

WINTER SCHOOL

- Nonlinear Schrödinger Equations -

Period : February 12 - 13

Lecturer : Prof. Vladimir Georgiev (University of Pisa)

Venue : 4-501, Faculty of Science Bld. #4

**Organizers : Hideo Kubo, Hideo Takaoka
(Dept. Math., Hokkaido Univ.)**

This program is supported by Hokkaido Universal Campus Initiative.

February 12, 13:30—15:30 (45×2 + discussion)

Introduction: Basic facts about Bernstein inequality and Paley decomposition. Sobolev spaces, Besov and Lizorkin spaces. Energy, Strichartz and smoothing estimates for Schrödinger equation.

February 13, 10:00—12:00 (45×2 + discussion)

Analysis for NLS: Kato Ponce inequality and local existence for cubic one dimensional NLS. Global existence and decay for cubic one dimensional NLS with small initial data.

February 13, 13:30—15:30 (45×2 + discussion)

Introduction to perturbation phenomena: Bernstein and Kato-Ponce inequality in presence of potential. Global existence and decay for supercritical one dimensional NLS.