

Venerdì 28 ottobre, dalle ore 11.30 (in punto) presso l'Aula A3 di questo Dipartimento, si svolgerà

A DAY ON STRUCTURES AND GEOMETRICAL ANALYSIS

Motivation. Nonlinear differential equations are commonly used in formulating most of the fundamental laws of nature as well as many technological problems, among others. It has become increasingly more evident that the nonlinear analysis is of crucial importance in mathematical sciences and its ideas and methods having turned out to be essential tools in the analysis of nonlinear phenomena in many areas of mathematics. Among these areas, one can mention ordinary differential equations, partial differential equations, the nonlinear operator theory, calculus of variations, optimal control theory, optimization and mathematical economics. The symmetry methods are especially important when finding solutions for such types of nonlinear problems, since most of the standard solution methods become inadequate and ineffective in several cases.

Il Workshop seguirà il seguente programma:

– dalle 11.30 alle 12.15 il chiarissimo

Professor Giovanni MOLICA BISCI,

dell'Università degli Studi di Urbino *Carlo Bo*, terrà una conferenza su:

Remarks on Recursion Theory

ABSTRACT.

During the talk the famous Generalized Recursion Theorem will be discussed. Some of its consequences in the First Order Logic will be presented. In particular, the notion of satisfiability in the Tarski semantic will be considered.

– dalle 12.30 alle 13.15 la chiarissima

Professoressa Raffaella SERVADEI,

dell'Università degli Studi di Urbino *Carlo Bo*, terrà una conferenza su:

Nonlinear problems with symmetries

ABSTRACT. *Several important problems arising in many research fields, such as physics and differential geometry, lead to consider elliptic equations when a lack of compactness occurs. From the mathematical point of view, the main interest relies on the fact that often the tools of nonlinear functional analysis, based on compactness arguments, cannot be used, at least in a straightforward way, and some new techniques have to be developed. Aim of the talk is to present some of these techniques, which strongly use symmetry, together with their applications to elliptic problems with a variational structure. All the aforementioned results have been obtained in collaboration with Giuseppe Devillanova (Politecnico di Bari) and Giovanni Molica Bisci (Univ. Urbino Carlo Bo).*

Scopo della giornata di studio è quello di illustrare alcuni recenti risultati nell'ambito dell'Analisi Nonlineare con particolare riferimento a problemi differenziali in presenza di simmetrie. Verranno inoltre presentate alcune recenti rivisitazioni del classico Teorema di Ricorsione e sue conseguenze negli aspetti fondazionali dell'Analisi Matematica.

L'evento è rivolto a studenti magistrali, dottorandi e Postdoc, nonché a ricercatori interessati al settore. Il workshop di un giorno è su temi inerenti ai progetti scientifici di Ateneo di P. Pucci e a collaborazioni scientifiche in atto con i professori invitati.

Sarà particolarmente gradita la presenza della SV.

Patrizia Pucci