

Kyushu University Energy Week 2023

Kyushu University Energy Week 2023 was held January 30–February 3, 2023, and featured symposiums concerning energy on the theme of “Energy Intelligence Beyond Borders: Opening the Path to Future Energy and Energy Security with Integrative Knowledge.” For this year’s Energy Week, energy-related organizations inside and outside of Kyushu University came together to hold international and industry-academia-government workshops, as well as other events, which served as a forum for exchange and an international hub for energy researchers. This year marked the seventh annual Energy Week, which was held in a hybrid format that combined online and in-person events. Energy Week saw upwards of 2,000 participants and included lectures and presentations from researchers, students, industry and government officials, and others from Japan and abroad conducting a wide range of energy-related research. This year, the Institute of Systems, Information Technologies and Nanotechnologies (ISIT) and Fukuoka City held the inaugural “Kyushu University-ISIT-Fukuoka City Symposium on Green Transformation.” The symposium introduced the globally trending topic of how to link business with decarbonization and showcased specific examples of corporate initiatives.



President Ishibashi delivers his opening address

▼Kyushu University Platform of Inter-/Transdisciplinary Energy Research (Q-PIT) (Jan. 30 Q-PIT Plenary Session)

The plenary session began with an opening address by Kyushu University President Ishibashi, followed by keynote speeches. Kei Shimogori, a senior researcher at the Institute

of Energy Economics, Japan (IEEJ), presented "Ukraine Crisis and Efforts to Strengthen Energy Security in Europe." Next, Hiroki Suemori, Director General of the Business Strategy Department at the Japan Organization for Metals and Energy Security (JOGMEC), spoke about "JOGMEC's challenge for unstable situation related to energy." The keynote speeches were delivered to an audience of approximately 60 on-site and online participants.



Keynote speech by IEEJ's Kei Shimogori



Q&A session with JOGMEC's Hiroki Suemori

(Jan. 30 Q-PIT Focused Session A)

At Focused Session A, Professor Akari Hayashi of the Platform of Inter/Transdisciplinary Energy Research (Q-PIT) gave a report on the Q-Energy Innovator Fellowship. This was followed by the keynote lecture, "Environmental Business Development: Aiming to Decarbonization," presented by Akimasa Yasuoka, former Senior Vice President in charge of Product Regulatory, Environmental & Safety at American Honda Motor Co., Inc. About 130 participants attended in person and online.



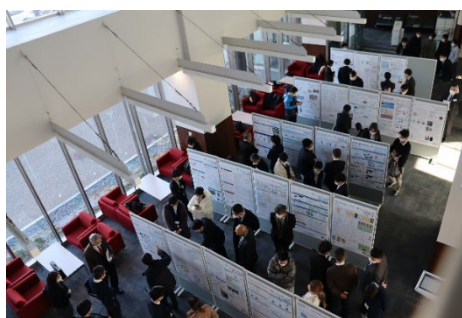
Keynote lecture by Akimasa Yasuoka, formerly of American Honda Motor Co., Inc.



Lecture scene

(Jan. 30 Poster Presentation)

Following the keynote lecture, a poster presentation was held by 23 fellows of the Q-Energy Innovator Fellowship, 4 winners of the Junichi Miyamoto Hydrogen Research Award, and 26 recipients of the 2022 Q-PIT "Support Program for Young Researchers and Doctoral Students." The Q&A session, held in person for the first time in three years, led to a lively exchange of ideas.



(Jan. 31 Q-PIT Focused Session B)

At Focused Session B, Professor Yoshio Matsuzaki of the Platform of Inter/Transdisciplinary Energy Research (Q-PIT) gave an overview of decarbonization research at Q-PIT. This was followed by reports on the progress of research being conducted by different modules, interdisciplinary research teams that aim to realize a decarbonized society through research that transcends fields in the humanities and social sciences as well as the natural sciences. Next, Saibu Gas executive manager Kazuhide Nakama gave a special lecture titled "Saibu Gas Group's Efforts to Go Carbon Neutral." In the panel discussion, Kazuhide Nakama was joined on stage by Takashi Ono of the Kyocera Corporation, who engaged in a lively conversation with a panel of Kyushu University faculty. Approximately 90 participants attended the session, both on-site and online.



