

# **ERATO TOMOE Three-Nucleon Force Project**

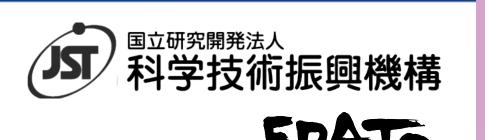
Progress Meeting: Recent research updates and topics from related fields

## Project Overview – Nuclear Force Completion to Scientific Innovation –

The TOMOE project aims to understand the fundamental mechanisms of nuclear properties and extend them to applied sciences. This project seeks to determine the three-nucleon force through integrated theoretical and experimental approaches, and subsequently utilize this knowledge to develop quantum many-body calculation methods and simulation tools for accurately predicting nuclear properties.

## Organizer

## ERATO TOMOE Three-Nucleon Force Project



Research Director: Kimiko Sekiguchi [Kyoto University/RIKEN]

## **Conference Information**

2025年6月30日(月)-7月1日(火)

June 30 (Mon) – July 1 (Tue), 2025

京都大学理学研究科セミナーハウス (京都大学吉田キャンパス北部構内)

Seminar House, Graduate School of Science **Kyoto University** (Northern Yoshida Campus)



Open to online attendees and external researchers

### Research Groups

#### **Group A: Three-Nucleon Force**

A1 Precise experimental measurements K. Sekiguchi (Kyoto/RIKEN) A2 Chiral effective field theory

> E. Epelbaum (Ruhr) Group Leader: K. Sekiguchi

**Nuclear Force Input** 

**Fundamental** Science

Mutual

#### **Group B: Quantum Many-Body Systems**

- **B1** Accurate many-body calculations E. Hiyama (Tohoku)
- B2 From few to heavier nucleon systems T. Nakatsukasa (Tsukuba)
- B3 Reaction theory K. Ogata (Kyushu)

**Group Leader: T. Nakatsukasa** 

#### Group D: Applied Sciences

- Nuclear Data Science O. Iwamoto (JAEA)
- Medical Radioisotope Production
- H. Kikunaga (RARiS) Pharmaceutical applications

M. Ogawa (Hokkaido) **Group Leader: H. Otsu (RIKEN)** 

**Expansion into Various Applications** 

Collaboration

**Theoretical** models

**Benchmark data** 

## **Group C: Cold Atom Experiments**

- Validate quantum many-body calculations
- Direct comparison with experimental data

**Group Leader: M. Horikoshi (OMU)** 

## **Program Highlights**



Research **Presentations** 



**Special Topics** 

Latest results from Groups A-D

- Nuclear Medicine and Nuclear Data
- Prof. M. Ogawa

Team Leader (Group D)

- Neutrino Research and Nuclear Data
- **Dr. S. Abe** [Invited]
- Kamioka Observatory, Institute for Cosmic Ray Research (ICRR)
  - The University of Tokyo
- Cold Atom Systems and Three-Body Forces Prof. H. Tajima [Invited]

Department of Physics, Graduate School of Science The University of Tokyo

## Registration

- Registration required (Free)
- Registration URL: https://indico2.riken.jp/event/5189/
- Please register by [registration deadline TBD]



## **Contact Information**

For inquiries, please contact:

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