

# Mittag-Leffler functions and convex ordering

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The convex order is a classical stochastic order that compares the dispersion of real random variables. In this talk we wish to apply this notion to study the monotonicity of the classical Mittag-Leffler function  $E_\alpha$  with respect to its fractional parameter  $\alpha$ , in various contexts. We also show how this notion is helpful for characterizing the log-convexity and the log-concavity of the two-parameter Mittag-Leffler function  $E_{\alpha,\beta}$  on the positive half-line. This is based on joint works with Rui Ferreira (Porto), Roberto Garrappa (Bari), Stefan Gerhold (Vienna) and Marina Popolizio (Bari).