

Energy Intelligence
Beyond Borders:
Opening the Path to Future Energy
and Energy Security
with Integrative Knowledge

KYUSHU UNIVERSITY
Energy Week 2023

Date [Mon] 30 Jan.- [Fri] 3 Feb., 2023

Venue KYUSHU UNIVERSITY Ito Campus, Hospital Campus, ACROS FUKUOKA

744 Motooka, Nishi-ku, Fukuoka
819-0395, JAPAN

3-1-1 Maidashi, Higashi-ku, Fukuoka
812-8582, JAPAN

1-1-1 Tenjin, Chuo-ku, Fukuoka
810-0001, JAPAN

* Held online (partially face to face)

<https://q-pit-ew.kyushu-u.ac.jp/en/>

Kyushu University 111th Anniversary VISION EXPO

Kyushu University has produced a wide variety of knowledge for over a century. The University celebrated its 111th anniversary in 2022, the first year in the Designated National University Corporation status. Also, 2022 is the starting year of the 4th Mid-Term Plan, which focuses on social transformation through integrative knowledge.

We have also announced “*Kyushu University VISION 2030*,” which defined various initiatives toward 2030 and our goals as the Designated National University Corporation. We aim to share diverse integrative knowledge and development possibilities at VISION EXPO, both inside and outside the University, to show our determination to become a university that shines on a global scale.

Energy Week 2023 will be held as part of the VISION EXPO, a collaborative effort between the University headquarters and all departments to create a program visualizing the “*integrative knowledge*” - the core concept of the Designated National University.



KYUSHU UNIVERSITY
Energy Week 2023

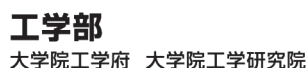
[Mon] 30 Jan.- [Fri] 3 Feb., 2023

About Kyushu University Energy Week

What's Kyushu University Energy Week ?

Energy Week is an annual international conference organized by Kyushu University. With a focus on "future energy", it features a variety of academic workshops, symposia, invited lectures from prominent energy researchers, as well as public events that bring together prominent experts from academia, industry and government. Another aim of Energy Week is the promotion of early-career researchers through a poster session.

The conference is considered to be Kyushu University's main venue to promote exchange among researchers and practitioners in the energy sector, and to highlight its role as an international hub for sustainable energy research.



CONTACTS

Date	Program	Departments	Contact
1/30 (Mon)~31 (Tue)	Q-PIT related programs	Kyushu University Platform of Inter-/ Transdisciplinary Energy Research	092-802-6644
1/31 (Tue)	Sustainable Coevolutionary Society Symposium	Open Innovation Platform (OIP), Kyushu University	092-802-5064
1/31 (Tue)~2/3 (Fri)	I ² CNER related programs	International Institute for Carbon-Neutral Energy Research, Kyushu University	092-802-6935
2/1 (Wed)	Kyushu University-ISIT-Fukuoka City Symposium on Green Transformation (GX)	Institute of Systems, Information Technologies and Nanotechnologies	092-852-3460
2/2 (Thu)	Collaboration Forum for Renewable Energy	Kyushu University Platform of Inter-/ Transdisciplinary Energy Research	092-802-6644
	Special Seminar	Department of Chemical Engineering, Kyushu University	092-802-2757
2/2 (Thu)~3 (Fri)	HYDROGENIUS related programs HYDROGENIUS-I ² CNER Joint Research Symposium	Research Center for Hydrogen Industrial Use and Storage, Kyushu University	092-802-3924

<https://q-pit-ew.kyushu-u.ac.jp/en/>



Contents

Message	3
Venue	4
Program & Schedule	8
Jan. 30 (Mon.)	
Kyushu University Platform of Inter- /Transdisciplinary Energy Research (Q-PIT)	
Plenary Session	10
Kyushu University Platform of Inter- /Transdisciplinary Energy Research (Q-PIT)	
Focused Session A	10
Jan. 31 (Tue.)	
Kyushu University Platform of Inter- /Transdisciplinary Energy Research (Q-PIT)	
Focused Session B	21
I ² CNER-IMI Joint International Workshop	28
Sustainable Coevolutionary Society Symposium	29
Feb. 1 (Wed.)	
Kyushu University-ISIT-Fukuoka City Symposium on Green Transformation (GX)	30
I ² CNER Annual Symposium	32
Feb. 2 (Thu.)	
Collaboration Forum for Renewable Energy	34
I ² CNER Thrust Workshop	36
Hydrogen Energy and Fuel Cell Forum in Kyushu & International Hydrogen Energy	
Development Forum 2023	37
Special Seminar, Department of Chemical Engineering	38
Feb. 2 (Thu.) · 3 (Fri.)	
I ² CNER, Center for Energy Systems Design (CESD), Kick-off Workshop [Day 1] [Day 2]	39
HYDROGENIUS, I ² CNER, HYDROMATE AND SINTEF Joint Research Symposium 2023	
[Day 1] [Day 2]	41
Feb. 3 (Fri.)	
Solid Oxide Interfaces for Faster Ion Transport (SOIFIT), The Final Seminar	42
2023 HYDROGENIUS & I ² CNER TRIBOLOGY SYMPOSIUM	43
International Symposium of Hydrogen Polymers Team, HYDROGENIUS	44

