Vidushi Gupta, *To study solutions of a class of fractional impulsive integro-differential equations*, (ICNODEA July 14-17, 2015) at Cluj-Napoca, Romania.
4. M. Nadeem, **J. Dabas**, *Existence and uniqueness of solution for impulsive fractional order stochastic integro-differential equations*, presented in (ICMES 2014, Conference in Chitkara University).
5. **Jaydev Dabas**, *Existence of mild solution for nonlocal impulsive integro-differential equations with state dependent delay* presented in The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications (July 7-11, 2014) at Madrid, Spain.
6. **Jaydev Dabas**, *Existence and uniqueness of solution to an integral boundary value problem for impulsive fractional functional differential equations with infinite delay* presented in The 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications (July 1-5, 2012) at Orlando, Florida, USA.
7. **Jaydev Dabas**, *Existence of a mild solutions to a fractional order functional Differential equations with impulsive effects*, presented in The 30th Annual Southeastern-Atlantic Regional Conference on Differential Equations (30th-SEARCDE) (Oct 01-02, 2010) at Virginia Tech University Blacksburg, Virginia USA.
8. **Jaydev Dabas**, *Strongly Damped Wave Equation with Integral Boundary Conditions*, presented in The 29th Annual Southeastern-Atlantic Regional Conference on Differential Equations (29th-SEARCDE) (Oct 16-17, 2009) at Mercer University Macon, Georgia USA.
9. **Jaydev Dabas** and D. Bahuguna, *Heat Equation Material with Memory with Nonlocal Boundary Conditions*, presented in The 6th International Conference on Differential Equations & Dynamical Systems' (May 22-26, 2008) at Morgan State University Baltimore, Maryland USA.
10. **Jaydev Dabas** and D. Bahuguna, *Partial Integro-differential Equations with Nonlocal Boundary Conditions*, presented in 73rd Annual Conference Indian Mathematical Society, (Dec 27-30, 2007) at Department of Mathematics, University Of Pune, India.

#### Communicated/Under preparations:

1. M. Nadeem, J. Dabas, *Solvability of Fractional order semi-linear stochastic impulsive differential equation with state dependent delay*.