

# Conference Program

Oral Session I < Kihada Hall, Obaku Plaza >

**September 3 (Monday)**

## Opening

09:30-09:45 Yasuaki Kishimoto (Director of IAE, Kyoto University)

## Session 1

Chair: Yasuaki Kishimoto

## Plenary Talk

09:45-10:35 **Zero-Emission Electric Vehicle System for Tokyo Metro Area**  
Ken-ichi Ueda (The University of Electro-Communications, Japan)

10:35-11:00 **Nature-Inspired Surface Science for Energy**  
Hiroshi Sakaguchi (IAE, Kyoto University, Japan)

11:00-11:20 - Coffee Break - (Kihada Hybrid Space)

## Session 2

Chair: Masato Katahira

11:20-11:45 **Overview of Electric Power Safety Policy in Japan  
towards use of Renewable Energy**  
Koichi Shiraga (Ministry of Economy, Trade and Industry, Japan)

11:45-11:55 **Introduction to the School of Energy Engineering at Zhejiang University**  
Liwu Fan (Zhejiang University, China)

11:55-12:10 - Group Photo -

12:10-13:10 - Lunch -

## Session 3

Chair: Kazunori Morishita

13:10-13:40 **Current Status of the Chinese ADS Project and the Development  
of SIMP Steel**  
Wang Zhiguang (Chinese Academy of Sciences, China)

13:40-14:05 **Modeling and Simulation on Irradiation Effects of Blanket Structural  
Material in Nuclear Fusion Reactor**  
Yoshiyuki Watanabe (National Institutes for Quantum and Radiological  
Science and Technology, Japan)

14:05-14:30 **Synergistic Effects of Displacement Damages and Helium  
in Fusion Reactor Structural Materials - Studies using DuET Facility**  
Takuya Yamamoto (University of California, Santa Barbara, USA)

14:30-14:50 - Coffee Break - (Kihada Hybrid Space)

---

**Session 4**

---

Chair: Takashi Minami

- 14:50-15:20      **Dynamics of Turbulence in Magnetically Confined Fusion Plasmas**  
George R. McKee (University of Wisconsin-Madison, USA)
- 15:20-15:45      **Zeeman Spectroscopy for the Tomographic Measurement  
of Magnetically Confined Plasmas**  
Taiichi Shikama (Kyoto University, Japan)
- 15:45-16:10      **Compact Neutron Generator with Inertial Electrostatic Confinement  
Fusion for Nuclear Application**  
Kei Takakura (Toshiba Energy Systems & Solutions Corporation, Japan)
- 16:10-16:30      - Coffee Break - (Kihada Hybrid Space)

---

**Panel Discussion: Zero-Emission Energy**

---

Moderator: Toshiyuki Nohira

- 16:30-17:40      **Panel Discussion** < Kihada Hall >

---

17:40-17:50      - Break -

17:50-19:50      - Reception - (Restaurant Kihada & Kihada Hybrid Space)

**Oral Session II** < Kihada Hall, Obaku Plaza >**September 4 (Tuesday)**

---

**Session 5**

---

Chair: Hideaki Ohgaki

- 09:30-10:00      **New Photocatalysts Based on Layered Complex Oxides**  
Yalin Lu (The University of Science and Technology of China, China)
- 10:00-10:25      **Van der Waals Epitaxy of Nitride Semiconductors Towards Energy  
Conversion Devices**  
Shinichiro Mouri. (Ritsumeikan University, Japan)
- 10:25-10:50      **Materials Science for Printable Perovskite Solar Cells**  
Atsushi Wakamiya. (Kyoto University, Japan)
- 
- 10:50-12:15      **Poster Session** < Kihada Hybrid Space >
- 12:15-14:15      - Lunch-

## Session 6

Chair: Takashi Nagata

- 14:15-14:45      **Molecular Insights into the Enzymatic Oxidation of Polysaccharides by Lytic Polysaccharide Monooxygenases**  
Paul Walton (University of York, UK)
- 14:45-15:10      **Structure and Function of Dioxygenases in the Lignin Degradation Pathway of *Sphingobium* sp. SYK-6**  
Toshiya Senda  
(High Energy Accelerator Research Organization (KEK), Japan)
- 15:10-15:35      **Development of Intracellular Thermosensors for the Understanding of Energy Production in Mitochondria**  
Reiko Sakaguchi (Kyoto University, Japan)
- 15:35-15:55      - Coffee Break - (Kihada Hybrid Space)

## Session 7

Chair: Toshiyuki Nohira

- 15:55-16:25      **From Atom to Microgrid – New Perspectives for Electrochemical Energy Storage**  
Shirley Meng (University of California San Diego, USA)
- 16:25-16:50      **Electrode Designs for High-Performance Batteries Based on Operand Analysis Using Synchrotron X-Ray  
~ Toward Efficient Uses of Sustainable Energy ~**  
Koji Amezawa (Tohoku University, Japan)
- 16:50-17:15      **Study on Development of Compound-Based Anode for Alkali-Metal-Ion Batteries and on Compatibility with Molten Salt Electrolyte**  
Yasuhiro Domi (Tottori University, Japan)

### Closing Remarks

- 17:15-17:25      Toshiyuki Nohira (IAE, Kyoto University, Japan)

### Satellite Meeting

**August 30 (Thursday)**

Satellite Meeting < Main Building 5F: W-503E >

- 13:00-19:00      **Workshop on Generation and Application of High Brightness Electron Beam**