Message



President
Kyushu University

Tatsuro Ishibashi

Thank you all for participating in Energy Week 2023, hosted by Kyushu University.

Fukuoka, where the university is located, is a place that has played a crucial role in the energy industry of Japan. Fukuoka is, in fact, one of the first places in Asia to enter the Industrial Revolution. It has also been a trade and interaction hub between Japan and Asia. Looking at Kyushu as a whole, 50% of the region's energy is currently generated from decarbonized power sources, including renewable energy and nuclear power. Therefore, we can say that Kyushu is a leading region in the effort toward "*Carbon neutrality by 2050*," pledged by the Japanese government in October 2020. On the other hand, the recent crisis in Ukraine highlighted the necessity to resolve energy security issues while addressing decarbonization.

Kyushu University was selected as a Designated National University Corporation in November 2021. With this selection, we formulated the "*Kyushu University Vision 2030*," which outlines the university's direction and policies for the next 10 years. We set our goal to become a University that drives social reforms via integrative knowledge. To realize this vision, Kyushu University is committed to solving social issues and promoting Digital Transformation (DX), aiming to contribute to education, research, and widely to social transformation. In terms of social problem-solving, we set priorities in three areas: "*Decarbonization*," "*Medicine and Health*," and "*Environment and Food*," by leveraging the university's strengths. Furthermore, in April 2022, we launched the "*Integrated Initiative for Designing Future Society*," the "*Data-driven Innovation Initiative*," and the "*Open Innovation Platform*," which all will serve as organizations promoting social transformation and innovation toward the realization of our vision.

In the field of decarbonization of energy, we launched the Platform of Inter-/Transdisciplinary Energy Research (Q-PIT), a cross-university research organization, in October 2016, which currently brings together more than 200 researchers in the energy field. With this organization at its core, we will promote research related to decarbonized energy, such as hydrogen, carbon recycling, renewable energy, and other areas, focusing on the Japanese government's goal of "*Carbon neutrality by 2050*". For this, we aim to cooperate and co-create with local communities to realize a carbon-neutral society.

This year Energy Week 2023 is being held under the theme "*Opening the Path to Future Energy and Energy Security with Integrative Knowledge*". In light of the current global energy crisis, we focus on issues related to energy security. In addition to lectures by prominent speakers from Japan and abroad, symposia and workshops will be held by the KU's International Institute for Carbon-Neutral Energy Research (I²CNER), Research Center for Hydrogen Industrial Use and Storage (HYDROGENIUS), Coevolutionary Research for Sustainable Communities (C²RSC), Kyushu Renewable Energy Collaboration Committee, Institute of Systems, Information Technologies and Nanotechnologies (ISIT), and others.

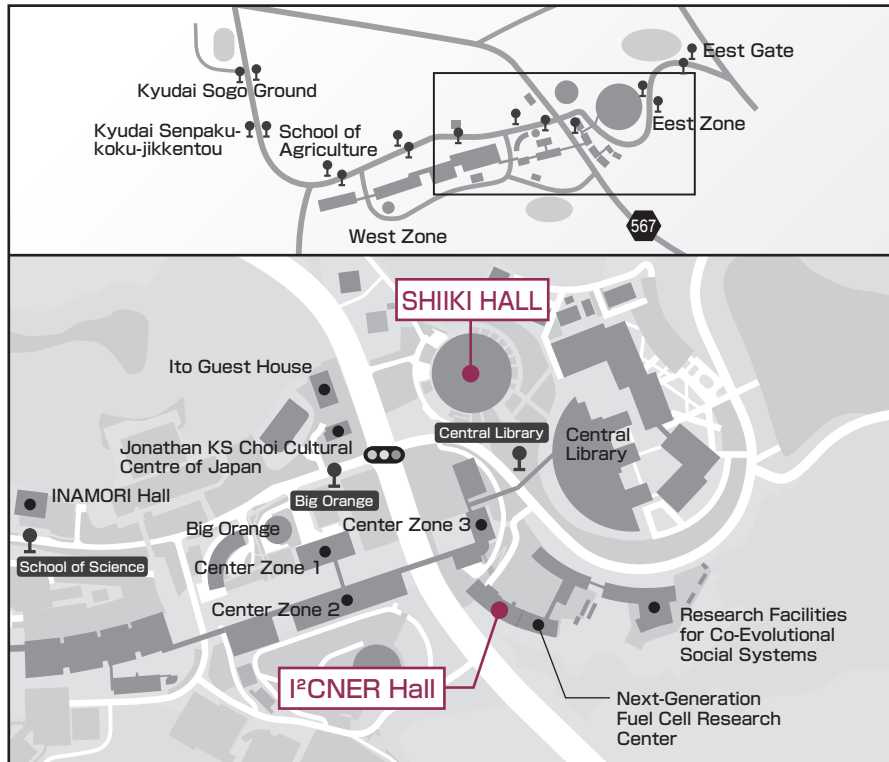
We sincerely look forward to your participation in the program events and hope you take this opportunity to deepen interactions between researchers through the discussions of research results.

