

Message from the Director

The year 2023 marked a milestone for NSRRC as we celebrated the 30th anniversary of Taiwan's first synchrotron light source. Over the span of thirty years, we have embarked on an extraordinary journey, one that holds profound significance not only for NSRRC but also for the entire island of Taiwan. This journey has been characterized by the relentless advancement of accelerator technology, from its nascent stages to its current status as one of the global leaders in operations. Our achievements extend beyond operational excellence to encompass groundbreaking development of experimental facilities, culminating in exceptional scientific discoveries. Taiwan's synchrotron radiation research has illuminated the international scientific stage, through the collaborative efforts of our colleagues and users.

In retrospect of the past three decades, we have witnessed remarkable growth in both the number of beamlines, which has increased from 3 to near 40, and the user number, which has surged from a handful to over 2,800. Annual experiment runs and user visits have reached 1,700 and 13,000, originating from 150 domestic institutions and 20 countries. It is rewarding to observe students learning to solve their research problems using synchrotron radiation facilities, which were unreachable in ordinary laboratories. After they enter academia and industry, many return to our facilities with students or colleagues to pursue further investigations. This cycle of knowledge exchange has driven the expansion of our user community, leading to a substantial increase in the quality and quantity of research output.

Currently with the TLS and the TPS combined, NSRRC is dedicated to providing a wide range of energy spectrum from infrared, vacuum ultraviolet, soft X-ray, to hard X-ray, with various experimental techniques covering X-ray imaging, spectroscopy, and diffraction/scattering. Particularly, the pioneering experimental technologies at the TPS are geared toward creating novel scientific research opportunities at the forefront of scientific exploration. Initial findings using nano-ARPES, momentum microscopy, and QEXAFS are already yielding promising insights into areas such as semiconductors and energy materials.

In addition, our achievements are also attributed to the staff's endeavors, not only in establishing and developing synchrotron radiation facilities and innovative experiment techniques but also in providing in-depth support to users, which is incomparable among worldwide light sources. In our commitment to enhancing efficiency and accessibility, we have established an online course to familiarize users with our endstations before conducting experiments. Furthermore, through the implementation of "Student User Cultivation & Hands-on Practice Program," students are offered incentive stipends and accommodation, fostering hands-on learning experiences and encouraging active participation in synchrotron radiation research.

Standing as the biggest large-scale shared research facility in Taiwan, NSRRC is backed by unwavering government support and endowed with extensive resources. In return, NSRRC will persist in devoting itself to pushing the boundaries of accelerator and experimental technologies, and venturing into the scientific frontiers. NSRRC will be a steadfast pillar of support for academia and industry, ensuring ongoing collaboration and innovation.



Chia-Hung Hsu

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Director