

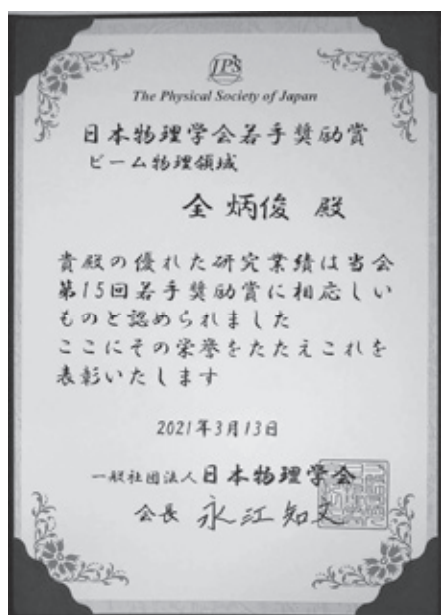
3-2. AWARD

Young Scientist Award of the Physical Society of Japan

Quantum Radiation Energy Research Section Heishun Zen (Assistant Professor)

Assistant Professor Heishun Zen was awarded Young Scientist Award of the Physical Society of Japan (JPS) on March 13th, 2021. The award has been established in order to encourage young researchers in their research work and further enliven the physics community. Recipients are selected from each division for their activities including lectures at academic meetings, publications, and degree theses. He was awarded this award on the achievements of “Research and Development of improving performance of a mid-infrared free electron laser”.

In his award lecture, which was held on March 13th, 2021 in the online conference, he presented two research works to improve the performance of midinfrared free electron laser in Kyoto University. One is a beam loading compensation method named “cavity detuning” for compensating the heavy transient beam loading effect in a thermionic RF gun used for driving a midinfrared free electron laser. He invented this method when he was a doctor course student of Graduate School of Energy Science, Kyoto University. The other is the high efficiency lasing enabled by dynamic cavity desynchronization. By this research he achieved the highest extraction efficiency of the oscillator-type free electron laser which driven by a normal conducting linear accelerator.

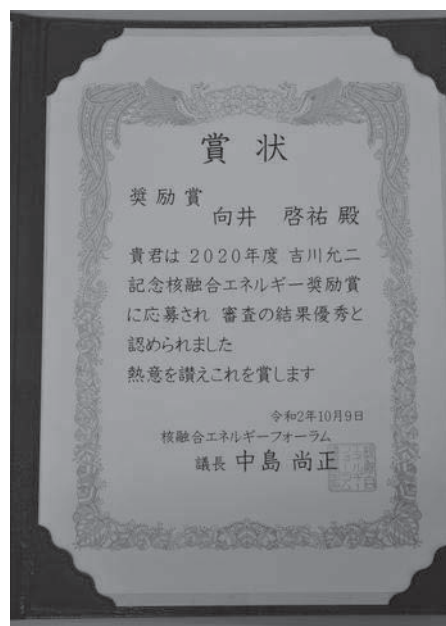


2020 Masaji Yoshikawa Memorial Prize for Fusion Energy Fusion Energy Forum of Japan

Advanced Atomic Energy Research Section Keisuke Mukai (Assistant Professor)

Assistant Professor Keisuke Mukai was awarded 2020 Masaji Yoshikawa Memorial Prize for Fusion Energy from the Fusion Energy Forum of Japan (FEFJ). The FEFJ, chaired by Dr. Naomasa Nakajima, Emeritus Professor of the University of Tokyo and Headmaster of Kaiyo Academy, inaugurated the Masaji Yoshikawa Prize for Fusion Energy in 2007 to manifest outstanding dissertations and publications by young scientists and students who are expected to contribute to successful achievements in fusion research.

The research title is “Fundamental studies on structure, chemical properties, and fuel production of breeding blanket materials”. Assistant Professor Keisuke Mukai received the prize in the online ceremony in 13th FEFJ Plenary meeting on 9th March 2021.



