



C A M S S E M I N A R

A NEW MAGNETIC ISOPERIMETRIC INEQUALITY



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Among domains with the same area, the disk is a minimiser of the lowest eigenvalue of the Laplace operator with homogeneous magnetic field. The question seems challenging when imposing a Neumann boundary condition, where spectral asymptotics suggest that the disc is a potential maximiser. Imposing a Robin condition, the sign of the boundary parameter will play a role; when it is negative, the disk maximises the lowest eigenvalue among a wide class of domains with a given perimeter, provided that the magnetic field is of moderate strength. In the other cases, the question will be illustrated by discussing the known spectral asymptotics. The talk is based on a joint work with Vladimir Lotoreichik.

Wednesday,
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College Hall,
Auditorium B1

Ayman Kachmar earned a PhD degree in mathematics from Paris-Sud university in 2007. He is a professor of mathematics at the Lebanese University and currently a visiting professor at CAMS (Summer 2022). He specializes in spectral theory and its applications.