Venue

KYUSHU UNIVERSITY Ito Campus

● I²CNER Hall ● SHIIKI HALL

744 Motooka, Nishi-ku, Fukuoka, 819-0395, JAPAN



Bus stop

★ From Fukuoka Airport

Fukuoka Airport → (Subway Kuko Line) → Meinohama Station (*¹ Transfer JR Chikuhi Line) → Kyudai-Gakkentoshi Station → *² Showa Bus (via Susenji or Yokohamanishi or Gakuendori) → Ito Campus

★ From Hakata or Tenjin Station

By subway

Hakata Station (Subway Kuko Line) → Tenjin → Meinohama (*¹ Transfer JR Chikuhi Line) → Kyudai-Gakkentoshi Station → *² Showa Bus (via Susenji or Yokohamanishi or Gakuendori) → Ito Campus

※ 1 Alternatively, board a train bound for Nishikaratsu or Chikuzen-Maebaru, which eliminates the need to transfer at Meinohama Station.

※ 2 For West zone → bus stop No.3

Get off at the bus stop "Big Orange Mae" → I²CNER or SHIIKI HALL

※ 2 For East zone → bus stop No.4

Get off at the bus stop "Center of library" → I²CNER or SHIIKI HALL

By bus

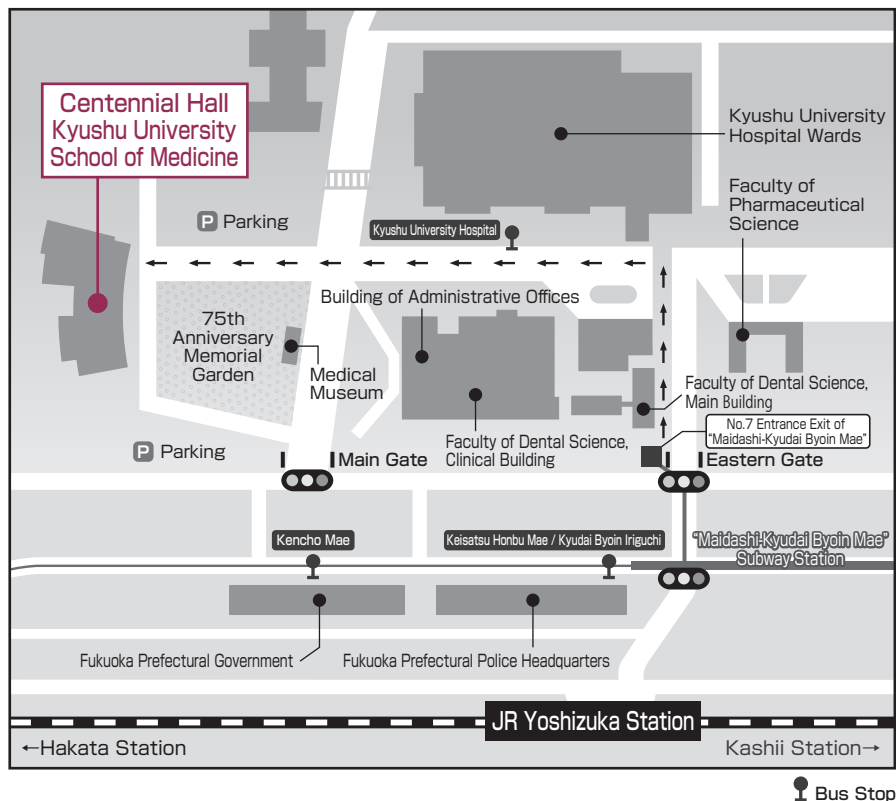
Bus stop of Hakata StationA (Nishitetsu Bus for Kyudai Ito Campus) → Bus stop of Solaria Stage → *³ Ito Campus