17th Young Researcher Award in Fusion Engineering Division, Atomic Energy Society of Japan

Advanced Atomic Energy Research Section
Keisuke Mukai (Assistant Professor)

The Atomic Energy Society of Japan was founded in 1959 as the organization which aims to contribute towards progress in the development of atomic energy by seeking academic and technological advances pertaining to the peaceful use of atomic energy.

Assistant Professor Keisuke Mukai performed high temperature neutron diffraction study and showed ion diffusion pathways within the bulk of lithium metatitanate ceramic breeder. Vapor chemistry and its effect on corrosion of reduced activation ferritic martensitic steel were studied experimentally in his research. He was awarded 17th Young Researcher Award in Fusion Engineering Division, Atomic Energy Society of Japan in an online ceremony on 27th October 2020.

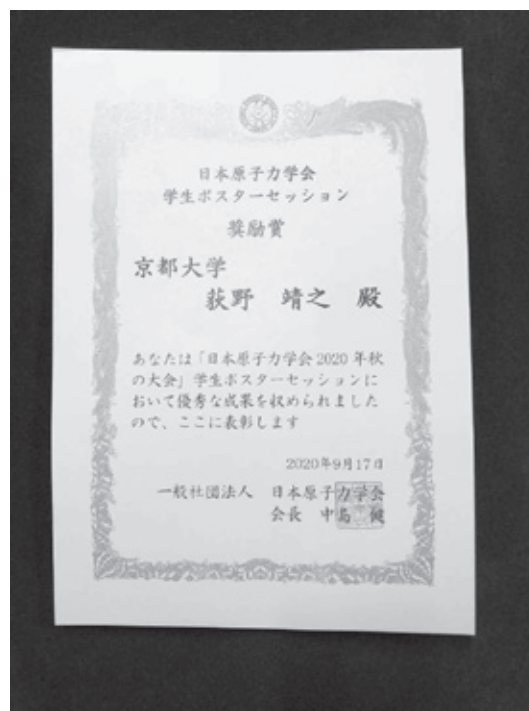


Student Poster Award, Atomic Energy Society of Japan

Advanced Atomic Energy Research Section
Yasuyuki Ogino (D2)

Yasuyuki Ogino (D2) was awarded Student Poster Award from Atomic Energy Society of Japan (AESJ) on 17th September 2020. This poster session is hosted by the AESJ Student Network and the AESJ Diversity Promotion Committee. In the session, diverse presentations are made by students, who range from undergraduate to doctoral, and the Diversity Promotion Committee.

Yasuyuki Ogino conducted neutron transport simulations for measuring neutron spatial distribution in a fusion blanket mock-up. Combinations of activation foils were investigated in the study to measure fast, epi-thermal, and thermal neutrons separately.



Young Researcher Award in 37th Annual Meeting of JSPF

**Advanced Atomic Energy Research Section
Yasuyuki Ogino (D2)**

Japan Society Plasma Fusion (JSPF) gives the Best Presentation Awards at the JSPF Annual Meeting to the excellent oral/poster presentations by young researchers and/or students. Yasuyuki Ogino (D2) was awarded the best presentation award at the 37th JSPF annual meeting on 4th December 2020. He measured the γ -ray distribution in the Large Helical Device in National Institute for Fusion Science using a portable high-purity germanium detector. The activation of the vacuum vessel and armor materials were compared with photon transport calculations using Monte Carlo Simulation code.



3rd Best Figure Award in Material Science and Technology Division, Atomic Energy Society of Japan

**Advanced Atomic Energy Research Section
Ryo Omura (M2)**

Scientific figures by Ryo Omura (M2) were selected for 3rd Best Figure Award from Material Science and Technology Division, Atomic Energy Society of Japan on 17th March 2021. This award is given for beautiful figures which contribute to nuclear material research and development. He was awarded this prize on cross-section images of aged Fe-Ti alloy taken by scanning electron microscope.

The analysis using energy dispersive X-ray (EDX) and electron back-scatter diffraction (EBSD) showed Ti segregation and N trap in the grain boundary of the Fe-Ti sample immersed in liquid Li.



