



DOCTORAL PROGRAMME IN MATHEMATICAL SCIENCES

Per il Dottorato in Scienze Matematiche dell'Università degli Studi di Milano

il Prof. **Oscar Garcia-Prada**
dell'ICMAT-CSIC, Madrid

terrà un corso di dottorato su

Higgs bundles and representations of surface groups
presso il Dipartimento di Matematica dell'Università degli Studi di Milano
Via C. Saldini n.50 - Milano

Abstract

In this course, we introduce the theory of G -Higgs bundles over Riemann surfaces, where G is a Lie group (real or complex), and focus on their role in the study of representations of the fundamental group of the Riemann surface in G .

Programme

Lecture 0: 4-11-2016 ore 16.30 Aula C (II floor)

Prerequisites (Prof. Elisabetta Colombo, Unimi)

Lecture 1: 7-11-2016 ore 14.00 Aula Dottorato (I floor)

Introduction and global overview of the course

Lecture 2: 9-11-2016 ore 14.00 Aula Dottorato (I floor)

Non-abelian Hodge theory correspondence on Riemann surfaces:
Higgs bundles, Hitchin equations, representations of surface groups,
harmonic sections

Lecture 3: 10-11-2016 ore 14.00 Aula Dottorato (I floor)

Higgs bundles for groups of Hermitian type: Toledo invariant, Milnor-Wood inequality, Cayley correspondence