Special lecture by Kazuhide Nakama
of Saibu Gas Co., Ltd



Presentation by the Module head



Panel discussion

▼Kyushu Area Renewable Energy Cooperation Committee

(Feb. 2 Collaboration Forum for Renewable Energy)

The second Collaboration Forum for Renewable Energy was held as part of the activities of the Kyushu Area Renewable Energy Cooperation Committee, which was established in 2021 by 11 national universities in the Kyushu-Okinawa area. Presentations were made on efforts related to training renewable energy personnel through inter-university collaboration among five universities in the Kyushu region. During the panel discussion, there was a lively exchange of opinions on a range of topics, including research challenges and social issues that need to be addressed in order to achieve a carbon-neutral society by 2050, initiatives related to renewable energy in education, efforts towards zero-carbon campuses, network building in education, and the direction of future inter-university collaborations.

Approximately 80 participants attended the session, both on-site and online.



Panel discussion



Group photo

▼Institute of Systems, Information Technologies and Nanotechnologies (ISIT)

(Feb. 1 Kyushu University-ISIT-Fukuoka City Symposium on Green Transformation (GX):
Developing a Decarbonization Business in Fukuoka)

The “Kyushu University-ISIT-Fukuoka City Symposium on Green Transformation (GX): Developing a Decarbonization Business in Fukuoka” was held on February 1, in the large conference room of ACROS Fukuoka. The symposium included two keynote speeches on decarbonization and carbon neutrality, along with presentations on the efforts of Fukuoka City and the Institute of Systems, Information Technologies and Nanotechnologies (ISIT) to support decarbonization businesses in the city. The event also featured a report on decarbonization business case studies from companies selected for the Fukuoka Green Innovation Challenge project. A total of 84 people participated in the symposium.



Opening address by ISIT Director Sunao Yamada



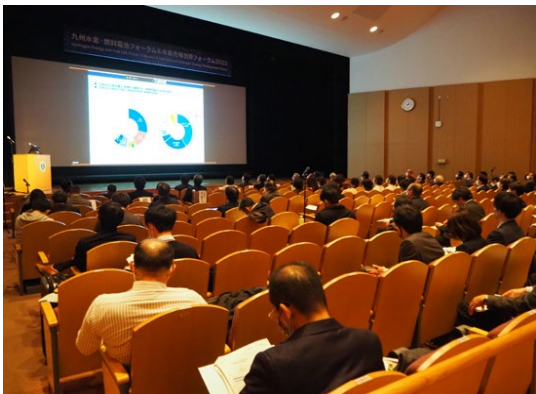
Lecture scene

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

(Feb. 2–3 Symposium & Joint Symposium)

On February 2nd and 3rd, the Kyushu University Research Center for Hydrogen Industrial Use and Storage (HYDROGENIUS) held the “Hydrogen Energy and Fuel Cell Forum in Kyushu & International Hydrogen Energy Development Forum 2023” in collaboration with the Kyushu Bureau of Economy, Trade and Industry and Fukuoka Prefecture. HYDROGENIUS conducts advanced scientific research on hydrogen materials aimed at the realization of a hydrogen energy society. The center additionally engages in activities to disseminate its knowledge not only to academic societies and researchers but also to a wide range of industries.

Since 2007, HYDROGENIUS has collaborated with various organizations to hold the annual International Hydrogen Energy Development Forum. After having to adjust to a new normal throughout the COVID-19 pandemic, we were able to hold this year's events with in-person participants for the first time in three years, supplemented by a livestream. Since its inception, this forum has played a crucial role in disseminating information and providing a platform for exchange, and we anticipate significant outcomes from this event that will pave the way for the future. In the sessions for each technical field, domestic and international researchers presented their latest research findings and engaged in Q&A sessions that were both technical and lively. The February 2 forum welcomed 434 participants, and the research symposiums on February 2–3 welcomed 355 additional participants, for a total of approximately 789 over both days.



