Bholanath Kumbhakar

Curriculum Vitae

Purulia, West Bengal, India, 723148
+91 7063799018
bkumbhakar@mt.iitr.ac.in

Education

December 2018- Current — **Research Scholar**, Department of Mathematics, Indian Institute of Technology, Roorkee

- **Research Area:** Differential Inclusion, Control Theory, Hemivariational Inequality
- **Supervisor:** Prof. Dwijendra Narain Pandey

July 2016- May 2018 — **M. Sc. in Mathematics**, CGPA: 8.38 The University of Burdwan, Burdwan, West Bengal, India

July 2013- May 2016 — **B.Sc. in Mathematics**, Percentage: 79.875%, Jagannath Kishore College, Purulia, West Bengal, India

2013 — **Higher Secondary in Science**, Percentage: 77.2%, Purulia Jilla School, Purulia, West Bengal, India

2011 — **Class 10th**, Percentage: 81.875%, Ladhurka High School (H.S), Purulia, West Bengal, India

List of Publications

- Kumbhakar, Bholanath, and Dwijendra Narain Pandey. "Approximate controllability of evolution hemivariational inequalities in Banach spaces." Journal of Differential Equations 410 (2024): 346-381.
- Bholanath Kumbhakar, Dwijendra Narain Pandey. Approximate controllability of nonconvex valued semilinear differential inclusion. Evolution Equations and Control Theory. doi: 10.3934/eect.2024047
- Kumbhakar, Bholanath, and Dwijendra Narain Pandey. "Approximate controllability of semilinear differential inclusion with nonlocal conditions." 2023 Proceedings of the Conference on Control and its Applications (CT). Society for Industrial and Applied Mathematics, 2023.

List of Preprints

- Kumbhakar, Bholanath, and Dwijendra Narain Pandey, Exact Controllability of Evolution Hemivariational Inequalities in Banach spaces (submitted).
- Kumbhakar, Bholanath, and Dwijendra Narain Pandey, L^p- null controllability of abstract differential inclusion with the nonlocal condition, Revision submitted in the Journal "Mathematical Control and Related Fields."
- Kumbhakar, Bholanath, and Dwijendra Narain Pandey, Approximate Controllability of Nonconvex valued Semilinear Differential Inclusions with Nonlocal Conditions, (In preparation)
- Kumbhakar, Bholanath, and Dwijendra Narain Pandey, L^p- Exact controllability of abstract differential inclusion with nonlocal condition, (Revision submitted in the Journal "Topological Methods in Nonlinear Analysis".

Honors & Awards

CSIR JRF (December 2017), Got 98th rank in the NET exam conducted by CSIR
CSIR JRF (June 2018), Got 98th rank in the NET exam conducted by CSIR

Teaching Assistant

Spring 2022 **Mathematical Methods**, B. Tech. 1st Year, IIT Roorkee
- **Instructor:** Prof. Saikat Saha

Autumn 2021 **Mathematics I**, B.Tech. 1st Year, IIT Roorkee
- **Instructor:** Prof. Ankik Kumar Giri

Spring 2021 **Mathematical Methods**, B.Tech 1st Year, IIT Roorkee
- **Instructor:** Prof. Ram Jiwari

Autumn 2020 **Mathematics I**, 1st year B. Tech., IIT Roorkee
- **Instructor:** Prof. S. K. Gupta

Spring 2020 **Mathematics I**, B. Tech. 1st Year, IIT Roorkee
- **Instructor:** Prof. Rama Bhargava

Workshops

- International Workshop on Fractional Derivatives: Theory and Computations with Applications (FDTCA 2021)
  Date: November 12-14, 2021

Conference

- 87^{th} Annual Conference of the Indian Mathematical Society
  Date: December 4-7, 2021
- International Conference on Dynamical systems, Control and their Applications
  Date: July 1-3, 2022
- SIAM Conference on Control Theory and Its Applications (SIAM CT 2023)
  Date: July 24-26, 2023, Philadelphia, USA
- The International Congress on Industrial and Applied Mathematics (ICIAM) 2023
  Date: August 20-25, 2023, Tokyo.

References

- **Supervisor: Dr. Dwijendra Narain Pandey**
  Associate Professor
  Department of Mathematics
  IIT Roorkee
  Uttrakhand, India
  Email. dwij@ma.iitr.ac.in

Declaration: I hereby declare that all the statements made herein are true to my best of knowledge and belief.

Place: Roorkee Bholanath Kumbhakar