## Parallel Seminar

**September 5 (Wednesday)**

### Parallel Seminar I : Topical Seminar on Beam Emission and Advanced Spectrometries for Fusion Plasmas

< North Bldg. No.4 4F: Seminar Room >

- |             |   |
|-------------|---|
| 10:00-10:05 | <b>Welcome Address</b><br>Yasuaki Kishimoto (IAE, Kyoto University, Japan)  |
| 10:05-10:20 | <b>Introduction</b><br>Shinichiro Kado (IAE, Kyoto University, Japan)   |
| 10:20-10:50 | <b>Application of Spectroscopy in the Analysis of Impurity Behavior in Fusion Plasmas</b><br>Tetsutarou Oishi (National Institute for Fusion Science, Japan)                      |
| 10:50-11:20 | <b>Study of Pellet Ablation Cloud via Spatially Resolved Spectroscopic Observation</b><br>Motoshi Goto (National Institute for Fusion Science, Japan)                             |
| 11:20-11:50 | <b>Near-infrared Zeeman Spectroscopy for the Spatially Resolved Measurement of Helium Emission Spectra</b><br>Taiichi Shikama (Kyoto University, Japan)                           |
| 11:50-12:20 | <b>Dynamics in Dipole Plasmas Using Coherence Imaging Spectroscopy</b><br>Masaki Nishiura (The University of Tokyo, Japan)  |
| 12:20-13:10 | - Lunch -   |
| 13:10-13:50 | <b>Active Spectroscopy Techniques for Fluctuation Imaging Measurements in Fusion Plasmas</b><br>George R. McKee (University of Wisconsin-Madison, USA) Invited                    |
| 13:50-14:30 | <b>Characteristics of ELMs in KSTAR with and without RMPs Measured by Beam Emission Spectroscopy</b><br>Young-chul Ghim (KAIST, Deajeon, S. Korea) Invited                        |
| 14:30-15:00 | <b>Development of Beam Emission Spectroscopy in Helical Plasmas and its Application for Physics Studies</b><br>Tatsuya Kobayashi (National Institute for Fusion Science, Japan)   |
| 15:00-15:10 | - Photo -   |
| 15:10-15:30 | - Coffee Break -  |
| 15:30-16:00 | <b>Development of Active Beam Spectroscopy in Heliotron J</b><br>Shinji Kobayashi (IAE, Kyoto University, Japan)  |
| 16:00-16:30 | <b>Observation of Distorted Maxwell-Boltzmann Distribution of Epithermal Ions Using Charge Exchange Spectroscopy</b><br>Kasumi Ida (National Institute for Fusion Science, Japan) |
| 16:30-16:45 | <b>Discussion/Summary</b>   |
| 16:45-16:50 | <b>Closing</b><br>Shinichiro Kado (IAE, Kyoto University, Japan)  |

**Parallel Seminar II** < Main Building 2F: N-273E >

10:00-12:00      **The Reaction Mechanism of the Copper Histidine Brace in LPMOs**  
Paul Walton (University of York, UK)

**Parallel Seminar III : Symposium on Exploring Novel Principles for Highly Efficient Utilization of Solar Energy 2018**      < Main Building 5F: N-571E >

“Innovative strategy for Highly Efficient Utilization of Solar Energy”  
(MEXT Special Budget Symposium)

13:00-13:05      **Opening Address**  
Takashi Morii (Kyoto University)

13:05-13:25      **Significance of the Reaction by Spatially Organized Enzymes**  
Takashi Morii (Kyoto University)

13:25-13:45      **Helical Nanopore Formation Caused by Chiral Symmetry Breaking in Metal-Assisted Chemical Etching of Silicon**  
Kazuhiro Fukami, Tetsuo Sakka (Kyoto University)

13:45-14:05      **Electrodeposition of Si, Ti and W from Water-Soluble KF-KCl Molten Salts**  
Toshiyuki Nohira (Kyoto University)

14:05-14:25      **Nature-Inspired Surface Science for Energy**  
Hiroshi Sakaguchi (Kyoto University)

14:25-14:45      **Novel Light-matter Interaction in Low-dimensional Materials toward Light Energy Applications**  
Kazunari Matsuda (Kyoto University)

15:00-15:20      **Further Improvement of Photovoltaic Performance of Polythiophene/Antimony Sulfide Planar Solar Cells**  
Mayumi Yukawa, Akinobu Hayakawa, Takashi Sagawa (Kyoto University)

15:20-15:40      **Rapid In-situ Synthesis of Metal-polymer Nanocomposites using a mid-IR Laser**  
Takashi Nakajima (Kyoto University)

15:40-16:00      **Energy Material Research in KU-FEL**  
Heishun Zen, Hideaki Ohgaki (Kyoto University)

16:00-16:20      **Heterologous Expression and Characterization of Enzymes of Wood Rotting Fungi to be used for Utilization of Woody Biomass**  
Masato Katahira (Kyoto University)

