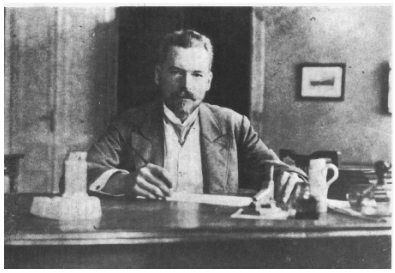

Contribution ID: **3** Type: **Invited talk**

Non-Gaussian statistics in soft & bio-matter

Wednesday, 29 September 2021 09:00 (30 minutes)

Brownian yet non-Gaussian diffusion, characterised by a linear scaling in time of the mean squared displacement but a non-Gaussian displacement distribution is a phenomenon that has been observed in a variety of systems. In my talk, after a brief historical introduction to Brownian motion and the theory of diffusion, I will review experimental evidence and show how non-Gaussian statistics emerge from random-parameter models, extreme value arguments, and other models. In particular, I will also talk about quenched versus annealed disorder and demonstrate how shape-shifting in tracers leads to time-fluctuating diffusivities. I will finally address anomalous diffusion systems driven by long-ranged correlated Gaussian noise that, in heterogeneous environments, exhibit non-Gaussian displacement distributions.

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Session Classification: S7