

SEMINAIRE D'ANALYSE

➤ **VENDREDI 19 MAI 2017 à 14h15 - salle MA A3 31**



Professeur Graeme MILTON (University of Utah, USA) donnera une conférence sur le thème:

« On the elastic moduli of 3-d printed materials »

Abstract: 3-d printing gives us unprecedented ability to tailor microstructures to achieve desired goals. From the mechanics perspective one would like, for example, to know how to design structures that guide stress, in the same way that conducting fibers are good for guiding current. In that context the natural question is: what are the possible pairs of (average stress, average strain) that can exist in the material. A more grand question is: what are the possible effective elasticity tensors that can be achieved by structuring a material with known moduli. This is a highly non-trivial problem: in 3-dimensions elasticity tensors have 18 invariants and even an object as simple as a distorted hypercube in 18 dimensions requires about 4.7 million numbers to specify it. Here we review some of the progress that has been made on this question.

This is joint work with Marc Briane and Davit Harutyunyan.

Lausanne, le 4 mai 2017
BD/HMN/MM