16:20-16:30      **Future Perspectives of the Solar Energy Research Projects**

## Poster Session

- ZE30A-01 Hopping Conduction in A Hydronium Solvate Ionic Liquid**  
A. Kitada, K. Fukami, M. Saimura, T. Nagata, M. Katahira
- ZE30A-02 He and Heavy Ion Synergism on Hydrogen Isotope Behavior in Tungsten**  
Y. Oya, A. Togari, M. Nakata, M. Zhao, Q. Zhou, F. Sun, S. Kondo, T. Hinoki
- ZE30A-03 Effects of Magnetic Field and Metal Nanoparticles on Photocurrents of Dye-Metal Nanoparticle Composite Films**  
H. Yonemura, S. Fukuda, G.L.S. Yong, F. Shibata, Y. Noda, S. Yamada, H. Sakaguchi
- ZE30A-04 Recovery of Silicon Deposits from Liquid Si-Zn Alloy for the Production of Solar-grade Silicon**  
K. Yasuda,, Y. Ma, T. Nohira
- ZE30A-05 Electrochemical Na-Insertion/Extraction Properties of Various Phosphide Electrodes**  
R. Yamagami, H. Usui,, Y. Domi,, N. Takada,, T. Yamamoto, T. Nohira, R. Hagiwara, H. Sakaguchi,
- ZE30A-06 Enhanced Performance of Sn<sub>4</sub>P<sub>3</sub> Electrode Cycled in Ionic Liquid Electrolyte at Intermediate Temperature as Na-ion Battery Anode**  
E. Nakabayashi, H. Usui, Y. Domi,, H. Nishida,, R. Yamagami, T. Yamamoto, T. Nohira, R. Hagiwara, H. Sakaguchi,
- ZE30A-07 Study of Interaction between Dislocation and Irradiation Defects for Evaluation of Material Degradation in Nuclear Structural Materials**  
K. Fukumoto, A. Kimura
- ZE30A-08 Importance of *O*-acetylation in Microtube Formation by an Extracellular Polysaccharide Originated from *Sphaerotilus montanus***  
K. Kondo, A. Fujiwara, D. Kan, D. Uehara, R. Usami, M. Katahira, M. Takeda
- ZE30A-09 Lithium Valence Electron Structure of Ceramic Breeder Materials by Soft X-ray Emission Spectrometer and Density Functional Theory**  
K. Sasaki, K. Shin-mura, S. Honda, S. Takano, K. Kuramoto, T. Hoshino, K. Mukai, R. Kasada
- ZE30A-10 Development of Standard Methods for Ion-Irradiation Experiments on Nuclear Energy Materials**  
R. Kasada, S. Kondo, Y. Liu, H. Yu, K. Yabuuchi
- ZE30A-11 Photoenergy Conversion System Based on Hybrid DNA/Dye Nanomaterials**  
K. Yamana, T. Takada, M. Nakamura, T. Morii

- ZE30A-12 **Combined Effect of High-Temperature Irradiation with Heavy Ion and Helium on Hydrogen Permeation Behavior in Functional Coating for Fusion Reactor Blanket**  
T. Chikada, K. Nakamura, H. Fujita, M. Matsunaga, K. Kimura, K. Yabuuchi, S. Kondo, T. Terai
- ZE30A-13 **Development of the Energy Functionality Through Selective Phonon- Mode Excitation by Mid-Infrared Free-Electron Laser**  
K. Hachiya, Y. Sakai, O. Sato, R. Yamada, K. Yoshida, H. Zen, T. Sagawa, H. Ohgaki
- ZE30A-14 **Electrodeposition of Si Films in Molten  $\text{CaCl}_2\text{-CaO-SiO}_2$  for Low-cost Manufacturing of Solar Cells**  
X. Yang K. Yasuda T. Nohira
- ZE30A-15 **Development of Procedure for Thermal Diffusivity Measurement using Miniature Test Specimens**  
M. Akiyoshi, H. Andou, M. Yashiki, T. Hinoki
- ZE30A-16 **Hydrogen Isotope Retention in Irradiated Fusion Reactor Materials**  
Y. Hatano, S.E. Lee, V. Kh. Alimov, S. Kondo, T. Hinoki
- ZE30A-17 **Analysis of High-Reactive Structure in Lignin for Advanced Biomass Utilization**  
Y. Matsushita, M. Hosokawa, N. Terashima, D. Aoki, H. Nishimura, T. Watanabe, M. Katahira, K. Fukushima
- ZE30A-18 **High-Fluence Irradiation Behavior of Reduced Activation Fusion Reactor Materials**  
H. Tanigawa, M. Ando, D. Hamaguchi, T. Hinoki, S. Kondo
- ZE30A-19 **Treatment of Formaldehyde with Sheath-Core Type Electrospun PVA Nanofibers Containing Titanium Oxide and Enzyme**  
Y. Yoshida, T. Waku, N. Tanaka, T. Morii
- ZE30A-20 **Exploration Method for identifying Functional RNA G-Quadruplex Structures In Cells**  
Y. Katsuda<sup>1</sup>, S. Sato<sup>2</sup>, E. Nataka<sup>3</sup>, T. Morii
- ZE30A-21 **Fabrication of Titanium Oxide-silver Nanoparticle Ultra-thin Films and Their Photochemical Properties**  
T. Akiyama, H. Sakaguchi
- ZE30A-22 **Fluorescence-Phosphorescence Dual Emissive Materials**  
M. Shimizu, S. Nagano, H. Sakaguchi
- ZE30A-23 **Electric Structure and Surface Oxygen Adsorption of Be/Be<sub>12</sub>Ti**  
H. Kim, M. Nakamichi, R. Kasada, K. Yabuuchi, K. Mukai, S. Konishi
- ZE30A-24 **Photoinduced Electron Transfer Reactions of Metal Complexes as Photosensitizers Bound to the Active Site of Enzyme**  
H. Takashima, N. Kato, E. Nakata
- ZE30A-25 **Mechanism of Radiation Resistance of Advanced Tungsten Alloys**  
A. Hasegawa, H. Taehyun, T. Miyazawa, S. Ouno, S. Nogami, K. Yabuuchi, A. Kimura

