Mahya Ghandehari (University of Delaware, Newark, Delaware, USA): 
**Matrix coefficients of unitary representations and projections in** $L^1(G)$

Let $G$ be a unimodular locally compact group, and $L^1(G)$ denote the Banach $*$-algebra of integrable functions on $G$. In this talk, we use facts concerning subspaces of the Fourier-Stieltjes and Fourier algebras of $G$ to describe certain self-adjoint idempotents (projections) in $L^1(G)$. The Fourier-Stieltjes algebra of a locally compact group $G$, denoted by $B(G)$, is the set of all the matrix coefficient functions of $G$ equipped with pointwise algebra operations. Eymard proved that $B(G)$, when identified with the dual of the group $C^*$-algebra of $G$, becomes a Banach algebra.

In this talk, we study subspaces of $B(G)$, called $A_\pi(G)$, generated by all the matrix coefficient functions of $G$ associated with a fixed unitary representation $\pi$. We then obtain an explicit description of any projection in $L^1(G)$ which happens to also lie in the coefficient space of a finite direct sum of irreducible representations. This leads to a complete description of all projections in $L^1(G)$ for $G$ belonging to a class of groups that includes $SL_2(R)$ and all almost connected nilpotent locally compact groups.

This talk is based on an article joint with M. Alaghmandan, N. Spronk, and K.F. Taylor.

Wir laden alle Interessierten herzlich ein.