

## About Faculty

Name	Dr Vidushi
Designation	Faculty
Department	Training
Email	rinkygupta00@gmail.com
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## Area of Expertise

Fractional differential equations • ODEs and PDEs with initial and boundary conditions • Control theory • Hybrid and impulsive problems

## Academic/Professional Qualification

Degree/ Certificate	University/Board/Institute	Year of Passing
PhD	IIT Roorkee	2017
BEd	Kurukshetra University	2012
MSc	CCS University	2011
BSc	MJP Rohilkhand University	2008

## Experience

<b>Teaching/ Training</b>	<ul style="list-style-type: none"><li>• Worked as an Assistant Professor in Dept. of Mathematics, Chandigarh University, 5 th April 2019-27 July 2019.</li><li>• 26 th May 2017- 27 th November 2018 worked Institute Post-Doctoral Fellow, Department of Mathematics, Indian Institute of Technology Guwahati, Guwahati 781039, Assam.</li><li>• September 2012 to November 2012 – Assistant Professor, Department of Applied Science (Engineering Mathematics,</li></ul>
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	Guru Nanak Education Trust's Group of Institution (Integrated Campus), Roorkee, UK, India.
<b>Software Development</b>	NA
<b>Data Digitization/ Processing</b>	NA
<b>Projects/ Product Development</b>	NA
<b>Others</b>	<ul style="list-style-type: none"> <li>Academic Visit from 6 th -19 th March 2019 at IIT Mandi.</li> </ul>

<b>Research Publications</b>			
<b>Title</b>	<b>Year of Publication</b>	<b>Journal</b>	<b>Link (if any)</b>
On stability analysis of hybrid fractional boundary value problem	2021	Indian Journal of Pure and Applied Mathematics	<a href="https://link.springer.com/article/10.1007/s13226-021-00133-5">https://link.springer.com/article/10.1007/s13226-021-00133-5</a>
Existence and uniqueness of solutions for fractional nonlinear hybrid impulsive system	2020	Numerical Methods for Partial Differential Equations	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/num.22628">https://onlinelibrary.wiley.com/doi/abs/10.1002/num.22628</a>
Mathematical Analysis of Nonlocal Implicit Impulsive Problem under Caputo Fractional Boundary Conditions	2020	Mathematical Problems in Engineering	<a href="https://www.hindawi.com/journals/mpe/2020/7681479/">https://www.hindawi.com/journals/mpe/2020/7681479/</a>
Positive solutions for fractional integro-boundary value problem of order (1, 2) on an unbounded domain	2019	Differential Equations and Applications	<a href="http://dea.ele-math.com/11-14/Positive-solutions-for-fractional-integro-boundary-value-problem-of-order-(1,2)-on-an-unbounded-domain">http://dea.ele-math.com/11-14/Positive-solutions-for-fractional-integro-boundary-value-problem-of-order-(1,2)-on-an-unbounded-domain</a>
Dhage iterative principle for quadratic perturbation of	2019	Math Meth Appl Sci.	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/mma.5643">https://onlinelibrary.wiley.com/doi/abs/10.1002/mma.5643</a>

fractional boundary value problems with finite delay			
Existence and stability analysis to a coupled system of implicit type impulsive boundary value problems of fractional-order differential equations	2019	Advances in Difference Equations	<a href="https://advancesincontinuousanddiscretemodels.springeropen.com/articles/10.1186/s13662-019-2047-y">https://advancesincontinuousanddiscretemodels.springeropen.com/articles/10.1186/s13662-019-2047-y</a>
Existence results for fractional order boundary value problem with integrable impulse	2018	Discrete and Impulsive Systems Series A: Mathematical Analysis 25	<a href="https://www.researchgate.net/publication/325952335_Existence_results_for_class_of_fractional_order_boundary_value_problems_with_integrable_impulses">https://www.researchgate.net/publication/325952335_Existence_results_for_class_of_fractional_order_boundary_value_problems_with_integrable_impulses</a>
Existence results of solutions for impulsive fractional differential equations	2018	Nonautonomous Dynamical Systems	<a href="https://www.degruyter.com/document/doi/10.1515/msds-2018-0003/html?lang=en">https://www.degruyter.com/document/doi/10.1515/msds-2018-0003/html?lang=en</a>
Nonlinear fractional boundary value problem with not instantaneous impulse	2017	AIMS Mathematics	<a href="https://www.aimspress.com/article/id/1483">https://www.aimspress.com/article/id/1483</a>
Functional impulsive differential equation of order $\alpha$ in $(1, 2)$ with nonlocal initial and integral boundary conditions	2016	Mathematical methods in Applied Sciences	<a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/mma.4147">https://onlinelibrary.wiley.com/doi/abs/10.1002/mma.4147</a>
Existence results for a fractional integro-differential equation with nonlocal boundary conditions and fractional impulsive conditions	2015	Nonlinear Dynamics and Systems Theory	<a href="https://www.researchgate.net/publication/287534244_Existence_results_for_a_fractional_integro-differential_equation_with_nonlocal_boundary_conditions_and_fractional_impulsive_conditions">https://www.researchgate.net/publication/287534244_Existence_results_for_a_fractional_integro-differential_equation_with_nonlocal_boundary_conditions_and_fractional_impulsive_conditions</a>
Fractional Functional Impulsive Differential Equation with Integral Boundary Condition	2015	Mathematical Analysis and its Applications	<a href="https://link.springer.com/chapter/10.1007/978-81-322-2485-3_34">https://link.springer.com/chapter/10.1007/978-81-322-2485-3_34</a>

## Others: Conferences & Workshops

Presented work "Existence Results for hybrid coupled systems with instantaneous impulses" in International Conference on Recent Advances in Pure and Applied Mathematics (ICRAPAM 2018) held at Delhi Technical University during 23-25 th October 2018

Presented work "Three point boundary value problem of fractional order  $(1, 2)$  with Reimann type fractional impulsive conditions, International conference on Numerical Methods for Partial

Differential Equations Entitled Recent Advances in Theoretical and Computational Partial Differential Equations with Applications” during December 5-9, 2016” held at University Institute of Engineering and Technology Punjab University, Chandigarh, India

Presented work “Nonlinear fractional boundary value problem with Reimann type fractional impulsive conditions” to “The 11 th AIMS Conference on Dynamical Systems, Differential Equations and Applications” held on July 1- 5, 2016 at Orlando, Florida, USA

Presented work “Anti-periodic boundary value problem of fractional order (1,2) with Reimann type jump impulsive conditions” at International Conference on Mathematics 2015, Department of Mathematics, University of Kerela, 26 th -28 th Nov. 2015

Presented work “Fractional Functional Impulsive Differential Equation with Integral Boundary Condition, International Conference on Recent Trends in Mathematical Analysis and Its Applications” at Indian Institute of Technology Roorkee, 21 st -23 rd December 2014

**Attended Workshops and Another Programs:**

“Workshop on Differential Equations and Their Applications” held at Indian Institute of Technology, Mandi during November 27-28, 2020.

GIAN Program “Hydrodynamic stability: Theory, Computation and Application GLOBAL INITIATIVE OF ACADEMIC NETWORKS” held at “INDIAN INSTITUTE OF TECHNOLOGY ROPAR” during 11-15 December 2017.

"Advance Workshop on Controllability of Heat and Wave equations" held at Indian Institute of Technology, Mandi during November 16-25, 2015 under National Program on Differential Equations: Theory, Computation and Applications (NPDE-TCA), sponsored by Department of Science and Technology, Government of India.

2 Day Workshop on MATLAB and LATEX, IIT Roorkee, 2015.