- ZE30A-26      **Verification of a New Theory on MHD Relaxation from Axisymmetric to Helical Axis Toroidal Plasma**  
S. Masamune, A. Sanpei, H. Himura, S. Yoshioka, R. Paccagnella,  
I. Predebon, K. Nagasaki, H. Okada
- ZE30A-27      **Effects of Chromium and Titanium Concentration on Low-Temperature Ductility of High-Purity Low-Activation Vanadium Alloys**  
T. Nagasaka, , J. Shen, K. Saito, A. Kimura, K. Yabuuchi, O. Hashitomi,  
T. Ohmura
- ZE30A-28      **Stability of Various Oxide Particles in ODS Ferritic Steels**  
N.H. Oono, S. Ukai, K. Yabuuchi, O. Hashitomi, T. Ohmura, Y. Hayashi,  
A. Kimura
- ZE30A-29      **Modeling and Experimental Study on Damage Rate Effects on Bubbles/Voids Formation in Fusion Reactor Structural Materials**  
T. Yamamoto, Y. Wu, G.R. Odette, K. Yabuuchi, S. Kondo, A. Kimura
- ZE30A-30      **In Situ Measurement of Oxide Precipitation in Al-Added ODS Alloy Powders**  
N.Y. Iwata, Y. Ha, H. Izumi, A. Kimura
- ZE30A-31      **Mechanical Property of Ion-irradiated RAFMs by Ultra Micro-tensile Test**  
M. Ando, H. Tanigawa, D. Hamaguchi, O. Hashitomi, K. Yabuuchi,  
A. Kimura
- ZE30A-32      **Stability of Irradiation Produced Defect Clusters during Annealing and its Application for the LWR Severe Accident Analysis**  
K. Noguchi, Y. Yamashita, T. Fumimoto, K. Urabe, K. Takahashi,  
T. Tashiro, S. Jitsukawa, A. Kimura
- ZE30A-33      **Hydrogen Retention in MeV Ion Irradiated (H, Fe, W) Tungsten**  
Y. Ueda, H.T. Lee, Y. Hatano, A. Kimura
- ZE30A-34      **Improvement of Radiation Measurement Method for the Detection of Special Nuclear Materials with IEC Device**  
T. Misawa, Y. Takahashi, Y. Kitamura, K. Ishida, K. Masuda, M. Bakr
- ZE30A-35      **Study on Pulse Shape Discrimination for Neutron Energy Distribution Measurements using Scintillators**  
Y. Takahashi, T. Misawa, K. Ishida, K. Masuda, M. Bakr
- ZE30A-36      **Interaction Analysis Between Cellulase Carbohydrate-Binding Module and Lignin by Ultra-High Sensitivity NMR Forbiorefinery**  
T. Watanabe, Y. Tokunaga, S. Ohshiro, H. Nishimura, T. Kishimoto,  
M. Nakamura, K. Kondo, T. Nagata, M. Katahira



- ZE30A-37 **Towards an Innovative Micro-Grid for Rural Electrification in Cambodia**  
V. Vai, S. Am, O. Eth, K. Khorn, B. Long, H. Ohgaki
- ZE30A-38 **Synergistic Effects of Electronic Excitation and Displacement Damage in Oxide/Nitride Ceramics**  
S. Yoshioka, K. Tsuruta, T. Yamamoto, K. Yasuda, S. Matsumura, N. Ishikawa, E. Kobayashi, K. Yabuuchi, A. Kimura
- ZE30B-01 **Confirmation of the Process of Internalization by using Ultrasound-Enhanced Cell-Internalization**  
A. Harada, E. Nakata, T. Ohtsuki
- ZE30B-02 **A Small-Molecule-Based Technology for Live-Cell Imaging of Energy Metabolism**  
S. Sato, K. Yatsuzuka, K. Pe, E. Nakata, T. Morii
- ZE30B-03 **Influence of Wire Spacer on Natural Convection Heat Transfer from Vertical Rod Bundle in Liquid Metal**  
K. Hata Q. Liu, T. Nakajima
- ZE30B-04 **Development of Functional Peptides that Bind to RNA**  
N. Watanabe, T. Kinase, Y. Nomura, T. Nagata, M. Katahira, K. Harada, T. Sakamoto
- ZE30B-05 **Supramolecular Assembling Regulation of Bacterial Cell Division Protein FtsZ on DNA Nanostructures**  
A. Onoda, K. Oshita, E. Nakata, T. Morii, T. Hayashi
- ZE30B-06 **Suppression of Wall Erosion by Vapor Shielding during Transient Heat Loads at Fusion Reactor**  
K. Ibano, R. Kasada, S. Konishi
- ZE30B-07 **Development of the Site-Directed RNA Editing Technology for Regulating an Energy System in the Cell**  
M. Fukuda, K. Nose, T. Morii
- ZE30B-08 **Suppression of MOX Fuel used in LWR Swelling Caused by Development of Gas Bubble Resulted from He Accumulated during Long-term Storage.II**  
H. Serizawa
- ZE30B-09 **Irradiation Effect of Mid-Infrared Free Electron Laser on Melanoma**  
T. Kawasaki, K. Tsukiyama, H. Zen
- ZE30B-10 **Preparation and Optical Properties of Suspended Monolayer MoS<sub>2</sub>**  
K. Kojima, Z. Wenjin, Y. Miyauchi, T. Saito, Y. Kobayashi, T. Endo, K. Matsuda, Y. Maniwa, Y. Miyata
- ZE30B-11 **Production and Transport Control of Reactive Radicals with Atmospheric Pressure Plasma**  
H. Matsuura, Y. Matsui, Y. Yamamoto, T.T. Nguyen, T. Fujiyama, M. Furuta, T. Tsuchido, J. Sakamoto, Y. Takemura, S. Kado

