Orthogonal polynomials and integral transforms

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In this talk I will explain how operating with certain integral transforms over polynomial sequences is a useful tool to obtain and deduce properties of one sequence based on the other. A special attention will be given to certain d-orthogonal polynomial sequences, which basically are polynomial sequences satisfying a recurrence relation of order $d + 1$. When $d = 1$, we recover the orthogonal case. Examples of some known polynomial sequences with a plank of applications will be used to illustrate the usefulness of the technique. Among the targeted sequences, some semiclassical polynomials will arise.