SEMPARIS – Séminaires en région parisienne

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TBA

Lundi 7 Avril 2025, 14 :00
IHES, Amphithéâtre Léon Motchane(Cours de l'IHES)
Domaines : math

Titre : *Global Solutions for Nonlinear Dispersive Waves (2/4)*

Orateur : **Daniel Tataru (UC Berkeley)**

Résumé : *The key property of linear dispersive flows is that waves with different frequencies travel with different group velocities, which leads to the phenomena of dispersive decay. Nonlinear dispersive flows also allow for interactions of linear waves, and their long time behavior is determined by the balance of linear dispersion on one hand, and nonlinear effects on the other hand.*

The first goal of these lectures will be to present and motivate a new set of conjectures which aim to describe the global well-posedness and the dispersive properties of solutions in the most difficult case when the nonlinear effects are dominant, assuming only small initial data. This covers many interesting physical models, yet, as recently as a few years ago, there was no clue even as to what one might reasonably expect. The second objective of the lectures will be to describe some very recent results in this direction, in joint work with my collaborator Mihaela Ifrim from University of Wisconsin, Madison.