

INTENSIVE LECTURE SERIES in Mathematics, Keio

Speaker: Prof. Juan-Pablo Ortega

(Departement de Mathematiques de Besançon
Université de Franche-Comté)



**Place: Discussion Room 6, 14th Building
Yagami Campus, Keio University**

Lecture 1 16:30 ~ 18:00 October 3, 2006 (Tuesday)

Lecture 2 16:30 ~ 18:00 October 4, 2006 (Wednesday)

Lecture 3 16:30 ~ 18:00 October 5, 2006 (Thursday)

Momentum maps and reduction in the symplectic and Poisson categories

In this course we will first study some of the different kinds of momentum maps that have been introduced in the literature over the years. We will describe the remarkable geometric properties of these objects and we will use them to carry out symmetry reduction in symplectic and Poisson manifolds under a variety of different hypotheses. In the process we will show some of the applications of this procedure in mechanics. We will conclude with a description of some of the open problems in the subject.