

Appendices

Organization

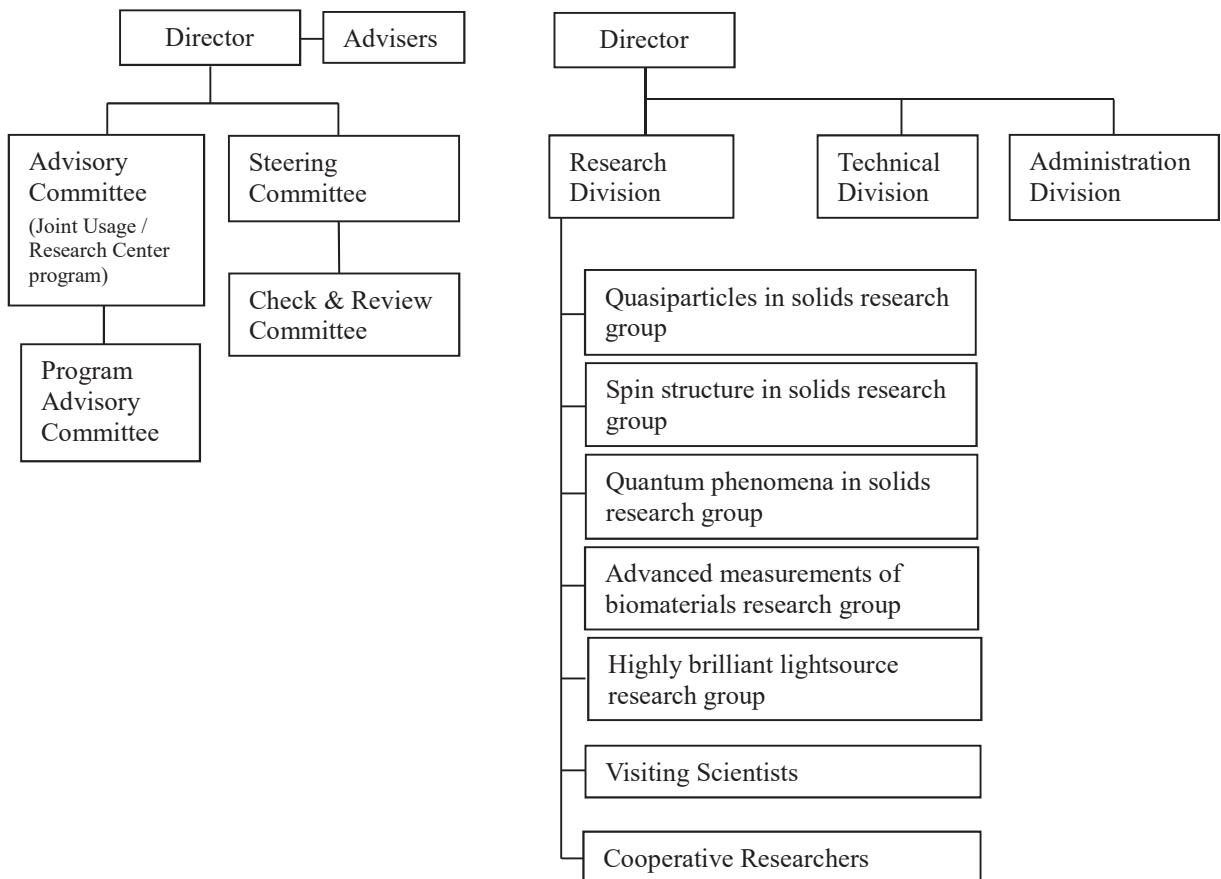


Fig. 1: Organization chart of HiSOR

Director

SHIMADA, Kenya

Hiroshima Synchrotron Radiation Center, HiSOR

Adviser

OHTA, Toshiaki

Emeritus Professor, The University of Tokyo

KAKIZAKI, Akito

Emeritus Professor, The University of Tokyo

SATO, Shigeru

Emeritus Professor, Tohoku University

TANIGUCHI, Masaki

Emeritus Professor, Hiroshima University

FUJIMORI, Atsushi

Emeritus Professor, The University of Tokyo

Staff Members

SHIMADA, Kenya	Director, Professor
OKUDA, Taichi	Vice Director, Professor
KIMURA, Akio	Vice Director, Professor (Graduate School of Advanced Science and Engineering)
NAMATAME, Hirofumi	Professor
KATOH, Masahiro	Professor
SATO, Hitoshi	Associate Professor
SAWADA, Masahiro	Associate Professor
MATSUO, Koichi	Associate Professor
MIYAMOTO, Kouji	Associate Professor
SHIMADA, Miho	Associate Professor (Special Appointment)
MIYAUCHI, Hiroshi	Associate Professor (Special Appointment)
IZUMI, Yudai	Assistant Professor
SHIV Kumar	Assistant Professor
TANIGUCHI, Masaki	Visiting Professor
UEDA, Yoshifumi	Visiting Professor
HORI, Toshitada	Visiting Professor
INO, Akihiro	Visiting Professor
GOTO, Kiminori	Engineer
ARITA, Masashi	Engineer
OONISHI, Sumito	Supervisor, Academic Support Group
SHINNO, Naoko	Secretary
SHIMOKUBO, Harumi	Secretary

Steering Committee

SHIMADA, Kenya*	HiSOR
KIMURA, Akio	HiSOR, Graduate School of Advanced Science and Engineering
OKUDA, Taichi	HiSOR
NAMATAME, Hirofumi	HiSOR
KATOH, Masahiro	HiSOR
SATO, Hitoshi	HiSOR
SAWADA, Masahiro	HiSOR
MATSUO, Koichi	HiSOR
MIYAMOTO, Kouji	HiSOR
KURIKI, Masao	Graduate School of Advanced Science and Engineering
UENO, Satoshi	Graduate School of Integrated Sciences for Life
HAYAKAWA, Shinjiro	Graduate School of Advanced Science and Engineering
MORIYOSHI, Chikako	Graduate School of Advanced Science and Engineering

YOKOYA, Takayoshi

DAIMON, Hiroshi

*Chair Person

Okayama University

Toyota Physical and Chemical Institute

Check & Review Committee

