Universality arising from invertible weighted composition operators

Fco. Javier González Doña Universidad Carlos III, Spain

Abstract: A linear operator U acting boundedly on an infinite-dimensional separable complex Hilbert space H is said to be *universal* if every linear bounded operator acting on H is similar to a scalar multiple of a restriction of U to one of its invariant subspaces. It turns out that characterizing the lattice of closed invariant subspaces of a universal operator is equivalent to solve the Invariant Subspace Problem for Hilbert spaces.

In this talk, we will consider invertible weighted hyperbolic composition operators and we will prove the universality of the translations by eigenvalues of such operators, acting on Hardy and weighted Bergman spaces. Some consequences for the Banach space case will also be discussed.

This is a joint work with Luciano Abadías (Universidad de Zaragoza) and Jesús Oliva-Maza (Institute of Mathematics of the Polish Academy of Sciences).