

# Seminario de Geometría y Topología



## **Spin(7)-instantons, Cayley submanifolds and Fueter sections**

**Thomas Walpuski**  
(MIT, USA)

### **Resumen:**

I will begin with a brief introduction into Spin(7) geometry gauge theory on Spin(7)-manifolds and the role of Spin(7)-instantons in Donaldson and Thomas' vision of gauge theory in higher dimensions. A central theme in gauge theories in higher dimension is the interaction with submanifold geometry. As an illustration of this, I will explain an existence theorem for Spin(7)-instantons, which are highly concentrated near a Cayley submanifold; thus giving a partial converse to Tian's foundational compactness theorem in higher dimensional gauge theory. Finally, I will apply this result to construct Spin(7)-instantons on Spin(7)-manifolds with suitable local K3 Cayley fibrations.

**Lugar:** Universidad Complutense de Madrid  
Facultad de Ciencias Matemáticas  
Departamento de Geometría y Topología, Sala 225  
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