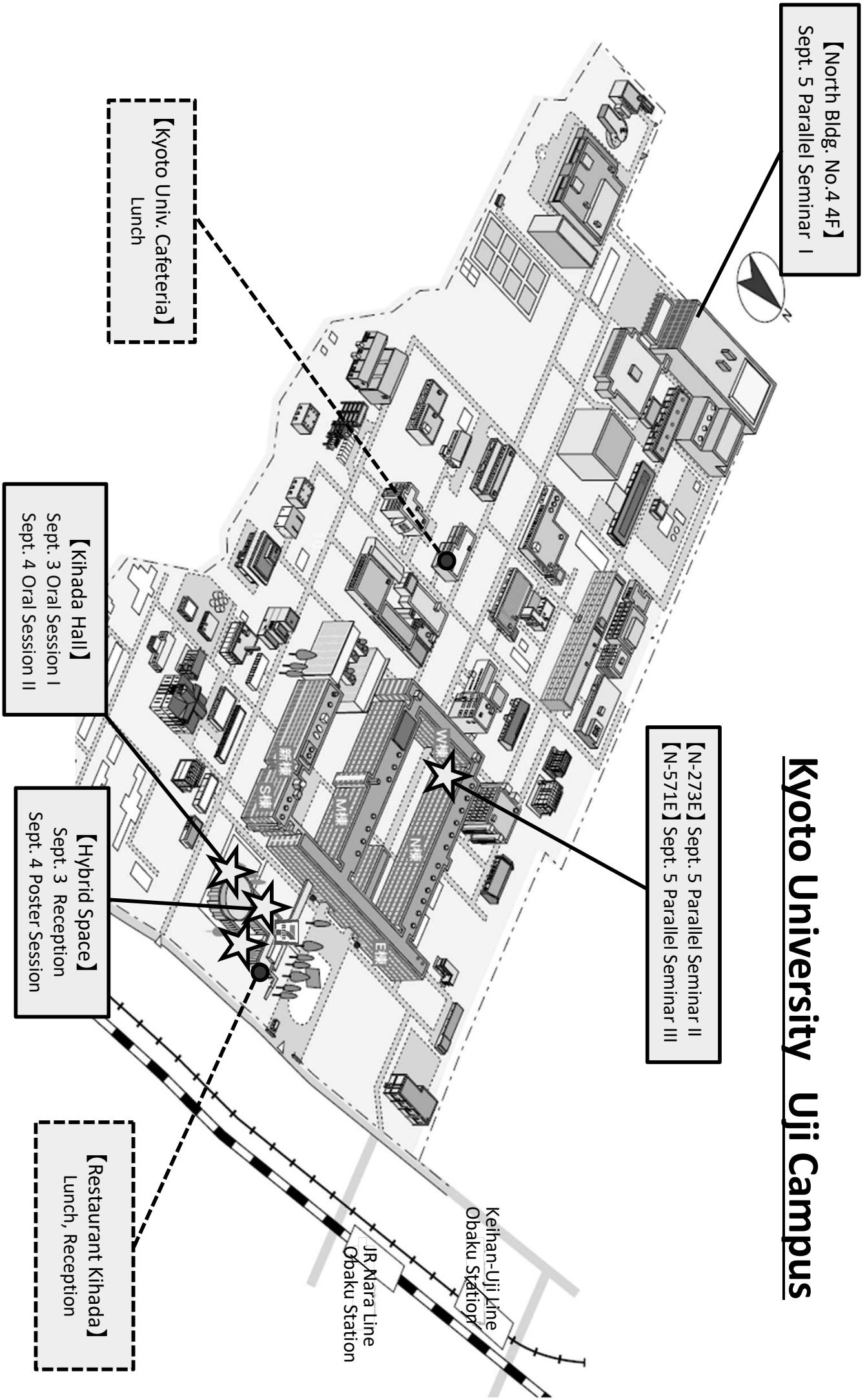
- ZE30B-12 **Measurements of Electron-Bunch Length Evolution during a Macropulse using Coherent Edge Radiation**  
N. Sei, H. Zen, H. Ohgaki
- ZE30B-13 **Improvement of Mechanical Properties on the ODS Stainless Steels for Advanced Nuclear and Thermal Power System Components**  
S. Noh, A. Kimura
- ZE30B-14 **Microstructural Evolution and Change in Thermal Conductivity of Heavy Ion-Irradiated Fe-Based Composite Materials**  
N. Hashimoto, Y. Toramoto, Y. Ono, S. Goto, S. Inoue, Y. Tang, K. Yabuuchi, O. Hashitomi, A. Kimura
- ZE30B-15 **Retention Processes of D and He in the Surface of Silicon Carbide Materials by Ion Irradiations**  
B. Tsuchiya, Y. Hayashi, T. Hinoki
- ZE30B-16 **Highly Efficient Photochemical Reactions Induced by Optimal Laser Pulses**  
M. Yoshida, T., Tashiro, Y. Arakawa, T. Namba, Y. Ohtsuki, T. Nakajima
- ZE30B-17 **Creation of Microsheet having Supramolecular Wrapping Ability**  
A. Kaneyoshi, M. Numata, E. Nakata, A. Kimura
- ZE30B-18 **Study of Ballooning Mode using High-Speed Soft X-ray Camera in Heliotron J**  
Y. Takemura, S. Yamamoto
- ZE30B-19 **Observation of Electronic Phase Transition in Prussian Blue and Its Related Compounds Under Mode Selective Excitation of Bridging Molecules**  
M. Kitaura, A. Ohnishi, M. Ishizaki, H. Zen
- ZE30B-20 **Development of Single-Electron Irradiation Technique for Microscopic Track Structure Study**  
Y. Uozumi, M. Fujii, Y. Araki, Y. Yamaguchi, H. Ohgaki, T. Kii, H. Zen
- ZE30B-21 **Effect of High Density Neutral Particles on Peripheral Plasma During SMBI**  
N. Nishino, A. Nagato, S. Okuno, S. Kashiwa, T. Kasugai, H. Kawazome, H. Okada, S. Kobayashi, S. Ohshima
- ZE30B-22 **Analysis of Reaction Mechanism of Haloacid Dehalogenase**  
T. Nakamura, T. Kozawa, S. Nakano, E. Nakata, T. Morii
- ZE30B-23 **Development of Innovative Solar Cell based on the Nitride Semiconductor and Layered Materials**  
S. Mouri, U. Ooe, S. Arakawa, T. Araki, Y. Miyauchi, K. Matsuda
- ZE30B-24 **Development of a Program for Tomographic Reconstruction of HeI Radiation Distribution in Heliotron J**  
H. Kawazome, K. Tsunose, S. Kado, N. Nishino

