Kyushu University holds Energy Week 2022

Kyushu University Energy Week 2022 was held Monday, January 24 – Friday, January 28, 2022, and featured symposiums concerning energy on the theme of "Energy Intelligence Beyond Borders: Aiming for the Future of Green Innovation." For this year's symposium, Kyushu University's energy-related departments came together to hold international workshops and those between industry, academia, and government, as well as other events around the theme of "future energy," which served as a forum for exchange and an international hub for energy researchers.

This year marked the sixth annual Energy Week and the inaugural "Collaboration Forum for Renewable Energy," part of the activities of the "Kyushu Area Renewable Energy Collaboration Committee," which was established in September 2021 by 11 national universities in the Kyushu-Okinawa area. The forum highlighted renewable energy-related research and initiatives at each university and facilitated a dialogue among the energy research professionals in attendance.



President Ishibashi delivers his opening address

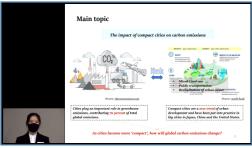
This year's Energy Week was held online to help prevent the spread of COVID-19 and focused on "developing green innovation technologies." The symposium saw upwards of 2,500 participants and included lectures and presentations from researchers from Japan and abroad conducting a wide range of energy-related research as well as students, industry and government officials, and more.

The programs conducted during the Energy Week were as follows.

Kyushu University Platform of Inter-/Transdisciplinary Energy Research

Jan. 24 Q-PIT Prologue Session

The <u>prologue session</u> began with Vice President Sasaki giving an overview of the Q-Energy Innovator Fellowship and the Junichi Miyamoto Hydrogen Research Award. Presentations were then given by <u>12 fellowship members and one award recipient</u>, which were followed by a lively Q&A session with about 180 people in attendance.



Activity report

Jan. 24 Q-PIT Plenary Session

The <u>plenary session</u> began with an opening address by Kyushu University President Ishibashi, followed by keynote speeches on themes on the "creation of green innovation technology" by Yasuhiro Kasai, Director of the <u>METI</u> Carbon Neutral Project Promotion Office; Sumie Nakayama, Executive Officer of <u>J-POWER</u> and Adjunct Professor at Kyoto University; and Norihiro Nakayama, Planning & Balance Optimization Division, Energy Service Headquarters, <u>Kyushu Electric Power Co., Inc</u>. The panel discussion between the keynote speakers and Kyushu University faculty was joined by 230 participants who enjoyed a lively debate on future initiatives for green innovation, including the activities of the <u>Kyushu University Platform of Inter-/Transdisciplinary Energy Research</u>, which is slated for restructuring next academic year.



Keynote speech Panel discussion

Jan. 22-29 Poster Presentation

An online <u>poster presentation</u> was held for Energy Week, featuring 7 early-career researchers and 32 doctoral student awardees of the Q-PIT "Support Program for Young Researchers and Doctoral Students." The poster presentation saw a total of 486 participants who had access to pre-recorded explanations of research summaries and were able to talk with the presenters in an online Q&A session.



Recipients of the support program for young researchers and doctoral students

■ Kyushu Area Renewable Energy Cooperation Committee

Jan. 26 Collaboration Forum for Renewable Energy

The inaugural "Collaboration Forum for Renewable Energy" was held as part of the activities of the "Kyushu Area Renewable Energy Collaboration Committee," which was established in September 2021 by 11 national universities in the Kyushu-Okinawa area. The forum presented activities related to renewable energy at each university to achieve Japan's goal of becoming a decarbonized society by 2050. Approximately 240 people attended a panel discussion where there was a lively debate on "activities that Kyushu's national universities can undertake jointly" and "contributions of national universities to the growth of Kyushu as a whole."



Panel discussion

Research Center for Hydrogen Industrial Use and Storage, Kyushu University

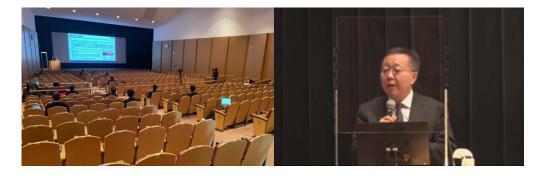
Jan. 27 Hydrogen Energy and Fuel Cell Forum in Kyushu & International Hydrogen Energy Development Forum

Jan. 27-28 Symposium & Joint Symposium

The Research Center for Hydrogen Industrial Use and Storage (HYDROGENIUS) at Kyushu University is engaged in cutting-edge research activities aimed at establishing safe hydrogen technologies to make a hydrogen-based society a reality while deepening basic and scientific knowledge about hydrogen. The center is also engaged in sharing our research expertise with industry, even outside of research and academic circles. As part of these efforts, we have held the Fukuoka Strategy Conference for Hydrogen Energy and the "International Hydrogen Energy Development Forum" every year since 2007. In recent years, we have held them concurrently with the Hydrogen Energy and Fuel Cell Forum in Kyushu hosted by the Kyushu Bureau of Economy, Trade and Industry.

