

PREFACE

In 2017, RIKEN celebrated its 100th year. The Nishina Center's history goes back 86 years from the inauguration of Yoshio Nishina's Laboratory in RIKEN.

At the Centennial Exchange Event held on December 21, a rice pounding festival was held in front of the RIBF building. We should be proud of the fact that we have been holding such exchange parties, that is, a barbecue in summer and rice pounding in winter, for a long time. The Nishina Center has borne the history of RIKEN for many years beyond our own research that started with the legacy of Yoshio Nishina. The first cyclotron developed by Nishina and completed in 1937 would now be 80 years old if alive. Its magnet escaped the fate of being thrown into the sea, has been revived as the magnet of the third cyclotron, and is currently being displayed at the site of the Japan Radioisotope Association located in Komagome.

The year 2017 marked the RIKEN Wako campus' 50th anniversary as well. It was Wako where our predecessors completed the 4th cyclotron and to which RIKEN relocated its headquarters. A symbol of RIKEN's relocation to Wako and now a monument in front of the fountain, the 4th cyclotron was the significant backdrop of the tree planting of the "Nishina Tomoka" cherry blossom and the unveiling ceremony of the monument commemorating the discovery of nihonium that took place at the 50th anniversary of the Wako campus held on June 7. Our research, which requires large-scale facilities, cannot be easily conducted in other places and is therefore prone to becoming highly indigenous. For this reason, as in the past, we will continue to lead and represent research history at the Wako campus. As a matter of fact, it has been 30 years since the 5th cyclotron/RIKEN ring cyclotron RRC started its operation.

On December 4 and 5, a symposium commemorating the 10th anniversary of the RIBF was held. It can be said that our RIBF has attained highly remarkable success over the past 10 years since the 9th cyclotron SRC started its operation. All of the experimental facilities have been placed as planned. With the beam intensity increasing every year, the RIBF's performance is unparalleled in the world. International cooperation is further expanding, with experimental equipment brought in from across the globe. The highlighted articles of this volume of the Accelerator Progress Report clearly show the blooming of the RIBF.

So, what will happen in the next ten years? Nuclear research will make a huge leap worldwide. SPIRAL-2 in France, FAIR in Germany, FRIB in the US, and RAON in Korea will begin operations. Such intense competition will surely open a new horizon in the field of nuclear research. With these challenges coming our way, we will need to make new discoveries by taking advantage of our competitive edge and coming up with new research ideas.

On March 14, the "Commemorative Ceremony to Celebrate the Naming of the New Element Nihonium" was held with his Imperial Highness the Crown Prince in attendance. We were honored to have the Crown Prince give a speech about how, as a high school student, he had to draw the periodic table on 30 sheets of paper as homework. From here on, high school students will write "Nh" on the periodic table. With the discovery of nihonium, a supplementary budget of 4 billion yen has been provided. With this budget, a new experimental building has been built GARIS-2 relocated to the E6 Laboratory and has been running smoothly since December, a good start for the experiment to search for element 119.

In fiscal year 2018, RIKEN will enter its 4th midterm, which will last for seven years. It is the aim of the Nishina Center to achieve higher goals, promote the RIBF enhancement plan, and discover elements 119 and 120. Things are looking good for the future of the Nishina Center. Let us all move forward as one.



A handwritten signature in black ink, which appears to read "Hideto En'yo". The signature is stylized and fluid, with a large loop at the end.

Hideto En'yo
Director
RIKEN Nishina Center for Accelerator-Based Science