Best Poster Presenter Award (COMSOL CONFERENCE 2020 TOKYO)

Advanced Plasma Energy Research Section
Yuki Oka (M2)

COMSOL Multiphysics is a Finite Element Method software for multiphysics analysis based general purpose physics simulation software developed by COMSOL AB, Sweden. It can simulate any physical phenomenon, regardless of the field. COMSOL Conference is held annually in the United States (Boston), Europe, and Asian cities including Tokyo, and is a forum for COMSOL users to present their case studies.

Yuki Oka (M2) attended the conference in the field of electromagnetism and optics, and made a poster presentation on the title of "Simulation of Electromagnetic Mode Conversion in Millimeter-Wave Frequency Band in Magnetically Confined Fusion Plasmas".

He received the Best Poster Presenter Award from the KEISOKU ENGINEERING SYSTEM CO., LTD. which is the exclusive distributor in Japan for COMSOL, Inc.



Student Presentation Award (2020 Autumn meeting of the Physical Society of Japan)

Advanced Plasma Energy Research Section
Ryota Matoike (D2)

The 2020 Autumn meeting of the Physical Society of Japan was held on the web from 8th-17th September, 2020. Ryota Matoike (D2) attended the meeting in the field of plasma (Category 2), and made an oral presentation on the title of "Peripheral plasma transport characteristics against 3D magnetic field structure in Heliotron J". He received the Student Presentation Award from the Physical Society of Japan. In this research, he analyzed the cause of the change in the heat load distribution in high-density plasmas using a three-dimensional tra



Student Presentation Award (2020 Autumn meeting of the Physical Society of Japan)

Complex Plasma Systems Research Section
Panith Adulsiriswad (D2)

2020 Autumn meeting of the Physical Society of Japan was held on September 8-11, 2020, on-line. This meeting has a long history since 1946 and it has covered almost all fields of physics.

Panith Adulsiriswad (D2) attended in the meeting and made a presentation titled “Numerical Investigation of the Energetic Particle Redistribution and Interaction with Alfvén Eigenmode in Heliotron J”.

He received the Student Presentation Award of the Physical Society of Japan (division 2, or plasma physics).



4th Asia-Pacific Conference on Plasma Physics, AAPPS-DPP Poster Prize

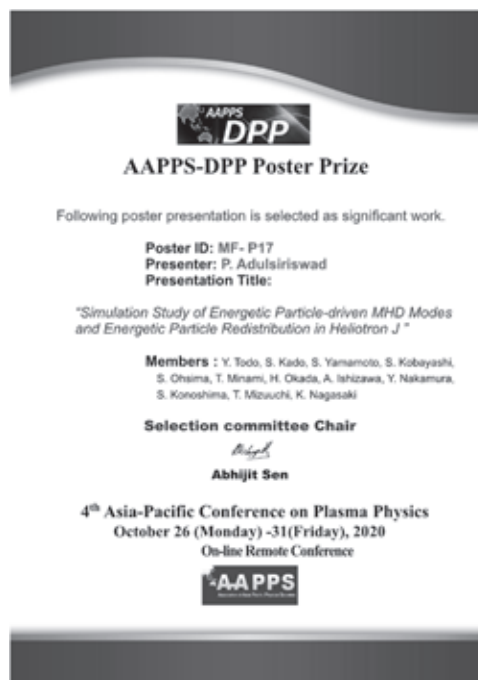
Complex Plasma Systems Research Section
Panith Adulsiriswad (D2)

AAPPS-DPP2020, or 4th Asia Pacific Conference on Plasma Physics, Division of Plasma Physics, Association of Asia-Pacific Physical Societies was held on 26-31, October, 2020 on-line.

This conference, under the authority of AAPPS-DPP for scientific discussions on plasma physics, orient to physics and provides interdisciplinary and in-depth discussions among and in various fields of plasma physics and application.

Panith Adulsiriswad (D2) attended the meeting and made an on-line poster presentation titled “Simulation Study of Energetic Particle-driven MHD Modes and Energetic Particle Redistribution in Heliotron J”.

