The complex elliptic Ginibre ensemble at weak

In this talk we will focus on the complex elliptic Ginibre ensemble (eGinUE) and analyze the statistical behavior of its eigenvalues in a suitable scaling limit, known as the weak non-Hermiticity limit. In this limit the asymmetry parameter in the model scales with the matrix dimension and the so obtained 2D limiting point processes generalize the well-known sine and Airy processes from the Gaussian unitary ensemble. Using integro-differential Painlevé transcendents we will show how the gap functions of the 2D limiting point processes can be evaluated in closed form and how Riemann-Hilbert techniques can subsequently yield precise asymptotic information for the same functions. Based on arXiv:2208.04684 and further ongoing joint work with Alex Little.

Wednesday, 07 September 2022, 0900 hrs CEST

Zoom Konferenzschaltung— Please contact Leslie Molag (lmolag@math.uni-bielefeld.de) for details regarding access