1172-35-98 **Abhilash Sahu*** (sahu.abhilash16@iitg.ac.in) and **Guru Prem Prasad Mahalingam**.

Non-homogeneous p-Laplacian equations on the Sierpinski gasket.

Let $\mathcal{S}$ be the Sierpiński gasket in $\mathbb{R}^2$ and $\mathcal{S}_0$ denote the boundary of $\mathcal{S}$. In this talk, we will discuss about the following non-homogeneous p-Laplacian equation

$$\begin{aligned} -\Delta_p u &= \lambda |u|^{q-2}u + f \text{ in } \mathcal{S} \setminus \mathcal{S}_0 \\ u &= 0 \text{ on } \mathcal{S}_0, \end{aligned}$$

where p, q, λ are real numbers such that $\lambda > 0$, $1 < p < q$ and the function $f : \mathcal{S} \to \mathbb{R}$ is suitably chosen. We will discuss the construction of weak p-Laplacian on the Sierpinski gasket and define weak solutions to the above problem. The existence of at least two nontrivial weak solutions to the above non-homogeneous equation on the Sierpinski gasket will be established. We will use Euler functional and fibering map technique to establish our results. (Received August 20, 2021)