



DEPARTAMENTO  
DE ANÁLISIS  
MATEMÁTICO y  
MATEMÁTICA  
APLICADA



# COLLOQUIUM DE ANÁLISIS MATEMÁTICO

**Julián López Gómez**

Universidad Complutense de Madrid

## **Multiplicidades algebraicas para calcular cambios de grado topológico en análisis no lineal**

Global Nonlinear Analysis is imperative to obtain global results in the context of nonlinear differential equations and hence, its number of applications to all areas of science is certainly huge. Most of these applications are based on the fact that the local index of some solution of a fixed point equation for a certain compact operator changes when some parameter of physical or mathematical interest varies, for as these local changes entail global bifurcation phenomena. Although the Schauder formula provides us with the local index in terms of a certain sum of algebraic multiplicities of eigenvalues, it is of no practical utility in applications. This talk describes the construction of a concept of Algebraic Multiplicity, easily computable in applications, which is an optimal invariant to detect any change of the local fixed point index.

Organizado por el Departamento de Análisis Matemático y Matemática Aplicada y el Instituto de Matemática Interdisciplinar (IMI)

**Fecha: Jueves 25 de enero de 2018**

**Hora: 13:00 horas**

**Lugar: Aula 222**

**Facultad de CC Matemáticas, UCM**