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SENO, Yoshiki Kyushu Synchrotron Light Research Center

QIAO, Shan Shanghai Institute of Microsystems and Information Technology,
Chinese Academy of Sciences

MATOBA, Yasuyuki Yasuda Women's University

YOKOYAMA, Toshihiko Institute for Molecular Science

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YAGI, Shinya	Nagoya University
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IWASAWA, Hideaki	National Institutes for Quantum and Radio Science and Technology
DONATH, Markus	University of Münster
QIAO, Shan	Chinese Academy of Sciences Shanghai Institute of Microsystems and Information Technology
ZHOU, Xingjiang	Institute of Physics, Chinese Academy of Sciences
SOKOLOV, Nikolai	Ioffe Physical-Technical Institute of the Russian Academy of Sciences
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SEKITANI, Tetsuji	Graduate School of Advanced Science and Engineering
OKADA, Kazumasa	Graduate School of Advanced Science and Engineering
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WADA, Shin-ichi	Graduate School of Advanced Science and Engineering
YOSHIDA, Hiroaki	Graduate School of Advanced Science and Engineering
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WAKITA, Takanori	Okayama University
YAGI, Shinya	Nagoya University
HAPPO, Naohisa	Hiroshima City University
MATOBÄ, Yasuyuki	Yasuda Women's University
SENBA, Shinya	Ube National College of Technology
FUJIMORI, Shin-ichi	Japan Atomic Energy Agency
TANIDA, Hajime	Japan Atomic Energy Agency
SUMIDA, Hirosuke	Technical Research Center, Mazda Motor Co.
KODA, Yuki	Technical Research Center, Mazda Motor Co.

List of publications

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- state and spin–lattice coupling in magneto–dielectric behavior of giant dielectric double perovskite $\text{La}_{1.8}\text{Pr}_{0.2}\text{CoFeO}_6$ ”, *J. Phys.: Condens. Matter* **32**, 445801 (2020).
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magnetic polaron in the axion topological insulator candidate EuIn₂As₂”, *Phys. Rev. B* **101**, 205126 (2020).