Lecture scene



Closing remarks from HYDROGENIUS
Director Joichi Sugimura



HYDROGENIUS Research Symposium

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

(Feb. 1 I²CNER Annual Symposium)

(Jan. 31 I²CNER-IMI Joint International Workshop)

(Feb. 2–3 I²CNER Thrust Workshop; CESD Kick-Off Workshop; SOIFIT, The Final Seminar)

The I²CNER Annual Symposium “Optimal Transitions: From Laboratory Research to the Carbon-Neutral Energy Markets” was held on February 1. The symposium featured the latest research findings across four research areas of the Mitsui Chemicals, Inc.-Carbon Neutral Research Center (MCI-CNRC), which was established within I²CNER to accelerate the implementation of carbon neutral technologies in society, and welcomed world-class researchers from research institutions in America, Europe, and Asia, resulting in lively discussions from a range of perspectives. The I²CNER-IMI Joint International Workshop, “Engineering and Mathematics: Where Do We Meet?,” was held on Tuesday, January 31, featuring presentations on the latest developments on several topics, such as “Interaction between flame and physical phenomena,” with discussions held from both practical and theoretical perspectives. The I²CNER Thrust Workshop, “Toward Carbon Neutrality,” was held on Thursday, February 2. The workshop shared the latest findings on carbon-neutral technology from three different research “thrusts,” leading to a lively exchange of ideas. A kick-off workshop for the Center for Energy Systems Design (CESD), established in November 2022, was held on Thursday, February 2, and Friday, February 3. Presentations were given by six research groups and featured participation from external collaborating faculty members, leading to lively discussions and exchanges of ideas. At “SOIFIT, The Final Seminar” on Friday, February 3, project members presented and shared their research findings to conclude the project. Approximately 400 people attended this year’s symposiums and workshops over the four days.



Opening remarks from I²CNER director
Petros Sofronis



Scene during a coffee break



Group photo

▼Kyushu University Center of Innovation (COI)

(Jan. 31 Kyushu University COI Sustainable Coevolutionary Society Symposium)

On January 31, the COI Study Group held its inaugural “Sustainable Coevolutionary Society Symposium” online. The COI Research Group continues to carry out the vision-driven R&D of the COI, which concluded at the end of FY2021, in order to further develop practical applications. At this symposium, each sub-group provided specific case studies on the progress of their past efforts, with approximately 50 people from in and outside the university participating.



Kyushu University COI Sustainable Coevolutionary Society Symposium

▼Department of Chemical Engineering, Faculty of Engineering

(Feb. 2 Special Seminar, Department of Chemical Engineering)

A special seminar featuring Prof. Jeng-Yu Lin of Tunghai University was held by the Department of Chemical Engineering in the Faculty of Engineering on Thursday, February 2. Professor Lin introduced his efforts in fabricating new electrode materials using

electrodeposition techniques for various energy-related fields such as solar cells and rechargeable batteries. He explained the mechanisms and theoretical background of variable particle morphology during synthesis under different electrolytic conditions (such as potential, pulse variation, electrolyte condition surface modification, and other pre-treatments) and introduced the improved battery performance achieved using these synthesized particles.

In addition, he presented examples of semiconductor field applications and provided an overview of the current controversies surrounding semiconductors, looking at examples in Taiwan, Japan, and the rest of the world. The seminar was followed by a heated discussion during the Q&A session, with participants exchanging opinions on the possibilities for expanding electrolytic technology methods and numerical simulation techniques for particle morphology evaluation. A total of 30 people from inside and outside of the university attended.



Special seminar by Prof. Jeng-Yu Lin of Tunghai University