



DEPARTAMENTO DE  
ANÁLISIS MATEMÁTICO



Posgrado en Investigación Matemática, Universidad Complutense de Madrid,  
Mención de Calidad MEC (MDC 2006-00482)

## Curso de doctorado

**Nages Shanmugalingam**

University of Cincinnati (Ohio, USA)

### “Introduction to Sobolev type spaces in metric measure spaces”

Since the study of quasiconformal geometry is now applied to the setting of sub-Riemannian spaces and more general metric measure spaces, there is much interest in developing the theory of Sobolev spaces and potential theory in metric measure spaces. This course will be a 10-hours course introducing Sobolev spaces in metric measure spaces and will cover the following topics:

- Sobolev spaces of functions in Euclidean domains
- Modulus of curve families
- Newton-Sobolev spaces of functions in metric measure spaces
- Poincaré-type inequalities and its geometric implications
- Relationship between different Sobolev type spaces of functions in metric measure spaces

**Organizado por el Departamento de Análisis Matemático de la UCM y el IMI.**

**Fecha: 23 de marzo a 2 de abril de 2009.**

Primera sesión: 23 de Marzo, de 15:30 a 16:30.

Horario de las siguientes sesiones a determinar entre los asistentes.

**Seminario 222, Facultad de Ciencias Matemáticas, UCM.**