

# International workshop on “Low-Energy Electron Scattering for Nucleon and Exotic Nuclei”

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Two unique low-energy electron scattering experiments are currently being conducted in Japan to study nucleons and exotic nuclei: ULQ2 (Ultra-Low Q2) with  $E_e = 10\text{--}60$  MeV at Tohoku University and SCRIT with  $E_e = 150\text{--}300$  MeV at RIKEN. The ULQ2 team has recently completed measurements of elastic electron scattering for the charge radius determination of proton covering the lowest-ever momentum transfer, whereas the SCRIT collaboration has successfully conducted the world’s first electron scattering experiment for an online-produced radioactive isotope.

Considering such progress made in Japan, which showcases new research opportunities presented by low-energy electron scattering, the international workshop “Low-Energy Electron Scattering for Nucleon and Exotic Nuclei” (LEES2024) was held at Sendai, Japan, from 28th October to 1st November, 2024. LEES2024 was designed as an in-person workshop to discuss primarily the size and structure of nucleons and exotic nuclei and related studies underway worldwide. LEES2024 was organized by the Research Center for Accelerator and Radioisotope Science of Tohoku University (RARiS), Institute of Chemical Research of Kyoto University (ICR), Rikkyo University, and RIKEN Nishina Center for Accelerator-Based Science (RNC).

A total of 60 participants, including 20 students, gathered in Sendai. Of particular note is that 26 participants came from abroad, which showed a high level of interest in this subject. The venue was the TOKYO ELECTRON House of Creativity, located on the Katahira Campus of Tohoku University. On the final day of the workshop, November 1st, we convened at RARiS on the Mikamine Campus. Secretaries and students from various universities assisted in organizing the workshop.

LEES2024 comprised 38 invited talks and 11 poster contributions, encouraging participation from students. The workshop covered a wide range of experimental and theoretical topics, as follows:

- Experimental and theoretical studies on
  - Electron scattering for nucleons and nuclei, including exotic ones
  - Size, charge density distribution, and structure of nucleons and nuclei, including exotic ones
  - Photo-nuclear reactions
- Ion trap, ISOL system, future plan of RI beam facility



Fig. 1. Workshop group photo.

- New physics with high-intensity, low-energy electron beams

Very informative presentations and discussions took place in a friendly atmosphere. At times, the discussions became heated, and the time schedule was revised several times.

During the workshop, the participants visited Matsumoto, one of the famous places in Japan. They enjoyed and talked together, as shown in Fig. 1. This excursion brought the participants closer together.

Financial support for the workshop was provided by JSPS KAKENHI Grant Number JP20H05635, Sendai-city International Convention subsidy, Tohoku University, RARiS, ICR, and RNC. Further details on the workshop, such as the program, can be found on the Indico page.<sup>1)</sup>

## Organizing committee

- Toshimi Suda (Chair, RARiS)
- Yuuki Honda (RARiS)
- Shun Iimura (Rikkyo University)
- Kyo Tsukada (ICR)
- Tetsuya Ohnishi (RNC)

## Reference

- 1) <https://indico.lns.tohoku.ac.jp/event/255>.

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