Contribution ID: **68** Type: **Oral**

Approximate Controllability of Fractional Dynamical System with Impulses and Non-Local Initial Condition

In this paper, a fractional dynamical system is considered involving instantaneous impulses and non-local initial conditions. The fractional derivative is taken in Caputo sense with order $\alpha \in (0, 1)$. The operator used in the system is the infinitesimal generator of an analytic semigroup on a Hilbert space. Sufficient conditions are derived to prove the existence of the mild solution of the system using generalized Banach contraction principle. Krasnoselskii fixed point theorem is used to establish the approximate controllability of the system.

Author: HAZARIKA, Dibyajyoti (Department of Mathematics, North Lakhimpur College (Autonomous))

Presenters: HAZARIKA, Dibyajyoti (Department of Mathematics, North Lakhimpur College (Autonomous)); Ms BORAH, Purabi (North Lakhimpur College (Autonomous))

Session Classification: Technical Session 05

Track Classification: Track 04