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List of Accepted Research Proposals

- 20AG001 Artem Rybkin (Saint Petersburg State University)
Topological protected states hosted by loop dislocation network at the interface of Au monolayer and Co substrate
- 20AG003 Chaoyu Chen (Southern University of Science and Technology)
Electronic structure and spin polarization of magnetic Weyl semimetals candidate Sm_2CuGe_6 and Sm_2PdGe_6
- 20AG004 Ke Deng (Southern University of Science and Technology)
Revealing electronic structure of n-doped axion insulator EuIn_2As_2
- 20AG005 Cai Liu (Southern University of Science and Technology)
Electronic structure and spin polarization of quantum spin liquid candidates Na_2IrO_3 and Li_2IrO_3
- 20AG007 Baojie Feng (Chinese Academy of Science)
ARPES study of the electronic structure of crystalline ice
- 20AG008 Baojie Feng (Chinese Academy of Science)
ARPES study of a two-dimensional topological insulator
- 20AG009 Andrev Kamilievich Kaveev (Russian Academy of Sciences)
ARPES studies of the band gap opening near the Dirac point in Ferromagnetic/topological insulator system based on Se-depleted substrates
- 20AG011 Satoshi Asaoka (Kobe University)
Adsorption mechanisms of nutrients onto filtration media for septic tanks
- 20AG012 Nao Tsunogi (Hiroshima University)
XAFS characterization of transition metal and halogen atom in ordered nano-metal oxide
- 20AG013 Shaolong He (Chinese Academy of Science)
ARPES study of heavy Weyl fermion semimetal
- 20AG014 Shaolong He (Chinese Academy of Science)
ARPES study of non-symmorphic topological Dirac Insulators
- 20AG015 Kentaro Fujii (National Institutes for Quantum and Radiological Science and Technology)
VUV-CD measurements of DNA repair proteins
- 20AG016 Kentaro Fujii (National Institutes for Quantum and Radiological Science and Technology)
Resonant photo-electron spectroscopy of bromo-uracil
- 20AG017 Hiroaki Anzai (Osaka Prefecture University)
Measurements of heavy-fermion bands in the rare-earth compounds YbAgCu_4
- 20AG018 Hiroaki Anzai (Osaka Prefecture University)
Temperature dependence of the Kondo resonance peak in photoemission spectra of $\text{Yb}X\text{Cu}_4$ ($X=\text{Ag, Cd, In, and Sn}$)
- 20AG019 Masato Sakano (University of Tokyo)
Direct observation of electronic structure with coupled spin and valley degrees of freedom in bi-layer WSe_2 flake
- 20AG020 Taichi Okuda (Hiroshima University)

- Study of spin-electronic states of High Tc superconductors Bi2212, Bi2201 and YBCO
- 20AG021 Xingjiang Zhou (Chinese Academy of Sciences)
Micro-ARPES study on the free standing single layer FeSe films
- 20AG022 Shinji Kuroda (University of Tsukuba)
ARPES measurements on mixed crystals of topological crystalline insulator SnTe
- 20AG023 Shinya Hosokawa (Kumamoto University)
Valence-band electronic states of Gd-TM metallic glass alloys having thermal rejuvenation effect
- 20AG024 Shinya Hosokawa (Kumamoto University)
Conduction-band electronic states of Gd-TM metallic glass alloys having thermal rejuvenation effect
- 20AG025 Takeshi Kondo (University of Tokyo)
Tc optimization mechanism for comparative study in the multilayered superconductors
- 20AG026 Teppei Yoshida (Kyoto University)
Observation of impurity effect and metal-insulator transition for transition for $\text{Ca}_3\text{Ru}_{2-x}\text{Ti}_x\text{O}_7$ studied by ARPES
- 20AG027 Hidetoshi Miyazaki (Nagoya Institute of Technology)
Direct observation of electronic structure of Heusler-type Fe_2Val alloy studied by three-dimensional angle-resolved photoemission spectroscopy
- 20AG028 Masahiro Sawada (Hiroshima University)
Electronic structure of chromium oxide grown on graphene
- 20AG029 Masahiro Sawada (Hiroshima University)
Magnetic properties at an interface between magnetic monatomic layers and hexagonal boron nitride
- 20AG030 Masahiro Sawada (Hiroshima University)
Magnetic coupling between transition metal layers through monolayer hexagonal boron nitride
- 20AG031 Masahiro Sawada (Hiroshima University)
Magnetic properties and structures of magnetic surface clusters
- 20AG032 Masahiro Sawada (Hiroshima University)
Soft X-ray absorption spectroscopy for chromium oxide grown on graphene
- 20AG033 Naoyuki Maejima (Rikkyo University)
Magnetic property analysis of Ni_2P thin film on $\text{Fe}_2\text{P}(10\text{-}10)$
- 20AG034 Jens Ruediger Stellhorn (Hiroshima University)
Structure of a novel amorphous organic-inorganic hybrid tin cluster exhibiting nonlinear optical effects by low-energy XAFS measurements
- 20AG035 Yeonjin Yi (Yonsei University)
First determination of full three-dimensional electronic structure and tests on Rashba effect in halide perovskites
- 20AG037 Shin-ichi Wada (Hiroshima University)
Evaluation of molecular conductivity probed by resonant Auger spectroscopy
- 20AG038 Shin-ichi Wada (Hiroshima University)
Evaluation of molecular conductivity probed by soft X-ray absorption spectroscopy

