



CENTRO DE
MATEMÁTICA
UNIVERSIDADE DO PORTO

GEOMETRY AND TOPOLOGY SEMINAR

L-infinity algebras, central extensions, and M-theory

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Abstract. In this introduction for geometers and topologists, we explain the role that central extensions of L-infinity algebras, a concept we will define, plays in physics. This connection first appeared with the work of physicists D'Auria and Fré in 1982, but is beautifully captured by the “brane bouquet” of Fiorenza, Sati and Schreiber which shows how physical objects such as “strings”, “D-branes” and “M-branes” can be classified by taking successive central extensions of an especially simple L-infinity algebra called the “supertranslation algebra”. We then conclude by describing our joint work with Schreiber where we build the brane bouquet out of an even simpler L-infinity algebra called the “superpoint”.

FRIDAY, APRIL 28

15:30

ROOM 1.08

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