
Preface

NSRRC is a research facility that provides powerful light sources and experimental capabilities not readily available in in-house laboratories to facilitate scientific advances and foster innovation. Thanks to the efforts of all users and our hard-working staff, 2024 continues to be a very productive year. To give an overview of the diverse activities that took place throughout this year, the editorial committee has carefully selected a range of research publications using the experimental facilities offered in Taiwan Photon Source (TPS), Taiwan Light Source (TLS), Taiwan Contract Beamlines at SPring-8, and the neutron facilities to illustrate NSRRC's contributions. One thing worth mentioning here is the growth of contributions from TPS. While such a trend is expected due to the construction of TPS phase-III beamlines entering its fourth year, and the continuation of TLS-to-TPS transition, I would like to express my sincere thanks to those efforts that are not necessarily reflected in terms of scientific publications.

In the Research Highlights of this volume, we feature 31 fascinating research topics across sections of Physics and Materials Science, Chemical Science, Soft Matter, Life Science, Energy Science, Environmental and Earth Sciences, and Neutron Science. In Facility Development and Status, we present four articles that explore the operational status and advancements in accelerator technology, including the optimization of the undulator system, performance of the energy-saving initiatives, and the innovative helium phase separator; additionally, two newly opened experimental facilities at the TPS—Soft X-ray Nanoscopy Beamline and Tender X-ray Spectroscopy Beamline—are introduced with detailed descriptions.

Facts and Figures provides a snapshot of NSRRC's operations, offering key statistics on administrative aspects, user engagement, beamline list, major events, and outreach activities. The Appendix includes lists of NSRRC publications resulting from the use of NSRRC beamlines, or related to instrumentation, accelerator facility, and neutron project, as well as student dissertations and theses, further highlighting NSRRC's impact in the science community.

One goal the editorial committee hopes to achieve is to channel research happening at NSRRC to a broader readership. This task is a challenge itself. Enjoy reading.



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