



CENTRO DE  
**MATEMÁTICA**  
UNIVERSIDADE DO PORTO

GEOMETRY AND TOPOLOGY SEMINAR

# The Parabolic Hitchin Connection

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**Abstract.** The Hitchin connection is a central concept in modern geometry, playing a crucial role in the study of moduli spaces, geometric structures, and their interactions with various areas of mathematics and physics.

In this talk, we will review Hitchin's foundational work, explain the significance of the Hitchin connection, and present an algebro-geometric criterion for its existence. This criterion is formulated using the notion of Heat operators in algebraic geometry.

In the second part, we will show that this criterion is satisfied on the moduli space of parabolic bundles, and we will apply it to the vector bundle of parabolic non-abelian theta functions (also known as parabolic conformal blocks).

FRIDAY, APRIL 17

15H30

ROOM FC1-1.09



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There will be coffee after the talk.