

## **Modeling of fractional dynamics using Levy walks - recent advances**

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Levy walks proved to be useful models of fractional dynamics with a number of applications in the modeling of real-life phenomena. In this talk we will give a self-consistent introduction to Levy walks. We will start with an overview of existing applications. Next, we will present our latest theoretical advances related to these processes, including: analysis of diffusion limits of Levy walks and the corresponding fractional diffusion equations, derivation of explicit formulas for the densities in multidimensional setting and aging properties.