※ 3 Get off at the bus stop "Big Orange Mae" → I²CNER or SHIIKI HALL

Kyushu University Hospital Campus

● Centennial Hall Kyushu University School of Medicine

1-1 Maidashi 3-chome Higashi-ku, Fukuoka 812-8582, JAPAN



★ **From Fukuoka Airport**

Fukuoka Airport → (Subway Kuko Line) → Nakasu Kawabata Station (Transfer Subway Hakozaki Line) → Maidashi-Kyudai Byoin Mae Station → Kyushu University Hospital Campus → Centennial Hall Kyushu University School of Medicine

★ **From Hakata Station**

By subway

Hakata Station (Subway Kuko Line) → Nakasu Kawabata Station (Transfer Subway Hakozaki Line) → Maidashi-Kyudai Byoin Mae Station → Kyushu University Hospital Campus → Centennial Hall Kyushu University School of Medicine

By bus

Bus stop of Hakata Center buildingE (Nishitetsu Bus for Chiyomachi) → Bus stop of Kyudai Byoin → Kyushu University Hospital Campus → Centennial Hall Kyushu University School of Medicine

★ **From Tenjin Station**

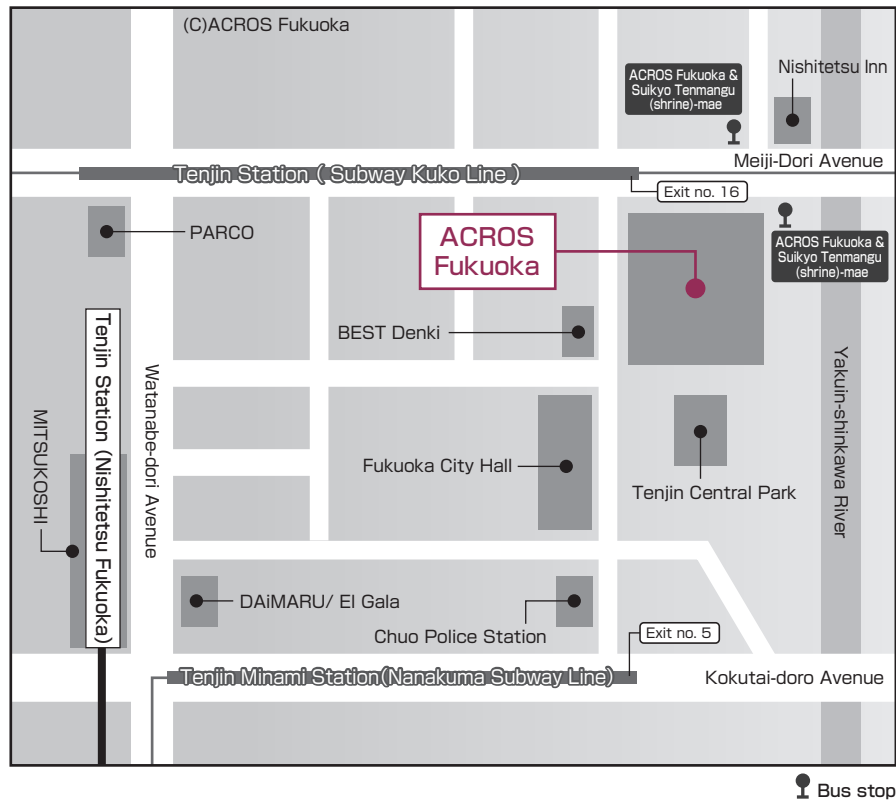
By subway

Tenjin Station (Subway Hakozaki Line for Kaizuka) → Maidashi-Kyudai Byoin Mae Station → Kyushu University Hospital Campus → Centennial Hall Kyushu University School of Medicine

ACROS Fukuoka

● Large Conference Room/7F

1-1-1 Tenjin, Chuo-ku, Fukuoka 810-0001



★ From Fukuoka Airport Station

Fukuoka Airport Station → (Subway Kuko Line) → Tenjin Station → 5 minutes walk from Exit no.16

★ From Hakata Station

- ① Hakata Station → (Subway Kuko Line) → Tenjin Station → 5 minutes walk from Exit no.16
- ② Hakata Bus Terminal 1F → ACROS Fukuoka & Suikyo Tenmangu (shrine)-mae Bus Stop

★ From Tenjin Station

- ① Tenjin Station (Nishitetsu Fukuoka) → 10 minutes walk
- ② Tenjin Minami Station (Nanakuma Subway Line) → 7 minutes walk from Exit no. 5

