Coloquio IMAFI
**Instituto de Matemática y Física**
**Universidad de Talca**
Camino Lircay S/N, Campus Norte, Talca-Chile

# Algebra homomorphisms and a Katznelson-Tzafriri type theorem for Césaro bounded operators

**Luciano Abadias***
Departamento de Matemática y Ciencia de la Computación
Universidad de Santiago de Chile.

**Resumen**

Let $X$ be a complex Banach space. The connection between algebra homomorphisms defined on subalgebras of the Banach algebra $\ell^1(\mathbb{N}_0)$ and and fractional versions of Cesàro sums of a linear operator $T \in \mathcal{B}(X)$ is established. In particular, we show that every $(C, \alpha)$-bounded operator $T$ induces, and it is characterized by such, an algebra homomorphism. Our method is based on some sequence kernels, Weyl fractional difference calculus and convolution Banach algebras that are introduced and deeply examined. See the joint work [2] with C. Lizama, P. J. Miana and M. P. Velasco. I apply these results to prove a Katznelson-Tzafriri type theorem for Césaro bounded operators, see [1].

## Referencias

[1] L. Abadias *A Katznelson-Tzafriri type theorem for Cesàro bounded operators* . To appear in Studia Mathematica.

[2] L. Abadias, C. Lizama, P. J. Miana, M. P. Velasco *Cesàro sums and algebra homomorphisms of bounded operators.* To appear in Israel J. Mathematics.

*e-mail: luciano.abadias@gmail.com