## Eigenvalues of a differential operator related to classical discrete Sobolev orthonormal polynomials

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**Time:** Tuesday 23.07., 15:30 - 16:00, Room HS 6

**Abstract:** We consider the discrete Sobolev inner product

$$(f,g)_S = \int f(x)g(x)d\mu + Mf^{(j)}(c)g^{(j)}(c), \quad j \in \mathbb{N}\cup\{0\}, \quad c \in \mathbb{R}, \quad M > 0,$$

where $\mu$ is a classical continuous measure with support on the real line (Jacobi, Laguerre or Hermite). The orthonormal polynomials with respect to this Sobolev inner product are eigenfunctions of a differential operator and obtaining the asymptotic behavior of the corresponding eigenvalues is the principal goal of this talk. This is a joint work with Juan J. Moreno-Balcázar.