

## Functional Inequalities, shape optimization and elliptic PDEs Special Session B13

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Optimal functional inequalities often encode important information about the underlying ambient space, which could be critical for both abstract and applied research. Sharp Sobolev type inequalities, for instance, are fundamental tools in analysis, geometry, and mathematical physics. They are used to determine the existence and qualitative behavior of solutions to certain non-linear PDEs, they are deeply related to isoperimetric problems and many optimal eigenvalue bounds, given in terms of the geometry of the background manifold.

The purpose of this special session is to bring together specialists working on geometric and functional inequalities, shape optimization, and related PDEs, and to encourage lively discussions leading to further developments and open problems.