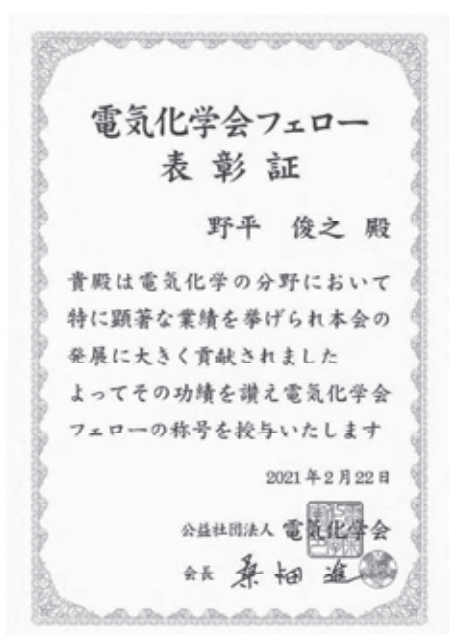
He received the Poster Prize for his presentation.



The Fellow of The Electrochemical Society of Japan

Chemical Reaction Complex Processes
Research Section
Toshiyuki Nohira (Professor)

Professor Toshiyuki Nohira was awarded the Fellow of The Electrochemical Society of Japan on February 22nd, 2021. The title of Fellow is awarded to those who are under 65 years of age and who have made particularly notable academic or practical achievements, or who have made particularly notable contributions to the management of the Society.



Research Encouragement Award at The 52nd Symposium on Molten Salt Chemistry

Chemical Reaction Complex Processes
Research Section
Xianduo Meng (M2)

The 52nd Molten Salt Symposium, which was sponsored by the Molten Salt Committee of the Electrochemical Society of Japan, was held on 26th November, 2020. This event provides young researchers and students in the field of molten salt chemistry and its surrounding area an opportunity to present their works.

Xianduo Meng (M2) attended and made an oral presentation on the topic of “The Effect of Temperature on Smoothness and Crystal Phase of Tungsten Films Electrodeposited in Molten CsF–CsCl–WO₃”.

He received the Research Encouragement Award from the Molten Salt Committee of the Electrochemical Society of Japan.



Young Researcher's Award in the 3rd Kansai Electrochemistry Workshop

Chemical Reaction Complex Processes
Research Section
Makoto Unoki (M2)

The 3rd Kansai Electrochemistry Workshop was held on 28st November 2020 on Webinar, which was held by the Kansai Branch of the Electrochemical Society of Japan. This event provides young researchers and students in the field of electrochemistry and its surrounding area an opportunity to present their works.

In the meeting, Mr. Makoto Unoki (M2) attended and made a poster presentation on the topic of "Optimization of electrolysis conditions for Ti film electrodeposition from LiF–LiCl eutectic molten salt", and received the Young Researcher's Award. He investigated the optimum conditions for electrodepositing compact, smooth, and adherent Ti films in LiF–LiCl–Li₃TiF₆ at 823 K. The Li₃TiF₆ was formed in-situ in the melt via comproportionation reaction between Li₂TiF₆ and Ti powder. The solubility of Li₃TiF₆ was confirmed to be higher than 7.1 mol% by cyclic voltammetry and ICP-AES measurement. Galvanostatic electrolysis was conducted on Ni plate substrates at various concentrations of Li₃TiF₆ (0.55, 2.6, 7.1 mol%) and cathodic current density (50–1200 mA cm⁻²). In this study, Ti films having the smoothest surface were obtained at 7.1 mol% of Li₃TiF₆ and 50 mA cm⁻².



Research Encouragement Award at The 88th ECSJ Spring Meeting

Chemical Reaction Complex Processes
Research Section
Wataru Moteki (M1)

The 88th ECSJ Spring Meeting, which was sponsored by the Electrochemical Society of Japan, was held on 22–24th March, 2021. This event provides young researchers and students in the field of molten salt chemistry and its surrounding area an opportunity to present their works.

Wataru Moteki (M1) attended and made an oral presentation on the topic of "Crystalline Si electrodeposition of molten KF–KCl–K₂SiF₆ on liquid Zn electrode".

He received the Student Presentation Award from the Electrochemical Society of Japan.