MEMO

Program & Schedule

Date	Dept.	9:00	9:30	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00
1/30 (Mon)	Q-PIT					Q-PIT Plenary Session [JPN]						Q-PIT Focused Session A [JPN]				
	Q-PIT				Q-PIT Focused Session B [JPN]											
1/31 (Tue)	I ² CNER & IMI			I ² CNER - IMI Joint International Workshop [ENG]												
	COI Study Group															
2/1 (Wed)	ISIT												Kyushu University- ISIT-Fukuoka City Symposium on Green Transformation(GX)[JPN]			
	I ² CNER											I ² CNER Annual Symposium [ENG]				
2/2 (Thu)	Kyushu Area Renewable Energy Cooperation Committee										Collaboration Forum for Renewable Energy [JPN]					
	I ² CNER			I ² CNER Thrust Workshop [ENG]												
	HYDROGENIUS										Hydrogen Energy and Fuel Cell Forum in Kyushu & International Hydrogen Energy Development Forum 2023 [JPN]					
	Department of Chemical Engineering												Special Seminar [ENG]			
2/3 (Fri)	I ² CNER			I ² CNER, Center for Energy Systems Design (CESD), Kick-off workshop [Day 2] [ENG]						Solid Oxide Interfaces for Faster Ion Transport (SOIFIT), The Final Seminar [ENG]						
	HYDROGENIUS			2023 HYDROGENIUS & I ² CNER TRIBOLOGY SYMPOSIUM [ENG]												
						International Symposium of Hydrogen Polymers Team, HYDROGENIUS [ENG]										

- ※Q-PIT : Kyushu University Platform of Inter-/Transdisciplinary Energy Research
- ※I²CNER : International Institute for Carbon-Neutral Energy Research
- ※ISIT : Institute of Systems, Information Technologies and Nanotechnologies
- ※HYDROGENIUS : Research Center for Hydrogen Industrial Use and Storage

*Above Program is subject to change without prior notice.

15:30 16:00 16:30 17:00 17:30 18:00 18:30 19:00 19:30 20:00 20:30 21:00 21:30 22:00 22:30 23:00 23:30 24:00

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			Sustainable Coevolutionary Society Symposium [JPN]																

I ² CNER, Center for Energy Systems Design (CESD), Kick-off workshop [Day 1] [ENG]																			
								HYDROGENIUS, I ² CNER, HYDROMATE AND SINTEF Joint Research Symposium 2023 [Day 1] [ENG]											

								HYDROGENIUS, I ² CNER, HYDROMATE AND SINTEF Joint Research Symposium 2023 [Day 2] [ENG]											

Kyushu University Platform of Inter-/Transdisciplinary Energy Research (Q-PIT)

< Plenary Session >

<Date> 10:00-12:00, 30th January 2023
 <Venue> I²CNER Hall, I²CNER Bldg.1, Ito Campus, Kyushu University (Live streaming venue)
 <Language> Japanese
 <Theme> “Opening the Path to Future Energy and Energy Security with Integrative Knowledge”

■ **Plenary Session** < Moderator > Prof. Yoshihiro Yamazaki, Q-PIT, Kyushu University

Time	Program and Speaker
10:00-10:05	Opening Ceremony Welcome Address, Dr. Tatsuro Ishibashi, President of Kyushu University
10:10-11:00	Special Lecture 1 (50 minutes) ● Ukraine Crisis and Efforts to Strengthen Energy Security in Europe Ms. Kei Shimogori, Senior Researcher, Global Energy Group1, Strategy Research Unit The Institute of Energy Economics, Japan (IEEJ)
11:05-11:55	Special Lecture 2 (50 minutes) ● JOGMEC's challenge for unstable situation related to energy Mr. Hiroki Suemori, Director-General Business Strategy Department Oil & Gas Upstream Unit (and) Carbon Neutral Team(Oil, Gas & CCS) Carbon Neutral Promotion Headquarters Japan Organization for Metals and Energy Security (JOGMEC)

< Focused Session A >

<Date> 13:00-14:10, 30th January 2023
 <Venue> I²CNER Hall, I²CNER Bldg.1, Ito Campus, Kyushu University (Live streaming venue)
 <Language> Japanese

■ **Focused Session A** < Moderator > Prof. Akari Hayashi, Q-PIT, Kyushu University

Time	Program and Speaker
13:00-13:10	Report of Q-Energy Innovator Fellowship ● Prof. Akari Hayashi, Q-PIT, Kyushu University
13:10-14:10	Keynote Lecture ● Environmental Business Development --Aiming to Decarbonization-- Mr. Akimasa Yasuoka, Former Senior Vice President, In charge of Product Regulatory, Environmental & Safety, American Honda Motor Co., Inc.
14:10-14:20	Break

