

# Conferencia

# SANTALÓ 2009

La *Facultad de Ciencias Matemáticas* y la *Revista Matemática Complutense*, patrocinan la conferencia anual Santaló, impartida cada año por un profesor de reconocido prestigio. Esta conferencia marca el inicio de la actividad docente e investigadora de la Facultad en cada año académico.

## David E. Edmunds

Department of Mathematics  
University of Sussex  
Brighton – UK

## Embeddings, Hardy operators and nonlinear problems

We survey some of the recent developments involving embeddings between function spaces. Emphasis is placed on improvements of classical Sobolev inequalities, the reduction of embedding questions to problems involving Hardy operators, and quantitative estimates of compactness of embeddings that have applications to the spectral theory of operators.

We also consider a nonlinear eigenvalue problem that leads to a representation, in series form, of the action of a compact linear operator acting between wide classes of Banach spaces, thus extending familiar results for the Hilbert space case. Information about relevant embedding maps enables the Dirichlet problem for the  $p$ -Laplacian to be studied. A brief discussion will be given of the generalisations of the trigonometric functions that appear naturally in connection with this Dirichlet problem.

JUEVES, 8 DE OCTUBRE DE 2009

13:00 HORAS

AULA S-118 "MIGUEL DE GUZMÁN"

FACULTAD CC. MATEMÁTICAS

*Revista  
Matemática  
Complutense*

**Revista Matemática Complutense**  
([www.mat.ucm.es/serv/revista/](http://www.mat.ucm.es/serv/revista/))  
**Facultad de Ciencias Matemáticas**

