

International Workshop on “Fundamental Problems in Mathematical and Theoretical Physics”

Date: July 16 – July 22, 2026

Venue: 01 Conference Room (July 16 only), 02 Conference Room, 1st Floor, 55N Bldg.,

Nishi-Waseda Campus, Waseda University

早稲田大学 西早稲田キャンパス 55号館 N棟 1階 第1会議室(7/16のみ), 第2会議室

Mathematical Physics

July 16, Thursday

- 14:00 - 15:30 Vladimir Georgiev (University of Pisa, Waseda University), **Minicourse I**
On completeness of modified wave operators for defocusing NLS
Strong Limit of Modified Dynamics for Scattering-Critical NLS in Dimensions 1 and 2
- 16:00 - 17:30 Luigi Forcella (University of Pisa), **Minicourse I**
On scattering for mass-subcritical non-scaling invariant NLS
Introduction: the problem and review of classical results. Goal of the mini-course
- 18:00 - Reception

July 17, Friday

- 10:30 - 12:00 Luigi Forcella (University of Pisa), **Minicourse II**
On scattering for mass-subcritical non-scaling invariant NLS
Variational problems
- 14:00 - 15:30 Vladimir Georgiev (University of Pisa, Waseda University), **Minicourse II**
On completeness of modified wave operators for defocusing NLS
Existence of modified asymptotic profile with and without decay assumption
- 16:00 - 16:50 Hayato Miyazaki (Kagawa University)
Small data scattering for nonlinear Schrödinger equations without gauge invariance below the Strauss exponent
- 17:00 - 17:50 Masayuki Hayashi (Kyoto University)
Periodic gauge transformation for the generalized derivative NLS and applications

July 18, Saturday

- 10:30 - 11:30 Luigi Forcella (University of Pisa), **Minicourse III**
On scattering for mass-subcritical non-scaling invariant NLS
 L^2 -scattering for small mass
- 11:40 - 12:40 Vladimir Georgiev (University of Pisa, Waseda University), **Minicourse III**
On completeness of modified wave operators for defocusing NLS
Strong L^q Limit of Modified Dynamics for Scattering-Critical NLS in Dimension 2

- 14:10 - 15:00 Naoki Hamamoto (Waseda University)
Best constants in some L^2 inequalities for constrained vector fields
- 15:30 - 16:30 Hiroyuki Takamura (Tohoku University)
Semilinear wave equations of spatial derivative with spatial weight
(896th Applied Analysis Seminar, 第 896 回 応用解析研究会)

Quantum Physics

July 21, Tuesday

- 10:30 - 12:00 Saverio Pascazio (University of Bari), **Minicourse I**
Descending Dimensions: Exploring Lower-Dimensional Physics via Hadamard's Method of Descent
- 15:00 - 16:30 Paolo Facchi (University of Bari), **Minicourse I**
Which symmetries survive? Robust conservation laws in quantum dynamics
- 16:45 - 18:15 Saverio Pascazio (University of Bari), **Minicourse II**
Descending Dimensions: Exploring Lower-Dimensional Physics via Hadamard's Method of Descent

July 22, Wednesday

- 09:45 - 11:15 Paolo Facchi (University of Bari), **Minicourse II**
Which symmetries survive? Robust conservation laws in quantum dynamics
- 13:15 - 14:45 Saverio Pascazio (University of Bari), **Minicourse III**
Descending Dimensions: Exploring Lower-Dimensional Physics via Hadamard's Method of Descent
- 15:00 - 16:30 Paolo Facchi (University of Bari), **Minicourse III**
Which symmetries survive? Robust conservation laws in quantum dynamics
- 17:00- Closing Reception

This workshop is a part of “Special Lecture on Quantum Physics”.

このワークショップは量子物理学特別講義「Special Lecture on Quantum Physics」を兼ねています。

Organized by Hiromichi Nakazato, Tohru Ozawa, Kazuya Yuasa, and Vladimir Georgiev

Supported by Institute for Frontier Fluid-Structure Interaction Analysis, Waseda University