A Workshop on Future Directions in Fractional Calculus Research and Applications

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Nonlinear Fractional PDE's and Their Applications in Biology

Abstract

The standard models for the anomalous subdiffusive and superdiffusive transport of particles are linear fractional equations. The question arises as to how to extend these equations for the nonlinear case involving particles interactions and biochemical reactions.
The talk will be concerned with new fractional PDE's describing morphogen gradient formation involving subdiffusion and nonlinear aggregation phenomenon.