



# Seminari Informal de Matemàtiques de Barcelona

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**Speaker:** Enric Solé Farré.

**University:** Imperial College London - University College London.

**Date:** Wednesday, December 20th, 2023.

**Schedule:** 11:40, *coffee break*; 11:00, talk.

**Place:** UB (FMI aula B1) and Zoom.

**Language:** English.

**Title:** Cohomogeneity one - From PDEs to groups and ODEs

**Abstract:** One of the main problems in differential geometry is solving PDEs involving different geometric quantities. Solutions to most of these PDEs are hard to come by, and one is often forced to reduce to very symmetric scenarios to find examples of solutions. I will first revise some instances of the case with maximal symmetry: homogeneous space; before moving to the cohomogeneity one case. The driving PDE examples will be the Einstein equation and the exceptional holonomy conditions.

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**About us:** *SIMBa* is a mathematics seminar organized by graduate students in the Barcelona area. It is aimed towards graduate and last course undergraduate students. Our goals are divulging the knowledge from different branches of mathematics for those interested and promote networking between the attendants.

This seminar is backed by the Faculty of Mathematics and Computer Science at Universitat de Barcelona, Faculty of Mathematics and Statistics at Universitat Politècnica de Catalunya, the Department of Mathematics from Universitat Autònoma de Barcelona, CRM, IMUB and BGSMath.

For more information, visit at [www.ub.edu/simba/en/](http://www.ub.edu/simba/en/).

If you have any doubt or comment do not hesitate to contact us by sending an email to [seminari.simba@gmail.com](mailto:seminari.simba@gmail.com).