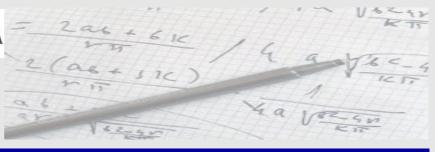# UNIVERSITÀ DELLA CALABRIA

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Ph.D. programme in Mathematics and Computer Science

Title: **REGULARITY AND QUALITATIVE PROPERTIES OF SOLUTIONS TO SEMILINEAR AND QUASILINEAR ELLIPTIC PROBLEMS**

Speaker: **Prof. Berardino Sciunzi**

Abstract: We start dealing with the regularity theory for p-Laplace equations. This is a very delicate issue since the standard regularity theory fails and generally solutions are not smooth. Then we will analyze the link between the regularity theory and the adaptability of the Alexandrov-Serrin moving plane procedure in the quasilinear context. In particular we will study symmetry and monotonicity properties of the solutions in bounded or unbounded domains.

Course organization :
Tuesday, March 14, 2017: 3.30-5.30 pm, MT 11
Thursday, March 16, 2017: 3.30-5.30 pm, MT 11
Tuesday, March 21, 2017: 4.30-6.30 pm, MT 11
Thursday, March 23, 2017: 3.30-5.30 pm, MT 10
Tuesday, March 28, 2017: 3.30-5.30 pm, MT 11
Thursday, March 30, 2017: 3.30-5.30 pm, MT 11
Tuesday, April 4, 2017: 3.30-5.30 pm, MT 11
Thursday, April 6, 2017: 3.30- 5.30 pm, MT 11

Short Biography:
Affiliations:Associate Professor at the University of Calabria

Scientific Research Interest:
Semilinear and quasilinear elliptic equations. Qualitative properties of the solutions: regularity, symmetry, monotonicity and antisymmetry, stability and Morse index, level sets analysis and problems regarding a famous conjecture by De Giorgi. Existence of the solutions and Liouville type theorems. Particular interest is devoted to problems dealing with the p-Laplacian operator or classes of more general degenerate nonlinear operators.