- 20AG039 Yasumasa Hikosaka (University of Toyama)
Ion time-of-flight mass spectrometry for ion desorption after molecular inner-shell excitation
- 20AG040 Yasuyuki Maki (Kyushu University)
Gelation process of gelatin containing sugars studied by ultra-violet circular dichroism
- 20AG041 Hu Miao (Oak Ridge National Laboratory)
Origin of the gapless surface state in magnetic topological insulator $\text{Mn}(\text{Bi},\text{Sb})_2\text{Te}_4$
- 20AG042 Yoshihisa Matsumoto (Tokyo Institute of Technology)
Analysis of the mechanisms for the combinational effects of radiation and hyperthermia based on the secondary structure of DNA repair proteins
- 20AG043 Yudai Izumi (Hiroshima University)
VUV-CD spectroscopy of chromatin
- 20AG044 Shinya Nakashita (Hiroshima University)
Utilization of oyster shells and coal bottom ash mixture for restoration of coastal environment
- 20AG045 Tian Qian (Chinese Academy of Sciences)
Exploring connection of Fermi arcs and helical surface states in chiral crystal CoSi
- 20AG046 Tian Qian (Chinese Academy of Sciences)
Low temperature and Spin ARPES investigation of possible nodal surface in EuB₆
- 20AG047 Rohit Medwal (Nanyang Technological University)
Investigation of the modified Dirac cone in graphene interfacing heavy metal and ferromagnets for tunable spin orbit interaction
- 20AG049 Shinjiro Hayakawa (Hiroshima University)
High sensitive determination of film orientation of poly-thiophene films using conversion electron yield XAFS measurements
- 20AG050 Koichi Matsuo (Hiroshima University)
VUVCD measurements of monosaccharides
- 20AG051 Koichi Matsuo (Hiroshima University)
Structural stability of proteins induced by mono-saccharides
- 20AG052 Koichi Matsuo (Hiroshima University)
Interaction study of MBP and liposome membrane using LD spectroscopy
- 20AG053 Hitoshi Sato (Hiroshima University)
Angle resolved photoemission spectroscopy of valence transition compounds YbInCu₄
- 20AG054 Hitoshi Sato (Hiroshima University)
Study on c-f hybridzation of $\text{YbCu}_{5-x}\text{Al}_x$ by observation of the Kondo peak
- 20AG055 Hiroaki Yoshida (Hiroshima University)
Comparison of soft X-ray absorption spectra of transition metal sulfate
- 20AG056 Hiroaki Yoshida (Hiroshima University)
Electronic states of dihydrolipoic acid included in cyclodextrin
- 20AG057 Akio Kimura (Hiroshima University)
Visualizing surface spin textures of the Heusler-type Weyl ferromagnetic alloys exhibiting a giant anomalous Nernst effect
- 20AG058 Akio Kimura (Hiroshima University)

