

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

Date: July 16 – July 22, 2026

Venue: 02 Conference Room, 1st Floor, 55N Bldg., Waseda University, Nishi-Waseda Campus

早稲田大学 西早稲田キャンパス 55号館 N棟 1階 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)  
TBA
- 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)

TBA

(896 th Applied Analysis Seminar, 第 896 回 応用解析研究会)

## Quantum Physics

July 21, Tuesday

10:30 - 12:00 Paolo Facchi (University of Bari), **Minicourse I**

TBA

14:45 - 16:15 Saverio Pascazio (University of Bari), **Minicourse I**

TBA

16:30 - 18:00 Paolo Facchi (University of Bari), **Minicourse II**

TBA

July 22, Wednesday

10:30 - 12:00 Saverio Pascazio (University of Bari), **Minicourse II**

TBA

14:45 - 16:15 Paolo Facchi (University of Bari), **Minicourse III**

TBA

16:30 - 18:00 Saverio Pascazio (University of Bari), **Minicourse III**

TBA

18:30 - Mini Reception (tentative)

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, Vladimir Georgiev

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