- ZE30B-25 **Effect of Hydrogen on Surface Hardness in Ion-irradiated Tungsten**  
K. Sato, Y. Kondo, S. Komazaki, Q. Xu, R. Kasada, K. Yabuuchi,  
A. Kimura
- ZE30B-26 **Analysis of Radiation Induced Nano-Clusters in RPV Steels**  
H. Watanabe, Y. Gouya, T. Yamamoto, A. Kimura
- ZE30B-27 **Effects of Microstructure Evolution on the Surface by Ionirradiation and Evaluation of Residual Elastic Strain**  
Y. Takeda, R. Yu., T. Shibayama, S. Kondo, T. Hinoki
- ZE30B-28 **Iontronic Devices using Multifunctional Microparticles**  
N. Yonekura, T. Nakajima
- ZE30B-29 **Effect of External Stress on Radiation Damage in Explosion Bonded Cu/steel joint**  
S. Ohnuki
- ZE30B-30 **Impact of High Energy Ion Irradiation on Thermal and Particle Loading Properties of Plasma Facing Materials**  
K. Tokunaga, S. Matsuo, M. Hasegawa, K. Nakamura, K. Suzuki, M. Yamazaki, T. Toyama, A. Kimura, S. Kondo, O. Hashitomi, T. Ohmura
- ZE30B-31 **Development of Nucleic-Acids-Based Enzyme Containing G-Quadruplex Structures**  
M. Hagihara, T. Morii
- ZE30B-32 **Real-Time NMR Analysis of the Continuous Degradation Process of Azo Dyes using Azoreductase in Cooperation with the NADPH Regeneration System**  
M. Horiuchi, T. Nagata,, M. Katahira,, Y. Kobashigawa, Y. Suzuki,  
M. Ochiai
- ZE30B-33 **Electronic Structures of 2D Hydrocarbon Network of  $sp^2$  and  $sp^3$  C Atoms**  
Y. Fujii, M. Maruyama, K. Matsuda, S. Okada
- ZE30B-34 **Extraction of Sub-Micro Second Surface Fluctuation Data form Time Integrated Camera Images in SMBI Phase of Heliotron-J**  
M. Irie, M. Kubo-Irie, S. Kado
- ZE30B-35 **High Temperature Oxidation/Corrosion of SiC Fiber-Reinforced CMCs**  
K. Shimoda, T. Hinoki
- ZE30B-36 **Near-infrared Zeeman Spectroscopy for the Spatially Resolved Measurement of Helium Emission Spectra**  
T. Shikama, S. Kado, H. Okada, S. Yamamoto, L. Matsuoka, T. Mizuuchi,  
T. Minami, S. Kobayashi, K. Nagasaki, S. Oshima, Y. Nakamura,  
A. Ishizawa, S. Konoshima, M. Hasuo
- ZE30B-37 **Phase Measurement of Vacuum-Ultraviolet Pulse and Control of Electronic States**  
R. Itakura, H. Akagi, T. Nakajima
- ZE30B-38 **Computer Simulation Study for Development of an Irradiation Correlation Technique**  
Y. Watanabe, K. Morishita, T. Nakasuji

- ZE30B-39      **Observation of Fine Plasma Structure Measured with Digital ECE**  
S. Inagaki, K. Nagasaki, G.M. Weir, T. Minami, S. Kado, S. Kobayashi,  
S. Yamamoto, S. Ohshima, H. Okada, T. Mizuuchi, Y. Nagashima,  
M. Sasaki
- ZE30B-40      **Development of Intracellular Thermosensors for the Understanding  
of Energy Production in Mitochondria**  
R. Sakaguchi, T. Morii, Y. Mori
- ZE30B-41      **Study of Atomic Layered Materials Toward Efficient  
and High-Performance Energy Conversion**  
S. Konabe, Y. Miyauchi
- ZE30B-42      **Accelerated CO<sub>2</sub> Reduction Reaction Achieved by Accumulation  
of Solute in Nanoporous Carbon Electrode**  
K. Fukami, S. Kondo, T. Hinoki, M. Kinoshita
- ZE30B-43      **Development of Multi-Channel Spectroscopic System for Turbulence  
Measurement**  
A. Fujisawa, S. Ohshima
- ZE30B-44      **Optimization Study on High Energy Ion Confinement in Advanced  
Heliotron Configuration**  
M. Yoshikawa, S. Kobayashi, Y. Nakashima, T. Iijima, S. Islam,  
S. Yamashita, T. Yoshimoto, T. Hara, S. Jang, H. Okada, S. Yamamoto,  
S. Ohshima, H. Fukuda, M. Yorozya
- ZE30B-45      **Study on Rural Electrification by Renewable Energy in Sarawak  
and it's Impact on QOL**  
N.A. Rahim, C.H. Seng, H. Ohgaki
- ZE30C-01      **In-depth Analysis of Irradiation-Induced Dissolution of Nano  
Precipitates in Nuclear Materials: a Large-Scale Model Sample  
Simulating the Precipitate/Matrix Interface**  
Y. Matsukawa, S. Kondo, K. Yabuuchi, K. Morishita, A. Kimura
- ZE30C-02      **Development of High-Efficiency Ultrashort-Pulse Ring Beam  
Converter with Axicon Mirrors**  
G. Miyaji, Y. Shimoji, K. Matsuda
- ZE30C-03      **Saturation of an Infrared Semiconductor Detector and Pulse Structure  
of a Light Source**  
Y. Ikemoto, H. Zen
- ZE30C-04      **Study on Emission Process of Scintillation Material using the One  
Electron Beam**  
S. Kurosawa, H. Ohgaki

