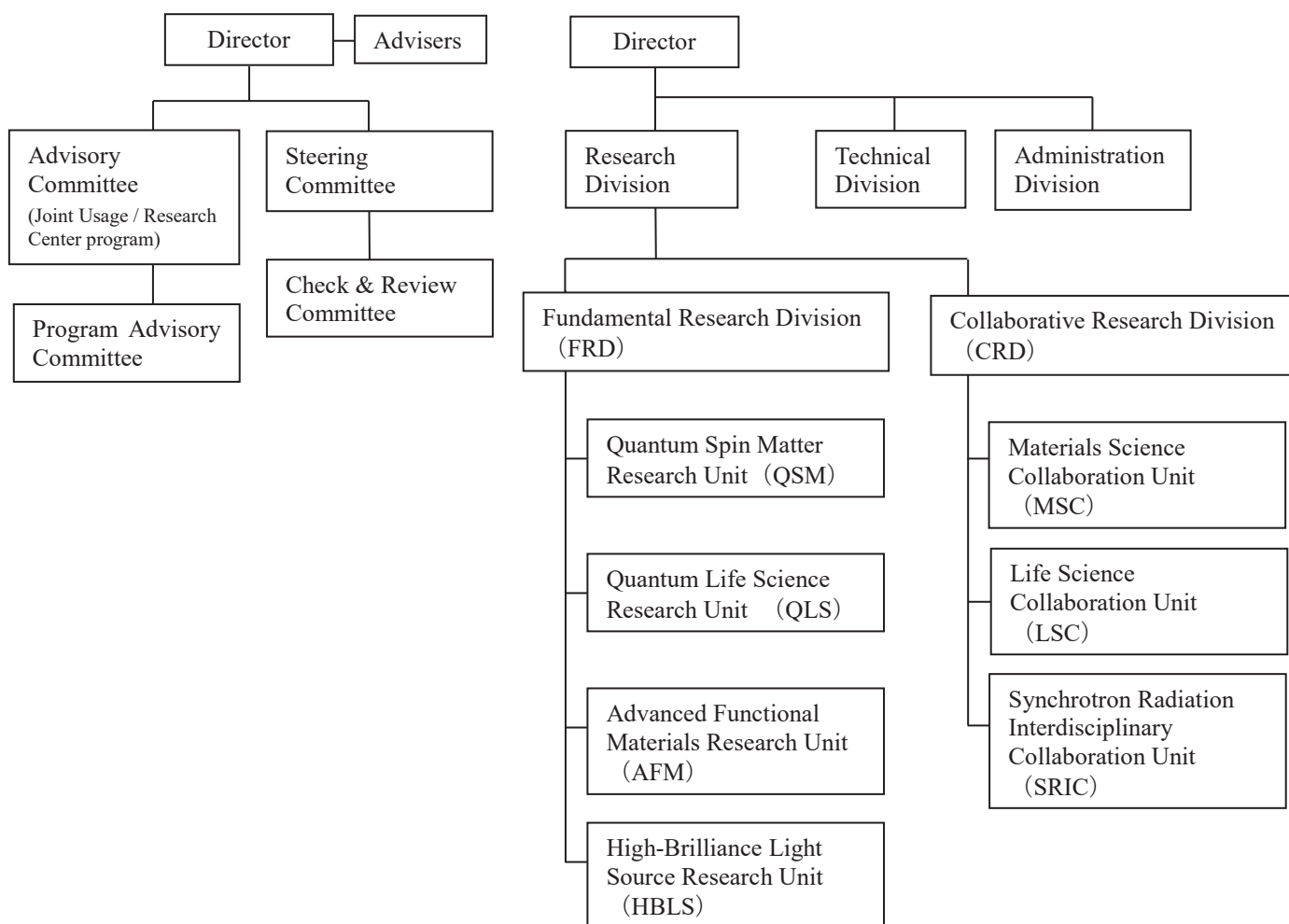


# Appendices



# Organization



**Fig. 1:** Organization chart of HiSOR

## Director

SHIMADA, Kenya

Research Institute for Synchrotron Radiation Science,  
Hiroshima University, 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
NAMATAME, Hirofumi	Professor
KATOH, Masahiro	Professor (Special Appointment)
MIYAUCHI, Hiroshi	Professor (Special Appointment)
SATO, Hitoshi	Associate Professor
SAWADA, Masahiro	Associate Professor
MATSUO, Koichi	Associate Professor
MIYAMOTO, Kouji	Associate Professor
IDETA, Shin-ichiro	Associate Professor
SHIMADA, Miho	Associate Professor (Special Appointment)
Mohamed Ibrahim	Assistant Professor
SUMIDA, Kazuki	Assistant Professor (Special Appointment)
FUJISAWA, Yuita	Assistant Professor
INO, Akihiro	Visiting Professor
LU, Yao	Researcher
CHENG, Zhang	Researcher
GOTO, Kiminori	Technical Specialist
ARITA, Masashi	Technical Specialist
JOHN, Christian	Education and Research Support Staff
ARAMOTO, Katsuhiko	Chief, Academic Support Group
SHINNO, Naoko	Contract General Staff
SHIMOKUBO, Harumi	Contract General Staff
TAMURA, Yasuka	Contract General Staff

