

SEMINAIRE D'ANALYSE

➤ **VENDREDI 01 DECEMBRE 2017 à 14h15 - salle MA A3 31**

Professeur **ANA RIBEIRO** (Universidade nova de Lisboa, Portugal) donnera une conférence sur le thème:

«**Characterization of Sobolev Spaces Through Functionals without Derivatives Dependence**»

Extending previous works due to Bourgain, Brézis, and Mironescu [J. Anal. Math. 87 (2002)] and Leoni and Spector [J. Funct. Anal. 261, 10 (2011)], we provide new characterizations of Sobolev spaces in terms of functionals involving difference quotients. These characterizations have their origin on the study of the limit behavior of the Gagliardo semi-norms taken by Bourgain, Brézis, and Mironescu and may have some applications to imaging problems. Our results include classical higher-order Sobolev spaces as well as the variable exponent case. More general spaces as Musielak-Orlicz spaces will also be discussed.

This talk is a consequence of a joint work with C. Kreisbeck and R. Ferreira [Nonlinear Analysis: Theory, Methods & Applications (2015)] and with P. Hästö [Communications in Contemporary Mathematics (2017)].

Lausanne, le 1er décembre 2017
BD/vl

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