Seminari Informal
de Matemàtiques de Barcelona

Speaker:	Jordi Daura.
University:	Universitat de Barcelona.
Date:	Wednesday, May 7th, 2025.
Schedule:	13:00 talk.
Place:	UB (FMI aula IA) and Zoom.
Language:	English.
Title:	Spin structures: Refining orientability.

Abstract: Spin geometry is a subfield of differential geometry which originated at the decade of 1920 from the study of the Dirac equation in physics. During this last 100 years, the techniques of spin geometry have been used to prove many deep results in geometry, topology or analysis, and it is still a very active field of research nowadays. In this talk we will approach spin geometry from the topological viewpoint, explaining how we can see spin structures as a refinement of the concept of orientability. We will explain the interaction between spin structures on a manifold M and the compact Lie groups acting on M by isometries. Finally, we will show when the unique spin structure on a sphere is invariant by the different compact Lie groups acting transitively on it (joint work with Michael Kohn and Marie-Amélie Lawn).