

# **Lévy Flights and Walks and their Application in Epidemic Modeling**

T. Geisel

*Max Planck Institute for Dynamics and Self-Organization  
& Bernstein Center for Computational Neuroscience Göttingen*

Lévy walks and flights have been studied intensely since the 1980s and have found numerous applications in various disciplines. Their scale-free properties also make them very promising to account for human dispersal, the spatial dynamics in models for the spreading of epidemics. For that goal, however, we need to consider generalizations to spatially inhomogeneous media, i.e. to generalized Fokker-Planck equations, and to reaction–superdiffusion equations.