



## **Sistemas dinámicos y geometría: tres aproximaciones** Periodo de concentración 2009-2010

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### **“Introduction to weak KAM solutions: the dynamical side”**

**Abstract:**

The modern formulation of the Hamilton-Jacobi theorem states that the graph of the derivative of a function is invariant under a Hamiltonian flow if and only if the Hamiltonian is constant on the the graph of the derivative.

We will give a proof of this theorem that will lead us naturally to the notion of weak KAM solutions of the Hamilton-Jacobi Equation.

Then we will develop the basic ingredients of weak KAM theory: Existence of weak KAM solutions, their dynamical meaning, connection with Aubry-Mather theory. We will also give some explanations of the connection with classical KAM theory.

Organizado por Daniel Azagra, Luis Giraldo, Francisco Romero,  
el grupo UCM “Análisis no lineal en espacios de Banach”, el Proyecto i-math y el IMI

**Comienzo: 25 de octubre a las 9:30 h. Se establecerá el horario de las siguientes sesiones (5 sesiones de 90 minutos).**  
**Seminario 222**  
**Facultad de Ciencias Matemáticas, UCM**