## **Steering Committee**

SHIMADA, Kenya*	HiSOR
OKUDA, Taichi	HiSOR
NAMATAME, Hirofumi	HiSOR
KATOH, Masahiro	HiSOR
SATO, Hitoshi	HiSOR
SAWADA, Masahiro	HiSOR
MATSUO, Koichi	HiSOR
MIYAMOTO, Kouji	HiSOR
IDETA, Shin-ichiro	HiSOR
KURIKI, Masao	Graduate School of Advanced Science and Engineering
TATE, Shinichi	Graduate School of Integrated Sciences for Life
YABUTA, Hikaru	Graduate School of Advanced Science and Engineering

ICHIKAWA, Takayuki	Graduate School of Advanced Science and Engineering
TERAMOTO, Akinobu	Research Institute for Semiconductor Engineering
YOKOYA, Takayoshi	Okayama University
DAIMON, Hiroshi	Toyota Physical and Chemical Institute

*\*Chair Person*

### **Check & Review Committee**

SHIMADA, Kenya	HiSOR
OKUDA, Taichi*	HiSOR
NAMATAME, Hirofumi	HiSOR
KATOH, Masahiro	HiSOR
SATO, Hitoshi	HiSOR
SAWADA, Masahiro	HiSOR
MATSUO, Koichi	HiSOR
MIYAMOTO, Kouji	HiSOR
IDETA, Shin-ichiro	HiSOR
DAIGO, Souichi	Academic Support Group
ARAMOTO, Katsuhiko	Academic Support Group

*\*Chair Person*

### **Advisory Committee**

SHIMADA, Kenya	HiSOR
OKUDA, Taichi	HiSOR
NAMATAME, Hirofumi*	HiSOR
KATOH, Masahiro	HiSOR
SATO, Hitoshi	HiSOR
SAWADA, Masahiro	HiSOR
MATSUO, Koichi	HiSOR
MIYAMOTO, Kouji	HiSOR
IDETA, Shin-ichiro	HiSOR
KIMURA, Akio	Graduate School of Advanced Science and Engineering
HARADA, Yoshihisa	The University of Tokyo
ABUKAWA, Tadashi	Tohoku University
TAKAYAMA, Akari	Waseda University
KIMURA, Shin-ichi	Osaka University
TOBIYAMA, Makoto	High Energy Accelerator Research Organization
AMEMIYA, Kenta	High Energy Accelerator Research Organization
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
KINOSHITA, Toyohiko	Japan Synchrotron Radiation Research Institute

*\*Chair Person*

### **Program Advisory Committee**

SHIMADA, Kenya	HiSOR
OKUDA, Taichi	HiSOR
SATO, Hitoshi	HiSOR
SAWADA, Masahiro	HiSOR
MATSUO, Koichi	HiSOR
MIYAMOTO, Kouji*	HiSOR
KURODA, Kenta	Graduate School of Advanced Science and Engineering
MIYAOKA, Hiroki	Natural Science Center for Basic Research and Development
MATSUDA, Iwao	The University of Tokyo
YOSHIDA, Teppei	Kyoto University
SAITOH, Tomohiko	Tokyo University of Science
WADATI, Hiroki	University of Hyogo
SAKAMOTO, Kazuyuki	Osaka University
FUJIMORI, Shin-Ichi	Japan Atomic Energy Agency
MIZOKAWA, Takashi	Waseda University
MAKI, Yasuyuki	Kyusyu University

*\*Chair Person*

### **Visiting Scientists**

MIMURA, Kojiro	Osaka Metropolitan University
YOKOYA, Takayoshi	Okayama University
MURAOKA, Yuji	Okayama University
WAKITA, Takanori	Okayama University
YAMAGUCHI, Katsuhiko	Fukushima University
IWASAWA, Hideaki	National Institutes for Quantum and Radio Science and Technology
IZUMI, Yudai	Institute for Molecular Science
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

SHIKIN, Alexander Sciences  
St. Petersburg University

**Cooperative Research Staffs (Faculty Members)**

KIMURA, Akio	Graduate School of Advanced Science and Engineering
INUI, Masanori	Graduate School of Advanced Science and Engineering
KUROIWA, Yoshihiro	Graduate School of Advanced Science and Engineering
MORIYOSHI, Chikako	Graduate School of Advanced Science and Engineering
YABUTA, Hikaru	Graduate School of Advanced Science and Engineering
SEKITANI, Tetsuji	Graduate School of Advanced Science and Engineering
OKADA, Kazumasa	Graduate School of Advanced Science and Engineering
NAKAJIMA, Nobuo	Graduate School of Advanced Science and Engineering
WADA, Shin-ichi	Graduate School of Advanced Science and Engineering
KURODA, Kenta	Graduate School of Advanced Science and Engineering
YOSHIDA, Hiroaki	Graduate School of Advanced Science and Engineering
TANAKA, Arata	Graduate School of Advanced Science and Engineering
UCHIKOSHI, Hiroaki	Town & Gown Promotion Joint Research Course