- ZE30C-05      **Study of Carbon-Based Materials and Bio Photoreaction using Infrared Free Electron Laser**  
F. Shishikura, H. Zen, Y. Hayakawa, T. Sakai, T. Sakae, T. Kono, T. Kii, H. Ohgaki
- ZE30C-06      **Boudary Diagnostics using Field Corresponding Double Probe and rf Heating in Heliotron J - III**  
K. Uehara, Y. Sadamoto, H. Amemiya, S. Ohshima
- ZE30C-07      **Statistical Analysis on Edge Turbulence Fluctuation Data in a Toroidal Plasma**  
Y. Nagashima, S. Oshima, A. Fujisawa, S. Inagaki
- ZE30C-08      **Study for Polarization Control of Coherent THz Undulator Radiation**  
S. Kashiwagi, H. Saito H. Zen
- ZE30C-09      **Capacity Recovery Mechanism on Al-doped Alpha Fe<sub>2</sub>O<sub>3</sub>**  
S. Takai, T. Yabutsuka, H. Chen, H. Nakaishi, T. Yao, T. Morii
- ZE30C-10      **Search for Nonlinear Effects using IR-FEL**  
A. Irizawa, H. Zen
- ZE30E-01      **Development of Lignocellulose Degrading *Saccharomyces Cerviciae* via Cell-Surface Display of lytic Polysaccharide Monoxygenase**  
M.O. Mohamed, K. Kondo, S. Khattab,, T. Nagata,, U.M. Abdul-Raouf, T. Watanabe, M. Katahira,
- GCOE            **Investigation of Energy Consumption of Household Air-Conditioner in Asian Countries**  
N. Luangchosiri, H.T. Lin, S. Meng, Z. Hasnat, K. Siriwan
- GCOE            **Smart Grid Deployment Methods in Smart City Projects in Japan**  
D. Morrall, F. Yang, H. Konishi, L. Peng, H. Nam, H. Ohgaki
- GCOE            **Study of Plastic Waste Recycling and its Impact on the Environment**  
N. Hamad, W. Hasnidah W. Osman, P. Song, Z. Zhengxiao, W. Zhang, S. Tajima

# Kyoto University Uji Campus



**【North Bldg. No.4 4F】**  
Sept. 5 Parallel Seminar I

**【Kyoto Univ. Cafeteria】**  
Lunch

**【Kihada Hall】**  
Sept. 3 Oral Session I  
Sept. 4 Oral Session II

**【N-273E】** Sept. 5 Parallel Seminar II  
**【N-571E】** Sept. 5 Parallel Seminar III

**【Hybrid Space】**  
Sept. 3 Reception  
Sept. 4 Poster Session

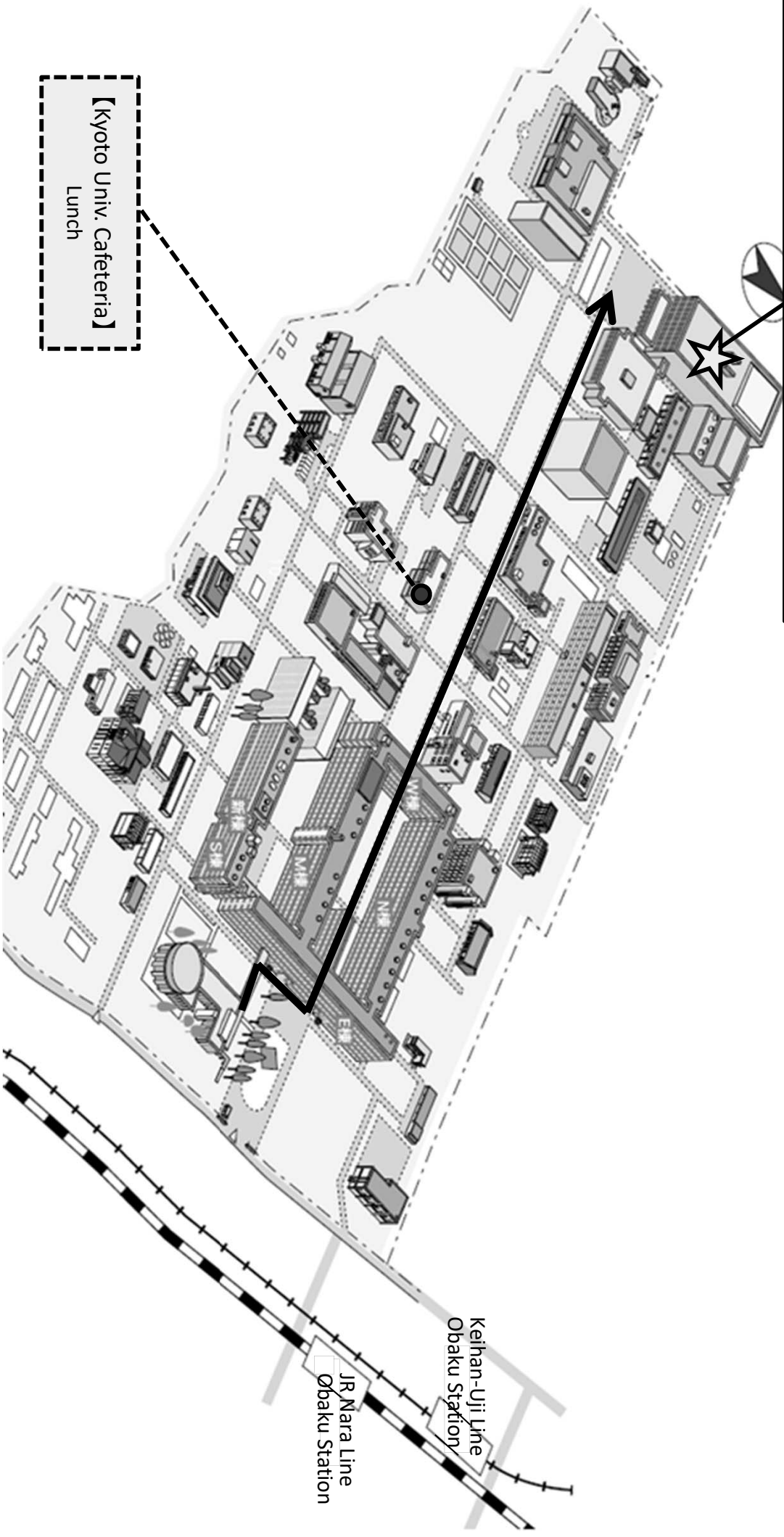
**【Restaurant Kihada】**  
Lunch, Reception