<Date> 14:20-16:30, 30th January 2023
 <Venue> I²CNER Hall Foyer, I²CNER Bldg.1, Ito Campus, Kyushu University (On-site only)
 <Language> English and Japanese

14:20-16:30 (15:20-15:30 Break)	Poster Session ● Q-Energy Innovator Fellow, Recipient of Hydrogen Research Encouragement Award Q-PIT Young researchers, Doctoral students
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Plenary Session



Special Lecture 1

Ukraine Crisis and Efforts to Strengthen Energy Security in Europe

Kei Shimogori

Senior Researcher,
Global Energy Group1, Strategy Research Unit
The Institute of Energy Economics, Japan (IEEJ)



Special Lecture 2

JOGMEC's challenge for unstable situation related to energy

Hiroki Suemori

Director-General Business Strategy Department Oil & Gas Upstream Unit
(and) Carbon Neutral Team(Oil, Gas & CCS) Carbon Neutral Promotion
Headquarters
Japan Organization for Metals and Energy Security (JOGMEC)

Focused Session A



Keynote Lecture

Environmental Business Development --Aiming to Decarbonization--

Akimasa Yasuoka

Former Senior Vice President,
In charge of Product Regulatory, Environmental & Safety, American Honda
Motor Co., Inc.

Special Lecture 1



Ukraine Crisis and Efforts to Strengthen Energy Security in Europe

Senior Researcher,
Global Energy Group1, Strategy Research Unit
The Institute of Energy Economics, Japan (IEEJ)

Kei Shimogori

The Russian invasion of Ukraine thrust energy security on the radar of nations around the world as a matter of immediate importance. One of the EU's initiatives is the REPowerEU plan to phase out fossil fuels' dependence on Russia based on three pillars: saving energy, diversifying energy supply, and accelerating renewable energy. The key measures over the short-term also include delaying the phase-out of coal-fired power and extending the operation of existing nuclear reactors, and they intend to allow temporary increases in CO₂ emissions due to resuming coal-fired thermal power plants to ensure energy security. However, the EU's policy of 2050 climate neutrality remains firm. In the med- and long-term, it is highly likely the move away from Russian fossil fuels will be used as an opportunity to accelerate decarbonization efforts. While Europe is moving away from Russia, China and emerging economies are moving to increase imports of Russian fossil fuels at relatively low prices. However, the EU's rapid move to procure additional LNG is expected to tighten supply and demand in the international LNG market, and continue to have negative effects including competition for LNG and soaring prices in Japan and Asian markets. Rising LNG prices are also a major obstacle for developing countries seeking to reduce carbon emissions. Ultimately, striking the proper balance between upstream investment in fossil fuels and decarbonization goals is what is needed to secure sufficient energy at an affordable price.

Special Lecture2



JOGMEC's challenge for unstable situation related to energy

Director-General Business Strategy Department Oil & Gas Upstream Unit (and Carbon Neutral Team(Oil, Gas & CCS) Carbon Neutral Promotion Headquarters Japan Organization for Metals and Energy Security (JOGMEC)

Hiroki Suemori

JOGMEC added functions of support for production and storage of hydrogen and ammonia, as well as for CCS, wind power generation and geothermal power generation in November 2022. In addition, JOGMEC's official name has been changed from "Japan Oil, Gas and Metals National Corporation" to "Japan Organization for Metals and Energy Security". However, our mission remains the same: Ensuring stable energy supply for Japan. These days, decarbonization efforts are required for energy industry, but on the other hand, energy security issues are focused after Ukraine crisis started. In this unstable situation related to energy, JOGMEC makes the most of its ability regarding information gathering and support for resource diplomacy with oil and gas producing countries. Today, we would like to introduce "How JOGMEC contributes energy security of Japan" and "JOGMEC's efforts for future Carbon Neutrality".

Keynote Lecture



Environmental Business Development --Aiming to Decarbonization--

Former Senior Vice President,
In charge of Product Regulatory, Environmental & Safety,
American Honda Motor Co., Inc.

Akimasa Yasuoka

Firstly I will introduce my career, which may help doctor course students' future. Learned vehicle dynamics in undergrad and master course, joined an automobile company, Honda, was assigned to an emission control engineer, was nominated as a founding member of R&D Europe Germany, my dream job, F1 race team leader, a project leader of V6 engine development for North America production, moved to R&D Americas Los Angeles. Then transferred to America Honda Motor (sales company) as SVP in charge of Product Regulatory.