- Exploring a magnetic topological insulator phase in Eu based antiferromagnetic materials
- 20AG060 Naoki Ishimatsu (Hiroshima University)
XMCD study on temperature dependence of Gd and Co magnetic moments in Laves phase hydride GdCo_2H_3
- 20AG062 Chang Liu (Southern University of Science and Technology)
High resolution ARPES study on magnetic topological insulators $\text{Mn}(\text{Bi}_{1-x}\text{Sb}_x)_4\text{Te}_7$
- 20AG063 Chang Liu (Southern University of Science and Technology)
High resolution ARPES study on magnetic topological insulators $\text{Mn}(\text{Bi}_{1-x}\text{Sb}_x)_2\text{Te}_4$
- 20AG064 Masashi Arita (Hiroshima University)
ARPES study of 3d Kondo insulator FeSi
- 20AG065 Masashi Arita (Hiroshima University)
Angle resolved photoemission study of $\text{Y}_{1-x}\text{Ca}_x\text{TiO}_3$
- 20AU001 Masayuki Takahashi (Tokyo Institute of Technology)
DNA biding of RecA recombinase under molecular crowding conditions
- 20AU002 Masahiro Sawada (Hiroshima University)
ARPES measurement of interface electronic structures between Cr_2O_3 overlayers and graphene grown on Ni(111) surface
- 20AU003 Tetsuji Sekitani (Hiroshima University)
Study of nanocarbon adsorbed on self-assembled monolayer using NEXAFS and XPS
- 20AU004 Jun Maruyama (Osaka Research Institute of Industrial Science and Technology)
Vacuum ultraviolet circular dichroism spectroscopy for carbon nanotube modified with helically aligned nanopores
- 20AU005 Toshiro Hata (Hiroshima University)
Evaluation of the bio-mediated calcium carbonate into the soil pore with XAFS analysis
- 20AU006 Markus Donath (Westfälische Wilhelms-Universität Münster)
Spin-orbit-induced splitting of the Tamm surface state of Re(0001)
- 20AU007 Shiv Kumar (Hiroshima University)
Band structure engineering in topological semimetal candidate CaAuAs
- 20AU008 Munisa Nuermaimaiti (Hiroshima University)
Polarization-dependent ARPES studies on type-II Dirac semimetal NiTe_2
- 20AU009 Akio Kimura (Hiroshima University)
Low energy ARPES of Eu based antiferromagnetic topological insulator candidate
- 20AU010 Akio Kimura (Hiroshima University)
Angle-resolved photoelectron spectroscopy of strongly correlated materials with odd parity order
- 20AU011 Chang Liu (Southern University of Science and Technology)
Probing a new type of spin-splitting effect in antiferromagnets
- 20AU012 Xingjiang Zhou (University of Chinese Academy of Sciences)
Band Structure Investigation of iron superconductor $\text{Ba}_{0.6}\text{K}_{0.4}\text{Fe}_2\text{As}_2$
- 20AU013 Jun Maruyama (Osaka Research Institute of Industrial Science and Technology)
Sensitivity enhancement of vacuum ultraviolet circular dichroism spectroscopy for carbon nanotube modified with helically aligned nanopores

- 20AU014 Koichi Matsuo (Hiroshima University)
Analysis of membrane-bound conformation of Magainin2
- 20AU015 Koichi Matsuo (Hiroshima University)
Structural analysis α -synuclein interacted with membrane
- 20AU016 Susumu Mineoi (Hiroshima University)
Development of degradation analysis methods of functional materials for automobiles
by fluorescence and conversion electron yield XAFS measurements
- 20AU017 Shilong Wu (University of Chinese Academy of Sciences)
Spin-ARPES study of topological band structures in $\text{Ca}_2\text{Pd}_3\text{Sb}_4$
- 20AU018 Kenya Shimada (Hiroshima University)
High-resolution ARPES of heavily overdoped Bi2201: evaluation of coupling
parameters
- 20AU019 Kenya Shimada (Hiroshima University)
ARPES study of the topological surface state in single $\text{Sb}_2(\text{Se},\text{Te})_3$

Symposium

The 25th Hiroshima International Symposium on Synchrotron Radiation
March 4– March 5, 2021, Hiroshima University (Online)