## List of publications FY2024

1. M. Zeng, M.-Y. Zhu, Y.-P. Zhu, X.-R. Liu, X.-M. Ma, Y.-J. Hao, P. Liu, G. Qu, Y. Yang, Z. Jiang, K. Yamagami, M. Arita, X. Zhang, T.-H. Shao, Y. Dai, K. Shimada, Z. Liu, M. Ye, Y. Huang, Q. Liu, C. Liu. Observation of spin splitting in room-temperature metallic antiferromagnet CrSb. *Adv. Sci.* 11, 2406529/8p (2024).
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10. M. I. A. Ibrahim, M. E. Esmael, T. R. Elmashi, T. Haga, R. A. Bayoumi, M. M. Eldanasoury, M. R. Sofy, K. Matsuo, A. M. Khattab. Structure assessment and impacts of lipids' chemistry on the structuration of polyhydroxyalkanoate biosynthesized by *Bacillus licheniformis* AZU-A5. *Chirality* 36, e23722/18p (2024).
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  20. I. Klimovskikh, S. V. Eremeev, D. A. Estyunin, S. O. Filnov, K. Shimada, V. A. Golyashov, N. Yu. Solovova, O. E. Tereshchenko, K. A. Kokh, A. S. Frolov, A. I. Sergeev, V. S. Stolyarov, V. Mikšić Trontl, L. Petaccia, G. Di Santo, M. Tallarida, J. Dai, S. Blanco-Canosa, T. Valla, A. M. Shikin, E. V. Chulkov. Interfacing two-dimensional and magnetic topological insulators: Bi bilayer on MnBiTe-family materials. *Mater. Today Adv.* 23, 100511/9p (2024).
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32. T. Iwata, T. Kousa, Y. Nishioka, K. Ohwada, K. Sumida, E. Annese, M. Kakoki, K. Kuroda, H. Iwasawa, M. Arita, S. Kumar, A. Kimura, K. Miyamoto, T. Okuda. Laser-based angle-resolved photoemission spectroscopy with micrometer spatial resolution and detection of three-dimensional spin vector. *Sci. Rep.* 14, 127/8p (2024).
33. H. Iwasawa, T. Ueno, T. Iwata, K. Kuroda, K. A. Kokh, O. E. Tereshchenko, K. Miyamoto, A. Kimura, T. Okuda. Efficiency improvement of spin-resolved ARPES experiments using Gaussian process regression. *Sci. Rep.* 14, 20970/10p (2024).
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## List of Accepted Research Proposals (FY2024)

- 24AG001 Chaoyu Chen Southern University of Science and Technology  
Investigate the origin of charge density wave in a quasi-one-dimensional NbTe<sub>4</sub> by Angle-Resolved Photoemission Spectroscopy
- 24AG002 Chaoyu Chen Southern University of Science and Technology  
Spin-resolved ARPES study on altermagnet candidate MnTe
- 24AG003 Yongqing Cai Dalian University of Technology  
The electronic structure study of the antiferromagnetic topological semimetal candidate Tb<sub>2</sub>CoAl<sub>4</sub>Ge<sub>2</sub>
- 24AG004 Yongqing Cai Dalian University of Technology  
ARPES study on the electronic structure and spin texture of ferromagnet RMn<sub>2</sub>Ge<sub>2</sub>
- 24AG005 Hitoshi Sato Hiroshima Synchrotron Radiation Center, Hiroshima University  
Electronic structure of chiral metallic magnet GdNi<sub>3</sub>Ga<sub>9</sub> studied by angle resolved photoemission spectroscopy
- 24AG006 Hitoshi Sato Hiroshima Synchrotron Radiation Center, Hiroshima University  
Polarization-dependent angle resolved photoemission spectroscopy of chiral metallic magnet GdNi<sub>3</sub>Ga<sub>9</sub>
- 24AG007 Tatsuhito Matsuo National Institutes for Quantum and Radiological Science and Technology  
Secondary structural changes of the oncoprotein NCYM caused by low molecular weight inhibitors using vacuum-ultraviolet circular dichroism
- 24AG008 Baojie Feng Institute of Physics, Chinese Academy of Sciences  
ARPES study of a two-dimensional Kagome-like Sb lattice
- 24AG009 Baojie Feng Institute of Physics, Chinese Academy of Sciences  
Realization of topological electronic structure in a square Bi lattice by the Su-Schrieffer-Heeger model
- 24AG010 Hiroaki Anzai Graduate School of Engineering, Osaka Metropolitan University  
Temperature dependence of the photoemission spectra in magnetic regenerator material GdNiSi and ErNiSi
- 24AG011 Hiroaki Anzai Graduate School of Engineering, Osaka Metropolitan University  
ARPES measurements of YbXrCu<sub>4</sub> (X=Ag, In) prepared by polish-sputter-anneal metho
- 24AG012 Koichi Matsuo Hiroshima Synchrotron Radiation Center, Hiroshima University  
Structural change of  $\alpha$ 1 acid glycoprotein induced by the membrane interaction
- 24AG013 Koichi Matsuo Hiroshima Synchrotron Radiation Center, Hiroshima University  
Effect of salt to membrane-bound structure and amyloid fibril formation analysis of  $\alpha$ -synuclein peptide
- 24AG014 Tomohide Saio Institute of Advanced Medical Sciences, Tokushima University  
Molecular Mechanism of Chaperone Action Characterized by Time-Resolved Vacuum-Ultraviolet Circular Dichroism Spectroscopy
- 24AG015 Mohamed Ibrahim Hiroshima Synchrotron Radiation Center, Hiroshima University  
Monitoring the self-assembly of alginate by polyvalent ions using circular dichroism
- 24AG016 Kazuki Sumida Hiroshima Synchrotron Radiation Center, Hiroshima University  
Spin-split electronic states of 3d transition metal silicides derived from chiral structures
- 24AG017 Takayoshi Yokoya Research Institute for Interdisciplinary Science, Okayama University  
Synchrotron ARPES of two-dimensional triangular lattice system LiVS<sub>2</sub>

