VOLKER RUNDE, University of Alberta
Weighted Figà-Talamanca–Herz algebras

For a locally compact group G and $p \in (1, \infty)$, we define and study the Beurling-Figa-Talamanca-Herz algebras $A_p(G, \omega)$. For $p = 2$ and abelian G, these are precisely the Beurling algebras on the dual group $\hat{G}$. For $p = 2$ and compact G, our approach subsumes an earlier one by H. H. Lee and E. Samei. The key to our approach is not to define Beurling algebras through weights, i.e., possibly unbounded continuous functions, but rather through their inverses, which are bounded continuous functions. We prove that a locally compact group G is amenable if and only if one—and, equivalently, every—Beurling-Figà-Talamanca–Herz algebra $A_p(G, \omega)$ has a bounded approximate identity. This is joint work with S. Öztop and N. Spronk.