

# Fractional differential equations and their applications to cell biology

Sabir Umarov

*University of New Mexico  
USA*

We start the talk from a survey of interrelations of fractional order differential (pseudo-differential) equations and multivariate random walks in the context of their applications to diffusion processes in the cell in whole and in the cell membrane, in particular. Then some models which involve fractional order differential (pseudo-differential) operators to address the problems connected with diffusion in cell membrane will be introduced and discussed.