- 24AG018 Takayoshi Yokoya Research Institute for Interdisciplinary Science, Okayama University  
Synchrotron SARPES of half-metal CrO<sub>2</sub>
- 24AG019 Takayoshi Yokoya Research Institute for Interdisciplinary Science, Okayama University  
Electronic structure study of functional materials at BL-5 (FY2024A)
- 24AG020 Takayoshi Yokoya Research Institute for Interdisciplinary Science, Okayama University  
Resonant inverse photoemission spectroscopy of half-metallic CrO<sub>2</sub>
- 24AG021 Chang Liu Southern University of Science and Technology  
Electronic structure study of topological materials Ge<sub>2</sub>Bi<sub>2</sub>Te<sub>5</sub> and Ge<sub>3</sub>Bi<sub>2</sub>Te<sub>6</sub>
- 24AG022 Chang Liu Southern University of Science and Technology  
Exploring a novel spin splitting effect in the altermagnet candidate MnTe through spin resolved ARPES
- 24AG023 Zhang Ke University of Electronic and Technology of China (UESTC)  
Revealing the band structure of Chern-insulator phase in antiferromagnet Mn<sub>3</sub>Sn and RbCr<sub>4</sub>S<sub>8</sub>
- 24AG024 Zhang Ke University of Electronic and Technology of China (UESTC)  
Observation of topological flat band in high symmetry point semi-metal NdRh<sub>2</sub>As<sub>2</sub>
- 24AG025 Zhang Ke University of Electronic and Technology of China (UESTC)  
Hidden spin polarization in inversion-symmetric multiphase superconductor CeRh<sub>2</sub>As<sub>2</sub>
- 24AG026 Zhang Ke University of Electronic and Technology of China (UESTC)  
Fully spin-polarized Weyl monoloop surface states in rutile-type metal LiV<sub>2</sub>F<sub>6</sub>
- 24AG027 Takeshi Kondo The Institute for Solid State Physics, University of Tokyo  
Spatial/spin resolved study of ferromagnetic superconductor EuFe<sub>2</sub>(As<sub>1-x</sub>Px)<sub>2</sub>
- 24AG028 Masahiro Kobayashi National Institute for Fusion Science  
Circular dichroism analysis of optical activity in amino acid specimen by polarized quantum beam irradiation
- 24AG029 Takeshi Kondo The Institute for Solid State Physics, University of Tokyo  
Investigation of the electronic structure of new excitonic insulator candidate
- 24AG030 Akifumi Higashiura Graduate School of Biomedical and Health Sciences, Hiroshima University  
Identification of the interaction sites of viral factory viroplasm for revealing the assembly mechanism
- 24AG031 Mark Edmonds Monash University  
Measuring topological Dirac band in ultra-thin Kagome metal FeSn
- 24AG032 Jimin Kim Max Planck Pohang University of Science and Technology  
Sublattice interference study of topological flat bands in kagome metals CoSn and RhPb
- 24AG033 Hendrik Bentmann Norwegian University of Science and Technology  
Dichroism of Fermi arcs in chiral topological semimetal CoSi in high-resolution ARPES
- 24AG034 Hendrik Bentmann Norwegian University of Science and Technology  
Electronic structure of antiferromagnetic CuFeS<sub>2</sub> using high-resolution ARPES
- 24AG035 Guodong Liu Institute of Physics, Chinese Academy of Sciences  
A study on the nature of topological superconductor SnAs by using spin-resolved ARPES
- 24AG036 Guodong Liu Institute of Physics, Chinese Academy of Sciences  
A study on the nature of broken Kramers' degeneracy in the altermagnetic candidate MnO<sub>2</sub> by using spin-resolved ARPES

