

Sharp parameter range for interlacing of zeros of same degree Laguerre polynomials**02.09****Kathy Driver***(University of Cape Town, South Africa)***Time:** Tuesday 23.07., 10:30 - 11:00, Room AM

Abstract: The sequence of Laguerre polynomials $\{L_n^{(\alpha)}(x)\}_{n=0}^{\infty}$ is orthogonal on $(0, \infty)$ with respect to the weight function $e^{-x}x^\alpha$ provided $\alpha > -1$. It is known that for each $n \in \mathbb{N}$, the zeros of $L_n^{(\alpha)}(x)$ and $L_n^{(\alpha+t)}(x)$ are interlacing for each t with $0 < t \leq 2$. We show that the t -interval $0 < t \leq 2$ is sharp in order for interlacing to hold for every $n \in \mathbb{N}$.