Lecture Series "*Frontiers in Science*"

Dr. Victor Sanmartin Lopez

University of Santiago de Compostela, Spain

Title : LIE GROUP ACTIONS ON SMOOTH AND RIEMANNIAN MANIFOLDS

Date & Time : July 2026
06 (Mon) 13:15--14:45
08 (Wed) 16:45--18:45
09 (Thu) 13:15--14:45

Venue :
Sci. Bldg., E408
(Sugimoto C.)

Abstract: One of the central notions in mathematics in general, and in geometry in particular, is that of symmetry, perhaps because of its naturality, its simplifying power, or its association with beauty. In the context of Differential Geometry, symmetry is typically encoded through the concept of Lie group. The first objective of these three sessions is to introduce the notion of Lie group, together with the main results concerning these objects. We will then study actions of Lie groups on smooth and Riemannian manifolds in order to construct examples endowed with symmetry, namely homogeneous manifolds and homogeneous submanifolds.

School of Science /
Graduate School of Science

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"*Frontiers in Science*" Seminar

Dr. Victor Sanmartin Lopez

University of Santiago de Compostela, Spain

Title : SUBMANIFOLDS WITH SYMMETRY IN HOMOGENEOUS SPACES

Date & Time :
July 15 (Wed), 2026
16:45--18:15

Venue :
Sci. Bldg., E408
(Sugimoto C.)

Abstract: Once one is able to construct manifolds or submanifolds with a high degree of symmetry in the setting of Differential or Riemannian Geometry, a natural question is whether such symmetry properties can be characterized, or even reformulated, in purely geometric terms. In this lecture, we will compare homogeneous submanifolds with other important classes, such as isoparametric submanifolds or submanifolds with constant principal curvatures. We will begin with relatively simple settings, including space forms, and then move on to a broader overview of the current state of the art concerning these topics.

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