- 24AG037 Shin-ichiro Ideta Hiroshima Synchrotron Radiation Center, Hiroshima University  
ARPES study of effects by charge fluctuations on the electronic structure of electron-doped cuprates
- 24AG038 Shin-ichiro Ideta Hiroshima Synchrotron Radiation Center, Hiroshima University  
ARPES study of the electronic structure on Hg-based triple-layer cuprate,  $\text{HgBa}_2\text{Ca}_2\text{Cu}_3\text{O}_8^{+\delta}$
- 24AG039 Kouji Miyamoto Hiroshima Synchrotron Radiation Center, Hiroshima University  
Study of superconductivity on Bi/Ni hetero bilayer
- 24AG040 Taichi Okuda Hiroshima Synchrotron Radiation Center, Hiroshima University  
Temperature and substrate dependence of magnetic anisotropy of O/FeCo(001) film on Pd(001) II
- 24AG041 Shilong Wu Songshan Lake Materials Laboratory  
The Combination of Focused Ion Beam Cleaving (FIBC) with Spin-ARPES: The First Trial on Altermagnetic  $\text{RuO}_2$
- 24AG042 Akio Kimura Graduate School of Advanced Science and Engineering, Hiroshima University  
Mechanism of Tc increase in Dirac nodal-line superconductors
- 24AG043 Akio Kimura Graduate School of Advanced Science and Engineering, Hiroshima University  
Visualizing topological band structure of Rf based Heusler compounds with a gigantic anomalous Nernst effect
- 24AG044 Meng Wang CEMS, RIKEN  
XAS, XLD and XMCD study on altermagnetic rutile oxide
- 
- 24AU001 Masashi Arita Hiroshima Synchrotron Radiation Center, Hiroshima University  
Observation of the Surface state on FeSi[111]
- 24AU002 Daniel Dessau University of Colorado Boulder  
Spin-ARPES of potential topological superconductor
- 24AU003 Yuita Fujisawa Research Institute for Synchrotron Radiation Science, Hiroshima University  
Angle-resolved photoemission spectroscopy of frustrated magnets
- 24AU004 Kouichi Takase College of Science and Technology, Nihon University  
The origin of the magnetic moment of the room temperature ferromagnetism found in oxide semiconductor nanoparticles without magnetic element
- 24AU005 Taichi Okuda Hiroshima Synchrotron Radiation Center, Hiroshima University  
Verification of Chirality Induced Spin Selectivity Effect (CISS Effect) in DNA
- 24AU006 Kenta Kuroda Graduate School of Advanced Science and Engineering, Hiroshima University  
Extracting phase information of optical transitions by laser spin-ARPES
- 24AU007 Kenta Kuroda Graduate School of Advanced Science and Engineering, Hiroshima University  
Direct observation of antiferromagnetic spin-splitting by laser spin-ARPES
- 24AU008 Yuita Fujisawa Research Institute for Synchrotron Radiation Science, Hiroshima University  
A laser spin-ARPES study of kagome lattice magnets
- 24AU009 Takahito Takeda Graduate School of Advanced Science and Engineering, Hiroshima University  
Magnetic domain mapping by laser spin-ARPES

- 24AU010 Hiroki Miyaoka Natural Science Center for Basic Research and Development,  
Hiroshima University  
Research on electrode materials for lithium-ion battery 1
- 24AU011 Hiroki Miyaoka Natural Science Center for Basic Research and Development,  
Hiroshima University  
Research on electrode materials for lithium-ion battery 2
- 24AU012 Hiroki Miyaoka Natural Science Center for Basic Research and Development,  
Hiroshima University  
Research on electrode materials for lithium-ion battery 3
- 24AU013 Masaki Kobayashi Graduate School of Engineering, The University of Tokyo  
Elucidation of the electronic state of topological Dirac semimetal thin films by micro-  
focused laser ARPES
- 24AU014 Koichi Matsuo Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
Study of the interaction between chiral materials and optical vortex using laser
- 24AU015 Hiroki Miyaoka Natural Science Center for Basic Research and Development,  
Hiroshima University  
Research and development of ammonia decomposition catalysts 1
- 24AU016 Hiroki Miyaoka Natural Science Center for Basic Research and Development,  
Hiroshima University  
Research and development of ammonia decomposition catalysts 2
- 24AU017 Hiroki Miyaoka Natural Science Center for Basic Research and Development,  
Hiroshima University  
Research and development of ammonia decomposition catalysts 3
- 24AU018 Jimin Kim Max Planck Pohang University of Science and Technology  
Investigating distinct topological surface states in hexagonal ABC-type 3D Dirac  
semimetal
- 24AU019 Keun Su Kim Yonsei University  
Spin-polarized polarons in surface-doped tungsten disulfides
- 24AU020 Kouji Miyamoto Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
Electronic structure of Pt thin film grown on Fe/MgO
- 24AU021 Hidetoshi Tahara Graduate School of Biomedical and Health Sciences  
Structural analysis of miR-3140-3p/A6K mixture in aqueous solution
- 24AU022 Shin-ichiro Ideta Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
Role of charge fluctuations on the electronic structure of cuprates observed by IPES
- 24BG001 Tatsuhito Matsuo Faculty of Health and Medical Science, Hiroshima International  
University  
Secondary structural analysis of Notch2nl-B, the protein involved in the enlargement  
of the cerebral cortex, by vacuum-ultraviolet circular dichroism
- 24BG002 Kenya Shimada Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
High-resolution angle-resolved photoemission study of transition metal  
dichalcogenides (MX<sub>2</sub> structure) superconductor
- 24BG003 Koichi Matsuo Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
Vertical CD instrument and measurement

