

PCM2025

International symposium

~Single-particle and collective motions from nuclear many-body correlation~

Website <https://indico3.cns.s.u-tokyo.ac.jp/event/320>

Second circular (updated on December 4)

Dear Colleagues,

The international symposium on single-particle and collective motions from nuclear many-body correlation (PCM2025) will be held at the University of Aizu from March 4 to 7, 2025. The details on the workshop are found in the official website <https://indico3.cns.s.u-tokyo.ac.jp/event/320>.

The year 2025 marks the 50-year anniversary of the Nobel Prize in Physics in 1975 for Bohr, Mottelson and Rainwater to honor the discovery of the connection between single-particle motion and collective motion in atomic nuclei. How such simple and ordered dynamics can emerge in quantum systems that involve complex many-body correlations stays as one of the fundamental questions of nuclear physics. Today investigations of a wide spectrum of structures, responses to external fields or symmetries of nuclei are advancing at far edges of stability or at extreme conditions, which are made possible both with nuclear spectroscopy at various high-performance accelerator-based facilities of stable or radioactive isotopes and with theoretical efforts in understanding of nuclear forces and many-body problems aided by developments of large-scale computational techniques. The symposium aims to broadly bring experimental and theoretical experts to revisit the emergence of single-particle and collective motions in today's context of nuclear structure studies and discuss future perspectives toward deeper insight into the essence of nuclear structures.

This symposium honors the late Professor Ikuko Hamamoto (1936 - 2023), a preeminent theorist in the field of nuclear structures. This event is inspired by her distinguished research achievements and contributions.

The symposium will take place at the University of Aizu, the same location that hosted the international symposium on frontiers of collective motions (CM2002) in 2002, convened upon her retirement.

An international symposium, TRIP Nuclear Transmutation 2024-2025, will be held at the RIKEN Wako campus on March 10-12, the week after PCM2025. We hope you will consider attending the symposium as well. The symposium is a meeting on the TRIP use case 'Elemental transmutation' promoted by the RIKEN Nishina Center and related issues. The purpose of the meeting is to discuss strategies for obtaining systematic data from cross section or gamma-ray measurements at the RIBF and to explore the possibilities of data driven and AI driven theoretical research.

Topics

The main topics of PCM2025 include:

- Structure of weakly-bound states and resonances
- Shell structure at far edges of stability
- Giant and soft resonances
- Deformation and collective motion
- Quenching problems
- Clustering and correlations

The workshop will consist of invited and contributed talks on theories and experiments. A poster session will also be organized. The Asian Nuclear Physics Association (ANPhA) will present an award to the best poster presentation by students or postdoctoral researchers.

Invited speakers

Sven Åberg (Lund University)

George F. Bertsch (University of Washington)

Angela Bracco (University of Milan)

Bo Cederwall (KTH Royal Institute of Technology)

Jie Chen (Southern University of Science and Technology)

Gianluca Colò (University of Milan)

Stefan Frauendorf (University of Notre Dame)

Nobuo Hinohara (University of Tsukuba)

Hironori Iwasaki (FRIB/Michigan State University)

Yoshiko Kanada-En'yo (Kyoto University)

Benjamin P. Kay (ANL)

Augusto O. Macchiavelli (ORNL)

Takayuki Miyagi (University of Tsukuba)

Peter Möller (Lund University)

Takashi Nakamura (Institute of Science Tokyo)

Marek Płoszajczak (GANIL)

Susumu Shimoura (RIKEN Nishina Center)

Junki Tanaka (RCNP)

Contributed talks/poster presentations

The form is available at <https://indico3.cns.s.u-tokyo.ac.jp/event/320/abstracts> .

The deadlines are updated as follows.

- **Contributed talks: November 10**
- **Poster presentations: January 31**

Registration

The registration form is available at <https://indico3.cns.s.u-tokyo.ac.jp/event/320/registrations> .

The deadline is **January 31**.

Conference fee

20,000 JPY (10,000 JPY for students)

Banquet

The conference banquet will be held on Thursday, March 6 at the Washington Hotel. The fee is 8,000 JPY/person.

Payment

The online payment system will soon be open at the official website.

Venue

The workshop will be held onsite in the Main Lecture Hall of the University of Aizu, located in the city of Aizu-Wakamatsu in Fukushima prefecture, Japan. Aizu-Wakamatsu is about 3 hours and a half by train from the Haneda/Narita airports. More detailed access information is available at <https://u-aizu.ac.jp/en/access> .

Accommodation

Please arrange your own hotel accommodations. There are many options available near the Aizu-Wakamatsu station for your convenience.

* Toyoko Inn (<https://www.toyoko-inn.com/eng/search/detail/00177>)

* Washington Hotel (<https://aizuwakamatsu.washington-hotels.jp>)

* For others, see <https://travel.rakuten.com>

Important dates

November 10: Deadline for abstracts of contributed talks

January 31: Deadline for abstracts of poster presentations

January 31: Deadline for registration

March 4 - 7: Symposium

Support

We will especially encourage students and early-career researchers to join the symposium.

Domestic travel and local expenses will be fully or partially covered based on the availability of funds. The application form will be found in the online registration form.

Organizing Committee

Nori Aoi (RCNP, Osaka University)
Kouichi Hagino (Kyoto University)
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Nobu Imai (CNS, University of Tokyo)
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Hosted by

University of Aizu
RIKEN Nishina Center
Research Center for Nuclear Physics, Osaka University
Center for Nuclear Study, the University of Tokyo
Quark Nuclear Science Institute, the University of Tokyo

Supported by

Asian Nuclear Physics Association (ANPhA)

We are looking forward to seeing you in Aizu.

Sincerely,
Daisuke Suzuki and Masayuki Yamagami
on behalf of the organizing committee