Then, I will talk about the Honda Smart Home US project, Fuel Cell Vehicle sales and its hydrogen infrastructure, Battery EV and EVSE, which I all experienced in Environmental Business Development Office I initiated at the age of 61.

Finally I will try to draw a part of Decarbonized Society.

Kyushu University Platform of Inter-/Transdisciplinary Energy Research (Q-PIT)





<Poster Presentation >

Poster presentations by Fellows of Q-Energy Innovator Fellowship,
 Awardees of Junichi Miyamoto Hydrogen Research Award,
 and Awardees of Q-PIT Support Program for Young Researchers and Doctoral Students.





<Date> 30th January 2023
 <Venue> I²CNER Hall Foyer, I²CNER Bldg.1, Ito Campus, Kyushu University(On-site only)
 <Language> English and Japanese

Fellows of Q-Energy Innovator Fellowship	
	Poster No. フェロ- 1
	Graduate School of Economics Department of Economic Systems DC2
	Keitaro Maeno
	CO ₂ mitigation through global supply chain restructuring
	ポスター番号 フェロ- 2 奨励賞 -14
	経済学府経済システム専攻 博士後期課程 2年
	三苫 春香
	インフォーマルセクターの生産活動を考慮したカーボンフットプリントの実証分析
	ポスター番号 フェロ- 3
	理学府化学専攻 博士後期課程 3年
	Sun Mingxu
	Electrochemical CO ₂ Conversion to Value-added Chemicals
	ポスター番号 フェロ- 4
	工学府水素エネルギーシステム専攻 博士後期課程 3年
	Likhith Manjunatha
	Addressing fuel starvation based degradation in polymer electrolyte fuel cells
	ポスター番号 フェロ- 5
	統合新領域学府オートモーティブサイエンス専攻 博士後期課程 2年
	沈 小烽
	高活性化単層ナノシート色素増感型光触媒による水の完全分解
	ポスター番号 フェロ- 6
	人間環境学府空間システム専攻 博士後期課程 2年
	陳 雨露
	再生可能エネルギー利用の室内温湿度自然調節性能を用いた PSE システムの開発
	ポスター番号 フェロ- 7
	経済学府経済システム専攻 博士後期課程 2年
	Fan Tianhui
	The impact of compact cities on carbon emissions
	ポスター番号 フェロ- 8
	工学府土木工学専攻 博士後期課程 2年
	小松原 建人
	空間情報を用いた高分解能での環境持続可能性評価

	ポスター番号 フェロ-9 工学府船舶海洋工学専攻 博士後期課程 2年 渡邊 虎春 アンモニア燃料を考慮した船舶機関室の換気制御に関する研究
	ポスター番号 フェロ-10 工学府水素エネルギーシステム専攻 博士後期課程 2年 Timothee Redarce Breakthrough of 900MPa barrier of fatigue crack growth resistance in BCC steels in high-pressure hydrogen environment
	ポスター番号 フェロ-11 金賞-1 総合理工学府総合理工学専攻 博士後期課程 2年 西村 大輝 トカマクプラズマにおける局所乱流と大域性の実験的研究
	ポスター番号 フェロ-12 銀賞-3 経済学府経済システム専攻 博士後期課程 1年 松嶋 そら 住宅建築の包括的な LCA 評価フレームワークの開発と実証分析
	ポスター番号 フェロ-13 奨励賞-7 経済学府経済システム専攻 博士後期課程 1年 吉澤 大佑 カーシェアリング普及の CO ₂ 排出削減効果
	ポスター番号 フェロ-14 総合理工学府総合理工学専攻 博士後期課程 1年 竹野 慎一 電子・Li イオン混合伝導性ペロブスカイト型酸化物の探索
	ポスター番号 フェロ-15 総合理工学府総合理工学専攻 博士後期課程 1年 陳 伊新 水素化物負極における固体電解質自己生成メカニズムの解明
	ポスター番号 フェロ-16 総合理工学府総合理工学専攻 博士後期課程 1年 NIE ZIFEI Toward Safe, Smart and Efficient Mobility: Energy-Aware Personalized Autonomous Driving Motion Control and Learning-Based Human-Machine Interactive Platform for Driving Behavior Analysis
	ポスター番号 フェロ-17 総合理工学府総合理工学専攻 博士後期課程 1年 濱島 達也 高効率な反応を可能にするマイクロ波援用 DRM 用触媒の開発と反応メカニズムの解明
	ポスター番号 フェロ-18 総合理工学府総合理工学専攻 博士後期課程 1年 Park Hyun-Gyu Development of Advanced Computer Simulated Person for Indoor Thermal Comfort and Air Quality Assessment
	ポスター番号 フェロ-19 人間環境学府空間システム専攻 博士後期課程 1年 何 清怡 人間の省エネ意識と省エネ行動の関係分析に基づく建物エネルギーシミュレーションツールの開発