- 24BG004 Hitoshi Sato Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
Angle-resolved inverse-photoemission spectroscopy of  $\text{Fe}_x\text{TiS}_2$
- 24BG005 Hitoshi Sato Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
Fe 3*d*-derived dispersion of  $\text{Fe}_x\text{TiS}_2$  observed by resolved photoemission spectroscopy
- 24BG006 Hitoshi Sato Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
Temperature-dependent angle resolved photoemission spectroscopy of chiral metallic magnet  $\text{GdNi}_3\text{Ga}_9$
- 24BG007 Hitoshi Sato Research Institute for Synchrotron Radiation Science,  
Hiroshima University  
Electronic structure of chiral metallic magnet  $\text{GdNi}_3\text{Ga}_9$  studied by angle resolved photoemission spectroscopy II
- 24BG008 Shin-ichi Wada Graduate School of Advanced Science and Engineering,  
Hiroshima University  
Molecular chain conductivity-dependent electronic relaxation dynamics explored by resonant electron spectroscopy
- 24BG009 Shin-ichi Wada Graduate School of Advanced Science and Engineering,  
Hiroshima University  
Synthesis of supported biomembranes for membrane protein analysis platform evaluated by soft X-ray spectroscopy
- 24BG010 Shin-ichi Wada Graduate School of Advanced Science and Engineering,  
Hiroshima University  
Systematic understanding of soft X-ray absorption spectra measured for surfaces with functional organic molecules
- 24BG011 Kazumasa Okada Graduate School of Advanced Science and Engineering,  
Hiroshima University  
Measurement of absorption spectra of aqueous DMSO solutions having strong absorption in the near ultraviolet region to explore the hydration structure of DMSO
- 24BG012 Haoxiang Li The Hong Kong University of Science and Technology  
(Guangzhou)  
Explore tunable charge density waves in  $\text{GdSb}_x\text{Te}_{2-x}$
- 24BG013 Jadupati Nag Pennsylvania State University  
Unveiling non-relativistic spin-split band structure in a potential altermagnetic Weyl semimetal  $\text{GdAlSi}$
- 24BG014 Jadupati Nag Pennsylvania State University  
Revealing the non-relativistic spin-split band structure in the prospective altermagnetic Weyl semimetal  $\text{GdAlSi}$  using spin-ARPES
- 24BG015 Yasufumi Umena Nagoya University Synchrotron Radiation Research Center  
Structural Analysis of Artificially Designed Proteins
- 24BG016 Tetsuji Sekitani Graduate School of Advanced Science and Engineering,  
Hiroshima University  
Study of polymer/fullerene blend films using NEXAFS and RAS
- 24BG017 MA Junzhang City University of Hong Kong  
Electron-boson coupling effect of novel antiferromagnets  $\text{RuO}_2$
- 24BG018 Ke Deng Southern University of Science and Technology  
ARPES study on a tunable Dirac semimetal with antiferromagnetic order
- 24BG019 Abdelrahman Al-Azhar University  
Mosaad Khattab  
Structural and conformational analysis of surfactin-producing bacteria via synchrotron radiation circular dichroism

- 24BG020 AVERLANT- Université de Lorraine/CNRS  
 PETIT Marie  
 Christine  
 Exploring the conformational dynamics of peptide-based hydrogels and their influence on self-assembly
- 24BG021 Mohamed Ibrahim Research Institute for Synchrotron Radiation Science,  
 Hiroshima University  
 Synchrotron-radiation circular-dichroism spectroscopy: revealing structural dynamics of mycosporine-like amino acids
- 24BG022 Masashi Arita Research Institute for Synchrotron Radiation Science,  
 Hiroshima University  
 Study on Metal-Insulator Transition in  $Y_{1-x}Ca_xTiO_3$  using Angle-Resolved Photoemission Spectroscopy
- 24BG023 Shinya Hosokawa Institute of Industrial Nanomaterials, Kumamoto University  
 Conduction-band electronic states of Dy-TM metallic glasses having thermal rejuvenation effect II
- 24BG024 Shinya Hosokawa Institute of Industrial Nanomaterials, Kumamoto University  
 Valence-band electronic states of Dy-TM metallic glasses having thermal rejuvenation effect II
- 
- 24BU001 Tsuneomi Department of Applied Chemistry, Tokyo University of Science  
 Kawasaki  
 Conformational analysis of chiral hydrogen isotopomers by the measurement of circular dichroism
- 24BU002 Naoka Nagamura National Institute for Materials Science  
 An electric state analysis of bcc-Cu by angle-resolved photoelectron spectroscopy
- 24BU003 Yuita Fujisawa Research Institute for Synchrotron Radiation Science,  
 Hiroshima University  
 A laser spin ARPES study of antiferromagnetic thin films
- 24BU004 Akio Kimura Graduate School of Advanced Science and Engineering,  
 Hiroshima University  
 A laser spin ARPES study of Heusler alloy thin films
- 24BU005 Katsuya Inoue Graduate School of Advanced Science and Engineering,  
 Hiroshima University  
 Structural studies by scanning VUV-CD of around 40 years human skin section samples
- 24BU006 Shin-ichiro Ideta Research Institute for Synchrotron Radiation Science,  
 Hiroshima University  
 Observation of spin splitting on  $NiS_2$  by high-resolution spin-resolved APRES
- 24BU007 Mohamed Salem Tanta University  
 Labib  
 Synchrotron-Radiation Circular-Dichroism Spectroscopy: Revealing How Novel Indole Derivatives Affect Proteins and Nucleic Acids in Cancer Cells
- 24BU008 Hideaki Iwasawa National Institutes for Quantum and Radiological Science and  
 Technology  
 Efficiency improvement of spin-resolved ARPES experiments using measurement informatics
- 24BU009 Hiroki Miyaoka Natural Science Center for Basic Research and Development,  
 Hiroshima University