At the forum on January 28, lectures were given by Kyushu University, the Agency for Natural Resources and Energy, New Energy and Industrial Technology Development Organization (NEDO), and ENEOS Corporation, which continues to play a role in the hydrogen business on regional collaboration between industry, academia, and government toward the realization of a hydrogen society, METI initiatives, domestic trends and international cooperation, and other directions in hydrogen energy. Researchers from Japan and abroad presented their latest research and development findings at symposiums held on January 27–28 in each field. A total of approximately 760 people participated in the two-day forum and symposium.

<u>Jan. 27 Forum</u> (Japanese text only) <u>Jan. 27-28 Joint Symposium</u> Jan. 28 Symposium



Hydrogen Energy and Fuel Cell Forum in Kyushu & International Hydrogen Energy Development Forum 2022

■ International Institute for Carbon-Neutral Energy Research (I²CNER)

Jan. 25 I²CNER Annual Symposium, Jan. 26 I²CNER-IMI Joint International Workshop, Jan. 28 I²CNER Thrust Workshop

The <u>I²CNER</u> Annual Symposium on "<u>Carbon Management including Negative Emission</u> <u>Technologies</u>" was held on Tuesday, January 25. In this symposium, we invited world-class researchers to speak on carbon resource management to realize a new "Beyond Zero" society where carbon resources are locally produced for local consumption. At the symposium, researchers introduced and discussed cutting-edge research findings from the perspectives of Japan, the United States, and Europe.

The I²CNER-IMI Joint International Workshop on "<u>Wireless Power Transfer: Technologies for Smart Societies</u>" was held on Wednesday, January 26, presenting the latest research trends in optical wireless power transfer (OWPT) with ample discussions held on both practical and theoretical topics.

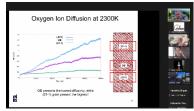
The <u>I²CNER Thrust Workshop</u> was held late at 11:00 pm (JST) on Friday, January 28, taking into account time differences outside Japan, and was well attended by researchers worldwide. The workshop introduced three different research "thrusts" and shared the latest findings on carbon-neutral technology, leading to a lively exchange of ideas. Approximately 180 people participated in the symposium and workshops over the three days.



I²CNER Annual Symposium



I²CNER-IMI International Workshop



I²CNER Thrust Workshop

Transdisciplinary Research and Education Center for Green Technologies

Jan. 28 Chikushi Symposium

On Friday, January 28, the Chikushi Symposium was held online on the theme of "Kyushu University's efforts toward Direct Thermoelectric Energy Conversion."

In this symposium, researchers at Kyushu University who study direct thermoelectric energy conversion, including thermoelectric energy generation and the Spin Seebeck effect, gathered from across different areas to hear five lectures on cutting-edge topics in condensed-matter physics on a wide range of issues, from inorganic materials to inorganic-organic perovskites and carbon nanotubes, in addition to spintronics and other fields. Many people were in attendance from outside the university, especially from private companies, indicating a broader social interest. There were lively discussions at the Q&A sessions after each lecture and the final general discussion, demonstrating the extent of Kyushu University's research in pursuit of technology that makes efficient use of thermal energy, which is indispensable for a decarbonized society in the near future.

Chikushi Symposium (Japanese text only)

■ Kyushu University Center of Coevolutionary Research for Sustainable Communities

Jan. 28 Kyushu University COI Center of Coevolutionary Research for Sustainable Communities (C²RSC) Symposium

An online symposium was held on Friday, January 28, titled "Creation of a safe, active, and vibrant community: Revitalizing the local economy through locally generated and consumed energy and creating sustainable mobility and ICT monitoring services."

This year marks the final academic year of the Center of Innovation (COI) program. As such, the symposium featured presentations from each field focusing on research findings and practical applications over the past nine years and a talk session on future developments and expectations. Approximately 200 people participated in the event, which was moved online due to the rapid spread of COVID-19.

COI Symposium (Japanese text only)

Department website: C2RSC



Energy session



Mathematics for Industry session



Talk session

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