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*Pick interpolation and operator algebras*

Suppose  $z_1, \dots, z_n$  are points in the complex unit disk and  $w_1, \dots, w_n$  are complex numbers. The Nevanlinna-Pick interpolation theorem of the early 20th century states that there is a bounded analytic function  $f$  on the disk satisfying  $f(z_i) = w_i$  for  $i = 1, \dots, n$  and  $\|f\|_\infty \leq 1$  if and only if the matrix

$$\left[ \frac{1 - w_i \overline{w_j}}{1 - z_i \overline{z_j}} \right]_{i,j=1}^n$$

is positive semidefinite. In general, the analogue of the Nevanlinna-Pick theorem fails to hold for other domains. This talk will discuss a recent treatment of this type of problem using operator algebraic techniques. A general Pick-type theorem for domains in  $\mathbb{C}^d$  will be presented.