- 24BU010 Research on electrode materials for lithium-ion battery 4  
Taichi Okuda Hiroshima Synchrotron Radiation Center, Hiroshima University  
Investigation of topological surface states of  $\text{Bi}_2\text{Se}_3$  and  $\text{Bi}_2\text{Te}_3$  on uncleavable surfaces by micro-spin-ARPES
- 24BU011 Arakadeb Pal University of Groningen  
Probing electronic structure of low dimensional magnetic materials by X-ray absorption spectroscopy
- 24BU012 Taichi Okuda Hiroshima Synchrotron Radiation Center, Hiroshima University  
Verification of Chirality Induced Spin Selectivity Effect (CISS Effect) in Self-Assembled Chiral Polymers on Gold Surface 2
- 24BU013 Daisuke Tadokoro Research Institute for Sustainable Humanosphere, Kyoto University  
Development of PETase with long-time enzymatic activity by SRCD analysis
- 24BU014 Yuita Fujisawa Research Institute for Synchrotron Radiation Science, Hiroshima University  
Synchrotron spin ARPES studies of ferromagnetic thin films
- 24BU015 Kazuki Sumida Hiroshima Synchrotron Radiation Center, Hiroshima University  
Structural-order dependence of electronic structure in ferromagnetic Weyl semimetal films
- 24BU016 Yuka Horikawa Graduate School of Sciences and Technology for Innovation, Yamaguchi Unigersity  
Raman microscopy of crown ethers
- 24BU017 Yuka Horikawa Graduate School of Sciences and Technology for Innovation, Yamaguchi Unigersity  
Viscosity measurement of organic acid-base systems
- 24BU018 Shinnosuke Graduate School of Arts and Sciences, The University of Tokyo Horiuchi  
Model and XES calculations of organic and inorganic complex crystal
- 24BU019 Shunsuke Izumi Graduate School of Integrated Sciences for Life, Hiroshima University  
Ionization threshold in MALDI-MS based on the strength of matrix hydrogen bonds
- 24BU020 Hitoshi Washizu The Graduate School of Information Science, University of Hyogo  
Theoretical calculations for functional liquid crystal membrane
- 24BU021 Yin Zhong International Center for Synchrotron Radiation Innovation Smart, Tohoku University  
Theoretical XES calculations of aqueous hydrogen peroxide
- 24BU022 Hiroyuki Kai Mazda Motor Corporation  
Research into resin degradation modeling

## Symposium

The 29th Hiroshima International Symposium on Synchrotron Radiation  
March 6–7, 2025, Faculty Club, Hiroshima University

## HiSOR Seminar

- Dec. 12. 2024  
蛍光 XAFS 法による電気化学反応下におけるモデル固液界面の活性種構造変化観測  
Kiyotaka Asakura(Ritsumeikan University)
- Dec. 9. 2024  
バンドのスピンの縮重  
Tatsuya Shishidou(University of Wisconsin-Milwaukee)
- Nov. 27. 2024  
C<sub>80</sub> Endofullerenes: Small magnetoelectric Bits  
Thomas Greber(University of Zürich)
- Nov. 25. 2024  
Transition metals dihalides: from 2D magnetism to metal-organic hybrids  
Martina Corso(Center for Materials Physics)
- Nov. 19. 2024  
スピン位相復元を用いた分子軌道トモグラフィ  
Kazushi Mimura(Hiroshima City University)
- Nov. 18. 2024  
放射光科学とデータ駆動科学  
Masato Okada(The University of Tokyo)  
ARPES のベイズ計測  
Maho Motegi(The University of Tokyo)
- Nov. 5. 2024  
From Chiral Electronics to Mottness in Momentum Space  
Niels Schroeter(Max Plank Institute - Haller)

- Nov. 1. 2024  
Ultrafast phenomena and the related techniques: beyond pump-probe scheme  
Kenta Kuroda(Hiroshima University)
- Oct. 28. 2024  
4d and 5d magnetic oxides developed by machine-learning-assisted molecular  
beam epitaxy  
Yuki K. Wakabayashi(NTT Basic Research Laboratories)
- July 23. 2024  
分岐・環状構造でひろがる高分子溶液の科学  
Ken Terao(Osaka University)
- July 22. 2024  
微細加工共用設備「試作コインランドリ」の活動紹介  
Kentaro Totsu(Tohoku University)
- June 21. 2024  
Competing charge density waves in a van der Waals antiferromagnet  $\text{CeTe}_3$   
Yuita Fujisawa (Hiroshima University)

# The 29th Hiroshima International Symposium on Synchrotron Radiation

Masahiro Sawada

Hiroshima Synchrotron Radiation Center, Hiroshima University

On March 6th and 7th, 2025, we hosted the 29th Hiroshima International Symposium on Synchrotron Radiation, themed "Materials Science using VUV-SX Synchrotron Radiation: Towards the HiSOR II Project." The symposium aimed to encourage international and interdisciplinary exchanges of information in materials science utilizing synchrotron radiation, and to explore the future direction of research using VUV-SX light and suitable light sources.

The two-day event kicked off with opening remarks from Mr. Seiichi MIYAZAKI (Executive Vice President for Research, Hiroshima University, Japan). Following these introductions, Prof. K. Shimada, Director of HiSOR, gave an overview of HiSOR's activities. After the opening session, invited speakers shared recent scientific findings on various topics (see the list of invited speakers).

