Title: Dilation of $\mathcal{W}$-hypercontractions

ABSTRACT: A. Olofsson first studied ω-hypercontractions corresponding to a single-weight sequence ω. In this talk, we will first introduce the notion of $\mathcal{W}$-hypercontraction associated with a multi-weight sequence $\mathcal{W} = (\omega_1, \ldots, \omega_n)$. We will then discuss their models by finding their dilations on some weighted Bergman space on the polydisc. We will see how this helps to recover and find a different proof of the dilation result of R. E. Curto and F. H. Vasilescu. If time permits, we will describe the construction of the (Sz.-Nagy and Foias-type) characteristic function of a ω-hypercontraction. This is joint work with M. Bhattacharjee, B. K. Das, and S. Panja.