1106-47-788 **Joseph A Ball*** (joball@math.vt.edu), Department of Mathematics, Virginia Tech, 460 McBryde Hall, 225 Stanger Street, Blacksburg, VA 24061-0123. *Nevanlinna-Pick interpolation for generalized Schur-class functions: a survey of recent developments.* Preliminary report.

The theorem of Nevanlinna-Pick from the early 20th century says: *given interpolation nodes* $z_1, \dots, z_n$ *in the unit disk* $\mathbb{D}$ *and complex numbers* $w_1, \dots, w_n$, *there is a holomorphic function* $s \colon \mathbb{D} \to \overline{\mathbb{D}}$ *meeting the interpolation conditions* $s(z_i) = w_i$ *for* $i = 1, \dots, N$ *if and only if the associated Pick matrix* $\mathbb{P} = \left[\frac{1 - w_i \overline{w_j}}{1 - z_i \overline{z_j}} \right]$ *is positive semidefinite.* It was only much later that the subject got a major boost due to the introduction of reproducing kernel and operator theory techniques beginning roughly in the 1960s. Additional stimulus came in the 1980s for extension to matrix and operator-valued settings due to intimate connections with systems engineering (especially H^∞-control theory). There are now emerging theories of Nevanlinna-Pick interpolation for multivariable settings as well as generalized Schur classes consisting of "noncommutative functions". The talk will survey these various settings for Nevanlinna-Pick interpolation and explain how some of the most recent developments can be seen to be already implicit in some of the earlier work on more prosaic settings. (Received September 06, 2014)