

1154-26-1301 **Fernando Lopez-Garcia*** (fal@cpp.edu). *A local-to-global technique for inequalities in spaces of functions.*

In this talk, we will discuss a certain local-to-global technique which has been applied to prove the validity of several inequalities in spaces of functions, such as the Fractional Poincaré inequalities and Korn and Conformal Korn inequalities among others. The validity of these inequalities depends on the geometry of the domain where the functions are defined. This technique is based on a certain decomposition of functions that extends the validity of the inequalities from cubes or regular domains to more general domains, including domains with fractal boundaries such as the Koch Snowflake and T-square. (Received September 14, 2019)