Workshop

In Japanese

- 広島大・KEK-day 加速器のすゝめ
「加速器で科学する食・健康・生命・宇宙」
2020年12月9日 広島大学（オンライン）
- 第23回XAFS討論会
2020年9月9-11日 広島大学（オンライン）

The 25th Hiroshima International Symposium on Synchrotron Radiation

Masahiro Katoh

Hiroshima Synchrotron Radiation Center, Hiroshima University

Hiroshima Synchrotron Radiation Center held the 25th Hiroshima International Symposium on Synchrotron Radiation entitled "Materials Science using VUV-SX Synchrotron Radiation", aiming to promote the international and interdisciplinary exchange of information about materials science utilizing synchrotron radiation. In the last year, the 24th symposium was canceled due to the COVID-19 pandemic. In this year, the situation was still difficult. Therefore, the organizing committee decided to give up a face-to-face meeting and hold the symposium totally online, to ensure the safety of participants.

The symposium started with the greeting from Prof. Shinichi TATE, Vice President of Hiroshima University. Then, Prof. Kenya Shimada presented the present status of the facility and the recent scientific results. Because the speakers in the scientific sessions were spreading out worldwide, the timetable of the scientific session was unusual. It started with the flash oral presentations by the poster presenters. Then, the online poster session started, in which 27 presentations (including 20 student presentations) were made, focusing on the results of joint usage and research in the fiscal year 2019. The poster presentations of the students were evaluated by all participants (other than students) including invited speakers from Japan and overseas, and three student poster awards were decided as shown later.

At this symposium, the following topics were mainly discussed;

- High-resolution photoemission spectroscopy
- Spin resolved photoemission spectroscopy
- VUV-CD spectroscopy of biomolecules
- Soft x-ray magnetic circular dichroism of nanomaterials
- Light source accelerators and insertion devices.

In connection with these major topics, the following researchers were invited and gave talks on their cutting-edge research works;

- Songtian LI (National Institute for Quantum and Radiological Science and Technology, Japan), "A novel Graphene/Heusler Alloy Heterostructure for Advanced Spintronics"
- K. ASOKAN (Inter University Accelerator Centre, India), "Role of Ion Beams in SrTiO₃ and their Characterizations by Synchrotron Based Techniques"
- Michiya FUJIKI (Nara Institute of Science and Technology, Japan), "Marvel CPL, CPLE, and ECD Spectroscopy to Study the Origin of CD- and CPL-sign Inversion of D-/L-Camphor and Colloidal pi-Conjugated Polymers"
- Mohamed I. A. IBRAHIM (National Institute of Oceanography and Fisheries, Egypt), "Biomolecules Derived-Marine Ecosystems as Attractive Targets for SRCD Applications "
- Jaime SÁNCHEZ-BARRIGA (Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany), "Equilibrium and ultrafast response of topological matter to optical excitation"
- Kenta KURODA (ISSP, University of Tokyo, Japan), "Electronic correlations of CeSb through the devil's staircase transition"
- Shin-ichiro IDETA (UVSOR, Institute for Molecular Science, Japan), "Doping Dependence of The Electronic Structure in Triple-layer Cuprate Bi2223"
- Tatsuo KANEYASU (Saga Light Source, Japan), "Coherent Control of Atoms in the Extreme Ultraviolet and Attosecond Regime Radiation"

- Yudai IZUMI (National Institute for Quantum and Radiological Science and Technology, Japan), "An Application of Vacuum Ultraviolet Circular Dichroism Spectroscopy to Radiation Biology: Secondary Structural Analyses of Histone Proteins".

These talks were divided into two time zones, evening of the first day and morning in the second day, considering the time zone of the oversea participants. After finishing all the scientific sessions, the closing session was held, in which Prof. Okuda announced the winners of the best student poster awards. The following students won the awards;

