ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

B. Buffoni – B. Dacorogna – J. Krieger – M Nguyên – Section Mathématiques

SEMINAIRE D'ANALYSE

- ***VENDREDI 21 SEPTEMBRE 2018 à 14h15 - salle MA A3 31***

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Professeur **Jean Van SCHAFTINGEN** (Université Catholique de Louvain, Belgique) donnera une conférence sur le thème:

« Critical estimates on the homotopy of maps between manifolds »

Abstract: The homotopy classes of continuous mappings from one compact Riemannian manifold into another forms in general an infinite set, but one can hope that a suitably bounded subset of these homotopy classes has some finitiness property. For critical possibly fractional Sobolev norms, the analysis is delicate because of the lack of compact embedding in the space of continuous maps endowed with the uniform metric. When the domain and target manifolds are both spheres, the homotopy classes are classified by the topological degree; Bourgain, Brezis, Mironescu and Nguyen, has showed how the degree can be bounded by critical Sobolev norms and suitable weaker gap potentials. For maps from the sphere into a general compact manifold, there can be infinitely many homotopy classes in a bounded set, but they can still be generated in finitely many steps. This has been proved for several classes of critical Sobolev maps in works by Duzaar, Kuwert, Müller, Schoen and Wolfson. I will present some new gap potential estimates from which all these estimates can be recovered.

Lausanne, le 6 septembre 2018
BD/HMN/MM

Les séminaires qui ont lieu à la Section de Mathématiques sont annoncés sur Internet
http://memento.epfl.ch/maths/