

SEMINARIO DE ANÁLISIS COMPLEJO
(COMPLEX ANALYSIS SEMINAR)

Operator Theory from Holomorphic Semigroups

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Resumen / Abstract:

Holomorphic semigroups $(\phi_t)_{t \geq 0}$ in the unit disc \mathbb{D} induce semigroups of composition operators,

$$T_t(f)(z) = f(\phi_t(z)),$$

and more generally of weighted composition operators

$$T_t(f)(z) = m_t(z)f(\phi_t(z)),$$

with (m_t) a cocycle for (ϕ_t) , on spaces X of holomorphic functions on \mathbb{D} .

In principle, operator theoretic properties of the operator semigroup (T_t) should be mirrored to analytic properties of (ϕ_t) , such as the infinitesimal generator of (ϕ_t) , the inducing Koenigs map etc.

In the talk we will describe the development and byproducts of the theory of composition semigroups, and some recent related results.