Keihan-Uji Line  
Obaku Station

JR Nara Line  
Obaku Station

Sept. 5 **Parallel Seminar I** 10:00am-17:00pm  
【North Bldg. No.4 4F】  
**Topical Seminar on Beam Emission and Advanced Spectrometries for Fusion Plasmas**

# Kyoto University Uji Campus



【Kyoto Univ. Cafeteria】  
Lunch

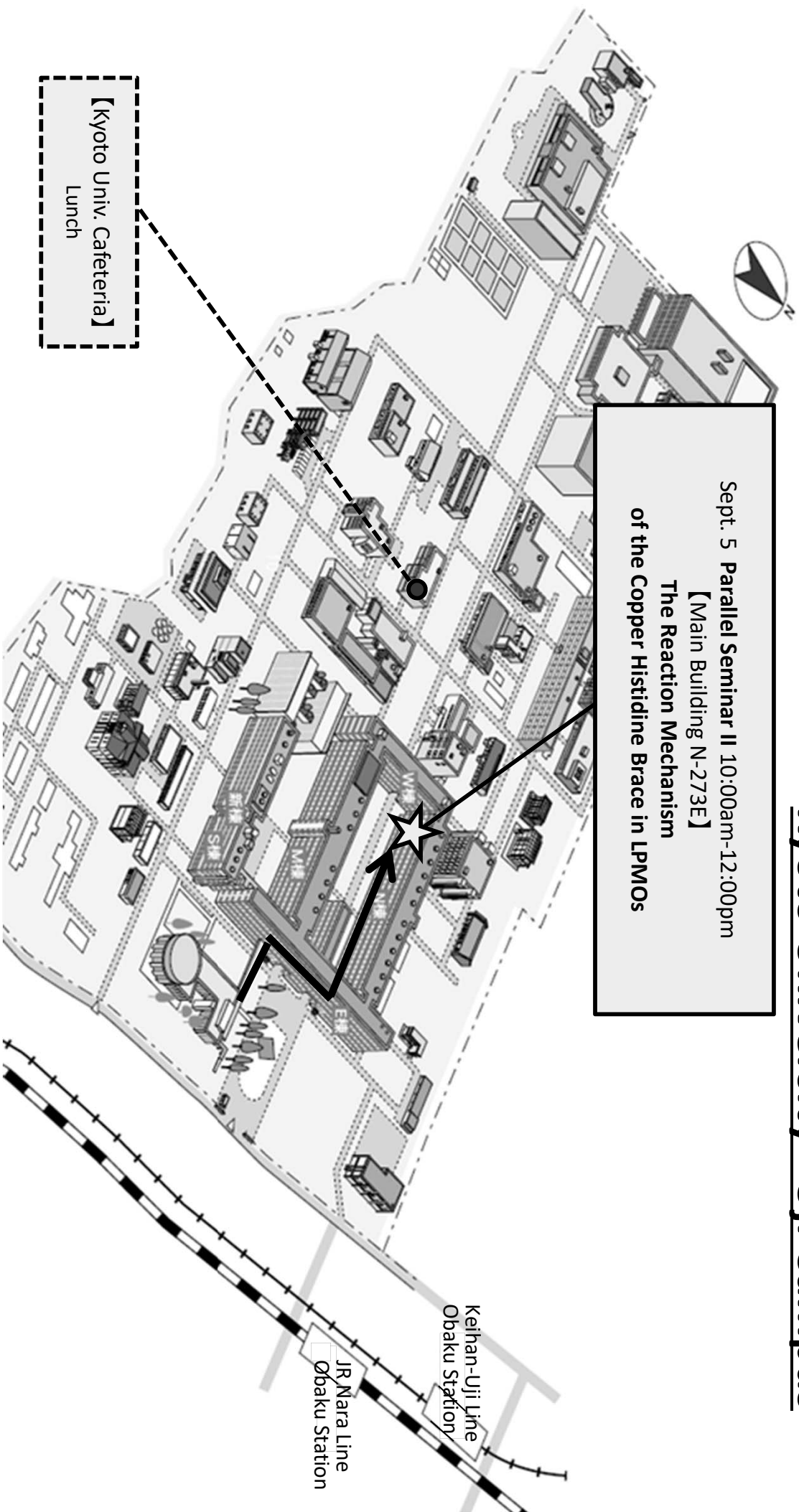
Keihan-Uji Line  
Obaku Station

JR Nara Line  
Obaku Station

# Kyoto University Uji Campus

Sept. 5 Parallel Seminar II 10:00am-12:00pm  
[Main Building N-273E]  
The Reaction Mechanism  
of the Copper Histidine Brace in LPMOs

【Kyoto Univ. Cafeteria】  
Lunch





# Kyoto University Uji Campus

Sept. 5 **Parallel Seminar III** 13:00pm-16:00pm  
[Main Building N-571E]  
**Symposium on Exploring Novel Principles  
for Highly Efficient Utilization of Solar Energy 2018**

【Kyoto Univ. Cafeteria】  
Lunch

