

SAMUEL EILENBERG LECTURES

SPRING 2011

"Symplectic topology from insights to interactions"



**CLAUDE
VITERBO**

ECOLE POLYTECHNIQUE
PALAISEAU, FRANCE

Thursdays, 11:00am

507 Mathematics Hall
Columbia University

2990 Broadway
New York, NY 10027

First lecture: February 3

Abstract:

"The last 25 years have seen the birth and extraordinary development of Symplectic Topology as the study of topological-geometric properties of symplectic objects. While one of the main thrust of this development relied on a number of fundamental questions and theorems, (Arnold conjecture, Weinstein's conjecture, Gromov non-squeezing) together with the discovery of appropriate tools (holomorphic curves, Floer homology, generating functions), another more recent direction has emphasized the interactions between symplectic topology and other areas of mathematics (dynamics, real and complex algebraic Geometry, PDE).

Our first lecture will try to present some examples of this dual aspect for non specialists. The subsequent lectures will focus on a new approach, mainly due to Nadler and Tamarkin based on Kashiwara and Schapira's microlocal theory of sheaves. While a priori more on the interaction side, we hope this will also eventually lead to new insights for symplectic topology itself."