FACOLTÀ DI SCIENZE MATEMATICHE, FISICHE E NATURALI

DIPARTIMENTO DI MATEMATICA E FISICA "NICCOLÒ TARTAGLIA"

INTERNATIONAL PH.D. PROGRAM IN "SCIENCE" - RESEARCH PROJECT: *DIFFERENTIAL GEOMETRY AND APPLICATIONS TO MODERN PHYSICS.*
COORDINATORS: MAURO SPERA (UCSC) AND MARCO ZAMBON (KU LEUVEN)

Topics in symplectic and multisymplectic geometry

Prof. MAURO SPERA
Università Cattolica del Sacro Cuore

The course is intended as an introduction to the methods of symplectic and multisymplectic geometry, with a view to their multifaceted physical applications.
Here is a cursory and tentative list of the planned topics: Symplectic manifolds, moment maps and reduction, geometric fluid mechanics, covariant phase space, multisymplectic manifolds, conserved quantities, geometric quantization of line bundles and gerbes.

Basic acquaintance with differential geometry is required; however, specific technical tools will be developed when needed.
Handwritten lecture notes will be gradually made available online.

January 2017: Tue. 10, Wed. 11, Tue. 17, Wed. 18, Wed. 25, Tue. 31
February 2017: Wed. 1, Tue. 7, Tue. 14, Tue. 21, Wed. 22, Tue. 28
March 2017: Wed. 1, Tue. 7, Wed. 8, Tue. 14, Wed. 15, Tue. 21, Wed. 22
April 2017: Tue. 4, Wed. 5, Tue. 11, Wed. 12, Wed. 26

Ph.D. Course

Gennaio-Aprile 2017
Aula 7, ore 14.30 - 16.30
Via dei Musei 41 - Brescia

UNIVERSITÀ CATTOLICA
del Sacro Cuore