

# Seminario de Ecuaciones Diferenciales

El Seminario de Ecuaciones Diferenciales es una actividad del organizada por miembros de los departamentos de [Análisis Matemático](#) y [Matemática Aplicada](#) de la Universidad de Granada. Se celebra habitualmente en el [IEMath-GR](#) y se reúne aproximadamente una vez cada dos semanas. Aquí puedes encontrar las charlas programadas y una lista de las que se han celebrado ya.

**Preguntas.** Para preguntas o sugerencias de conferenciantes por favor contacta con [José Cañizo](#) o [Tommaso Leonori](#).

**Suscripción.** Normalmente enviamos dos anuncios antes de cada charla. Para recibirlos en tu email (o dejar de recibirlos) por favor escribe a [José Cañizo](#).



## Próxima charla

Martes 27 de septiembre de 2016,

12:45.

**David Rojas** (Universitat Autònoma de Barcelona)

*Analytical tools to study the criticality at the outer boundary of potential centers.*

Seminario de la primera planta,  
IEMath-GR.

Día y hora por determinar

**Resumen.** Consider a continuous family of planar differential systems with a center at  $p$ . The period function assigns to each periodic orbit in the period annulus its period. The problem of bifurcation of critical periodic orbits has been studied and there are three different situations to consider: bifurcations from the center, bifurcations from the interior of the period annulus and bifurcations from the outer boundary of the period annulus. In this talk we deal with the study of bifurcation of critical periodic orbits from the outer boundary for families of potential systems  $X_\mu = -y\partial_x + V'_\mu(x)\partial_y$  where  $\mu$  is a  $d$ -dimensional parameter. We introduce the notion of criticality as an analogous version of the cyclicity in the framework of limit cycles, and we give general criteria in order to bound the criticality at the outer boundary. That is, the maximum number of critical periodic orbits that can emerge or disappear

from the outer boundary of the period annulus as we move the parameter  $\mu$ . This is a joint work with Francesc Mañosas and Jordi Villadelprat.

## Charlas siguientes

Lunes 10 de octubre de 2016, Día y hora por determinar.

**(Por determinar)** ()  
(Por determinar).

Seminario de la primera planta, IEMath-GR.

## Charlas anteriores

Martes 24 de mayo de 2016, 10:00.

**Andrea Malchiodi** (Escuela Normal Superior de Pisa)  
*Embedded Willmore tori in three-manifolds with small area constraint.*

Sala de conferencias, IEMath-GR.

**Resumen.** While there are lots of contributions on Willmore surfaces in the three-dimensional Euclidean space, the literature on curved manifolds is still relatively limited. One of the main aspects of the Willmore problem is the loss of compactness under conformal transformations. We construct embedded Willmore tori in manifolds with a small area constraint by analyzing how the Willmore energy under the action of the Möbius group is affected by the curvature of the ambient manifold. The loss of compactness is then taken care of using minimization arguments or Morse theory.

Martes 10 de mayo de 2016, 12:45.

**Willian Cintra da Silva** (Universidade Federal do Pará)  
*Refuge versus dispersion in the logistic equation.*

Seminario de la primera planta, IEMath-GR.

**Resumen.** We analyse an elliptic logistic equation with nonlinear diffusion arising in population dynamics. We