Centro de Investigação em Matemática e Aplicações
Departamento de Matemática
Programa de Doutoramento em Matemática

Seminário/Seminar

14/02/2024, **CLAV–Anfiteatro 1, 14h30**
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From triangles to path integrals: the many facets of Gauss-Bonnet

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Abstract: After presenting a brief overview of its diverse manifestations through the ages, we discuss the modern approach to the celebrated Gauss-Bonnet formula in Differential Geometry for compact manifolds (possibly with a non-empty boundary) based on ideas coming from Diffusion Theory (Brownian motion on manifolds). Our presentation, aimed at a varied audience, stresses the connection of this central topic in geometry with other areas of mathematics (notably, the spectral theory of Laplace-type operators and probability theory).

Keywords: Gauss-Bonnet formula, Hodge theory, Brownian motion on manifolds, path integrals