Title: Study of nonlocal elliptic and parabolic problems with variable exponents

Project investigator: Dr. Sweta Tiwari, Dept. of Mathematics, IITG

- Theme: Qualitative analysis of some nonlocal elliptic and parabolic problems with variable exponents.
- Deliverables: Some results on existence, uniqueness/multiplicity and regularity of the solutions for the elliptic and and parabolic problems involving fractional p(x) Laplacian operator.
- Societal impact: Nonlocal operators with variable operators gives better mathematical modeling of non-Newtonian processes with the non-homogeneity of the media, thin obstacle problem, phase transitions problem, anomalous diffusion, etc.
- Outcome through project: Addresses few problems involving fractional p(x)- Laplacian and got following publications.
    - Reshmi Biswas and Sweta Tiwari, Complex Var. Elliptic Equ., 2020. DOI: 10.1080/17476933.2020.1751136.
    - Reshmi Biswas and Sweta Tiwati, Electron. J. Differential Equations, 2020(98):1–29,2020 .