

# PREFACE

After 15 years of public use of the SPring-8 synchrotron radiation facility from 1997, the SACLA X-ray free electron laser facility has been completed, and user operation was launched in March 2012. The SPring-8 campus operates both SPring-8 and SACLA facilities and offers a unique environment where the two can be used synergistically.



In 2012, the SPring-8 facility was used by numerous scientists and engineers in basic and applied research, including life science, materials science, chemical science, earth and planetary science, environmental science, industrial applications, and instrumentation and methodology. Collaborations between academia and industry at SPring-8 have been performed successfully in the fields of materials science and life science. In addition, nurturing of young researchers and graduate students at the SPring-8 campus was carried out for future growth of the SR user society.

A number of SPring-8 users have been awarded prizes in 2012 for their achievements in science and technology. Professor Keiichi Namba (Osaka University) was awarded the Imperial Prize and Japan Academy Prize for his research on structure and functional analyses of biological macromolecular nanomachines. The Medal of Honor with Purple Ribbon was awarded to Dr. Tetsuya Ishikawa (RIKEN) for his contribution to X-ray engineering, particularly for the development of X-ray optics for 3rd generation synchrotron radiation. Professor Nobuo Kamiya (Osaka City University) and Professor Jian-Ren Shen (Okayama University) were awarded the Asahi Prize for their scientific achievement of clarifying the molecular structure of the oxygen-evolving center of Photosystem II. Professor Hideo Hosono (Tokyo Institute of Technology) was awarded the Nishina Memorial Prize for his discovery of iron pnictide superconductors.

On June 2013, I succeeded Mr. Tetsuhisa Shirakawa, the former president of JASRI. I wish to contribute to further development of broad user-oriented facilities for various users from universities, research institutions, and industrial companies. I am very grateful to the many authors and experts who contributed their papers to this 2012 volume. Special thanks are due to Dr. Hideo Ohno and the members of the editorial board for their constant efforts.

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