



DEPARTAMENTO DE  
ANÁLISIS MATEMÁTICO Y  
MATEMÁTICA APLICADA



Facultad de Ciencias  
MATEMÁTICAS



Instituto de  
Matemática  
Interdisciplinar

# SEMINARIO DE ANÁLISIS MATEMÁTICO Y MATEMÁTICA APLICADA

**Eduardo Muñoz Hernández**  
**UCM**

## **BVPs vs. periodic problems through different topological methods**

During the last fifty years, a wide range of topological methods have been developed and sharpened for the analysis of differential equations. While for boundary value problems bifurcation theory has turned out to be a very important tool, for periodic problems a classical approach has been the use of the Poincaré-Birkhoff theorem and the Conley-Zehnder index in order to get existence and multiplicity of periodic solutions.

In this talk, we present different BVPs analyzed by the use of bifurcation results and some periodic problems in which both a classical and a bifurcation approach have been applied. This is a joint work with J. López-Gómez (UCM), A. Boscaggin (Università di Torino) and F. Zanolin (Università di Udine)

**Organized by: Departamento de Análisis Matemático y Matemática  
Aplicada and Instituto de Matemática Interdisciplinar (IMI)**

**Date: Thursday, April 11 2024, 13:00h**

**Place: Room 209**

**Facultad de CC. Matemáticas, UCM**