- 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

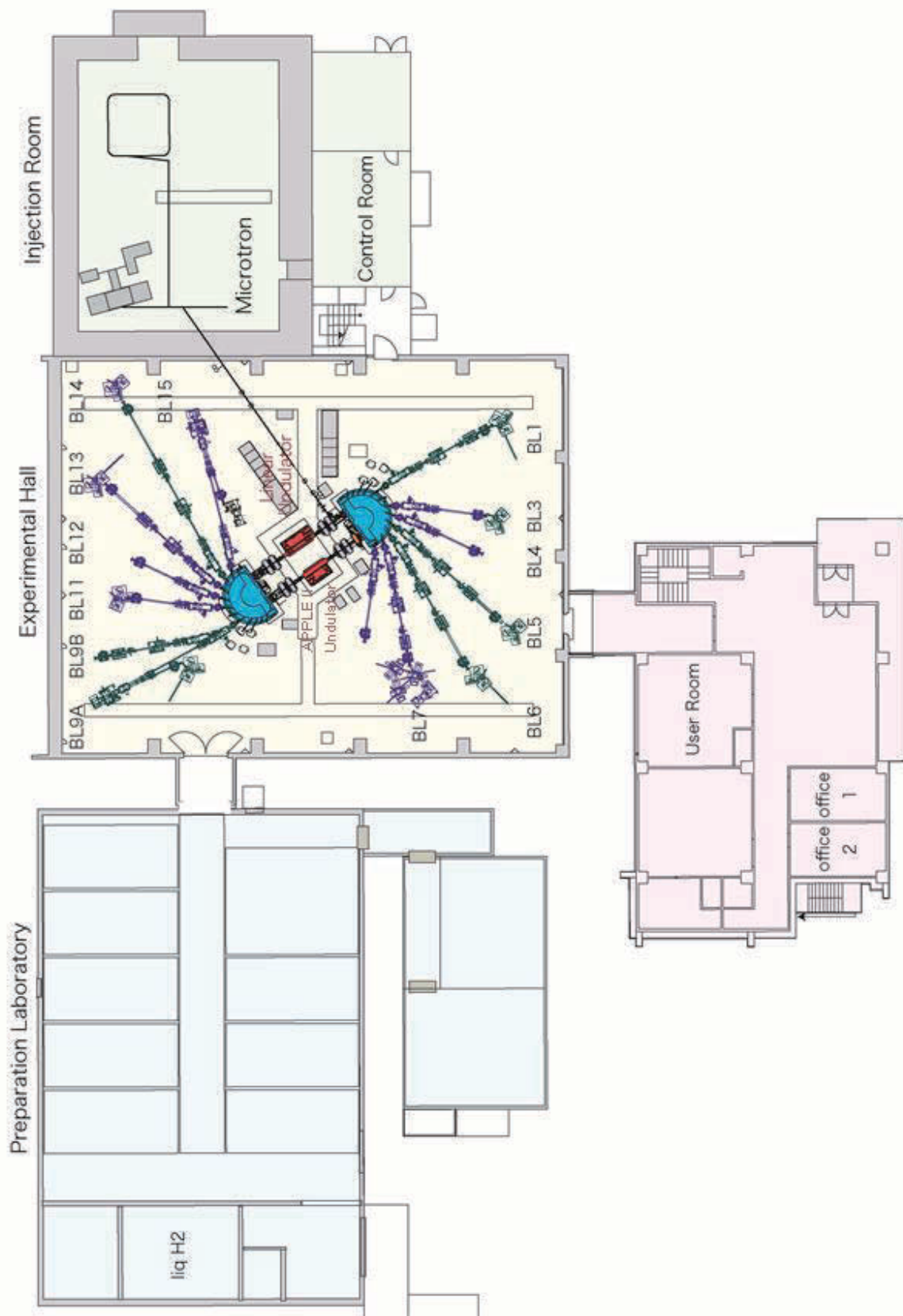
List of invited speakers (titles omitted):

- Masaki HADA (Institute of Pure and Applied Sciences, University of Tsukuba, Japan)
- Masahito HOSAKA (National Synchrotron Radiation Laboratory, University of Science and Technology of China, China)
- Keun Su KIM (Department of Physics, Yonsei University, Korea)
- Yasuyuki MAKI (Department of Chemistry, Faculty of Science, Kyushu University, Japan)
- Michael MAN (Femtosecond Spectroscopy Unit, Okinawa Institute of Science and Technology Graduate University, Japan)
- Arkadeb PAL (Faculty of Mathematics and Natural Sciences, Zernike Institute for Advanced Materials, University of Groningen, Netherlands)
- Mohamed Labib SALEM (Faculty of Science, Tanta University, Egypt)
- Yuichi YOKOYAMA (Japan Synchrotron Radiation Research Institute, Japan)

In addition to the oral presentations, an on-site poster session was held, featuring 37 presenters, including 27 students. Most of the results shared were from joint research conducted during fiscal year 2024. The best student poster awards were selected based on evaluations by all participants, excluding students. Four students were awarded in the closing session for their outstanding posters.

The symposium achieved a good success, with 77 participants in total: 58 from on-campus, 15 from off-campus, and 4 from overseas. As the symposium chair, I would like to express my sincere thanks to all participants for their contributions, and to The Physical Society of Japan, the Particle Accelerator Society of Japan, and the Japanese Society for Synchrotron Radiation for their support in organizing this event.

# Plan of the Building



# Location

