Factorizations induced by complete Nevanlinna-Pick factors

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The talk concerns representations of functions in various Hilbert function spaces as quotients of multipliers. The first result of this type goes back to the brothers Nevanlinna and several extensions have been proved in the 90's. Recently, such a representation has been obtained for the Drury -Arveson space on the unit ball of $\mathbb{C}^d$. The purpose is to present a unfied approach via a general factorization theorem for reproducing kernel Hilbert spaces whose kernel has a normalized complete Nevanlinna-Pick factor.

This result relates the functions in the original space to functions in the space determined by the Nevanlinna-Pick kernel and its pointwise multipliers, and has a number of interesting applications. The material is based on joint work with M. Hartz, J. McCarthy, and S. Richter.