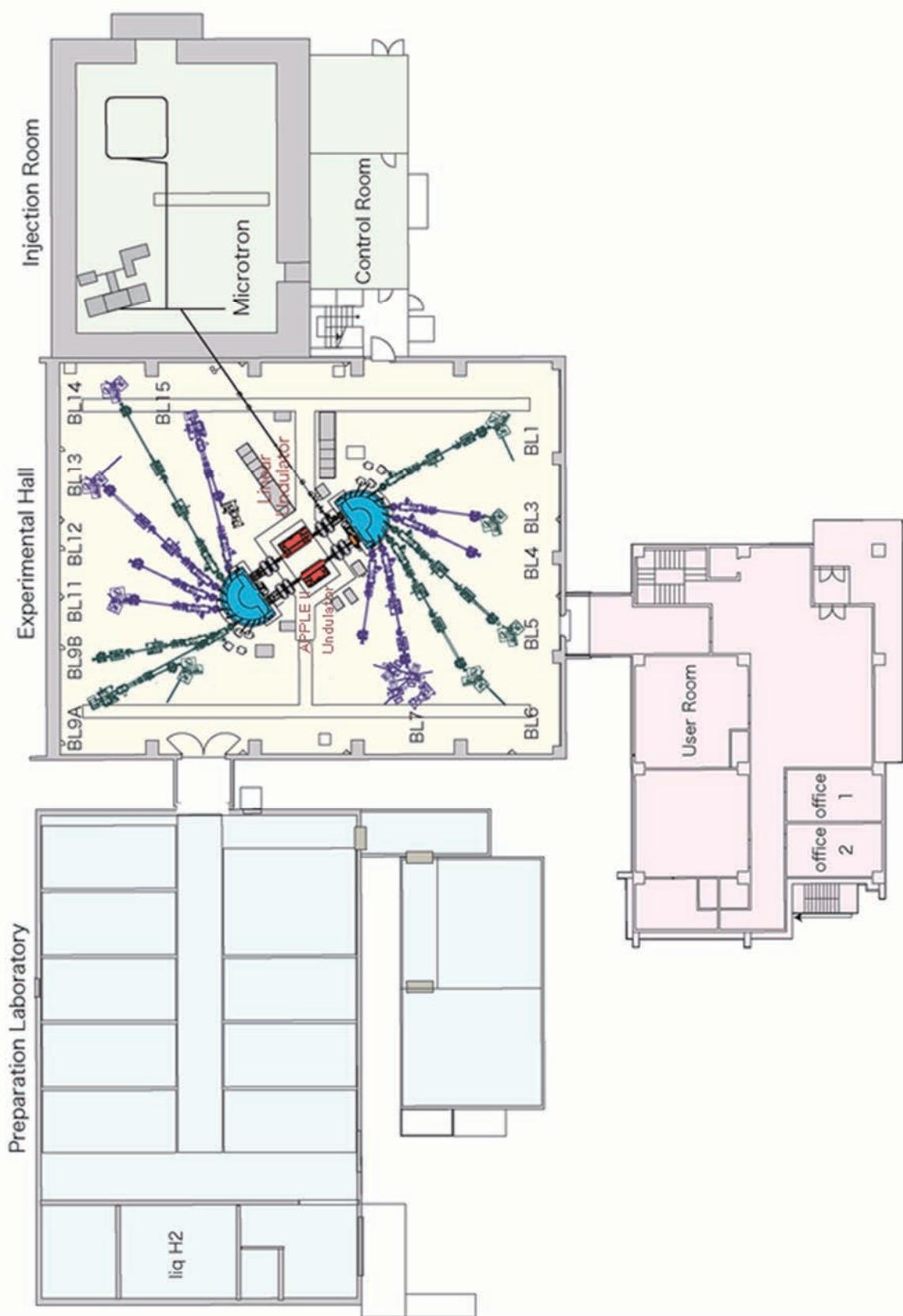
- Yudai Miyai (Hiroshima University), "High-resolution ARPES of heavily overdoped Bi2201 : evaluation of coupling parameters"
- Shusuke Ozawa (Hiroshima University), "Low-energy electron-boson coupling in Sr₂RuO₄"
- Toshiki Sakamoto (Yokohama National University), "Optical Activity Measurement of Amino Acid Films by Circular Dichroism Spectroscopy"

This international symposium was successfully held in collaboration with the Japanese Society for Synchrotron Radiation, with a total of 71 participants. We wish we could have the next symposium face to face in the campus, welcoming the invited speakers overseas.



FIGURE 1. Winners of the best student poster awards.

Plan of the Building



Location