	ポスター番号 フェロ- 20 工学府応用化学専攻 博士後期課程 1 年 Phua Yin Kan アニオン伝導膜形燃料電池の材料探索における化学的解釈可能な機械学習の開発
	ポスター番号 フェロ- 21 銀賞 -2 生物資源環境科学府資源生物科学専攻 博士後期課程 1 年 佐藤 稜真 食料生産と共存する脱炭素化の実現:機能ゲノミクスを基盤とした光合成改変による環境レジリエント(強靱)なバイオマスエネルギー資源作物の創出
	ポスター番号 フェロ- 22 統合新領域学府オートモーティブサイエンス専攻 博士後期課程 1 年 Jacqueline Andrea Hidalgo Jimenez High-entropy ceramics as new family of photocatalysts for hydrogen production and CO ₂ conversion: Ab initio calculations and experiments
	ポスター番号 フェロ- 23 奨励賞 -13 統合新領域学府オートモーティブサイエンス専攻 博士後期課程 1 年 Muhammad Irfan Maulana Kusdhany Multiscale Data-Driven Engineering of Porous Carbon Materials for Clean Energy Applications

宮本淳弉水素研究奨励賞 受賞者

	ポスター番号 宮本奨励賞 1 奨励賞 -10 工学府水素エネルギーシステム専攻 博士後期課程 2 年 安武 昌浩 低触媒担持・高電流密度作動を可能とする固体高分子形水電解用の一体型アノードの開発
	ポスター番号 宮本奨励賞 2 総合理工学府総合理工学専攻 博士後期課程 1 年 酒井 彦那 計測機開発を通じた水素同位体プラズマにおける乱流駆動輸送物理の解明
	ポスター番号 宮本奨励賞 3 奨励賞 -9 工学府機械工学専攻 博士後期課程 1 年 韋 雪淞 沸騰と水電解のアナロジーに基づく水電解性能の飛躍的な向上
	ポスター番号 宮本奨励賞 4 工学府水素エネルギーシステム専攻 博士後期課程 2 年 植村 崇博 水素関連設備用高圧管曲げ加工の疲労強度決定メカニズムの解明

若手研究者・博士課程学生支援プログラム



- 分野①：エネルギーテクノロジーに関する研究
- 分野②：エネルギーシステムとマネジメントに関する研究
- 分野③：エネルギー由来の環境問題に関する研究
- 分野④：エネルギー経済・社会・ポリシーに関する研究
- 分野⑤：その他エネルギー問題に関わる分野

- Area 1: Energy Technology
- Area 2: Energy Systems and Management
- Area 3: Environmental Energy Issues
- Area 4: Energy Economy, Society, and Policy
- Area 5: Other Energy Issues

若手研究者採択者

採択者	ポスター番号 氏名	所属 職位	研究 分野	研究タイトル
	若手 -1 宮田 潔志	理学研究院 准教授	分野 ①	希土類ナノ粒子を用いた光エネルギー上方変換過程を解明する多段励起分光法の開発
	若手 -2 西澤 敬之	応用力学研究所 助教	分野 ⑤	局所ヘリシティ入射法によるプラズマ立ち上げ時の自己組織化過程の解明
	若手 -3 中石 知晃	カーボンニュートラル・エネルギー 国際研究所 学術研究員	分野 ④	データ包絡分析及び産業連関分析の統合型サプライチェーン効率性評価モデルの構築：世界 164 か国の電力産業サプライチェーンにおける実証分析
	若手 -4 Nai Shi	エネルギー研究教育機構 学術研究員	分野 ①	Propylene production and CO ₂ recycling using proton conducting solid oxide cells (P-SOC)
	若手 -5 千歳 洋平	工学研究院 助教	分野 ⑤	近赤外領域に高い発光効率を有する TADF 分子の開発と有機 EL への応用
	若手 -6 梅原 裕太郎	工学研究院 助教	分野 ②	透明伝熱面を用いた吸水性伝熱面の限界熱流束向上メカニズムの解明

博士課程学生受賞者

受賞者	ポスター番号 氏名	所属 学年	研究 分野	研究タイトル
	金賞 -1 (フェロ-11) 西村 大輝	総合理工学府 博士後期課程 2 年	分野 ①	核融合炉においてプラズマの閉じ込めを劣化させるストリーマー構造形成機構の解明
	銀賞 -2 (フェロ-21) 佐藤 稜真	生物資源環境科学府 博士後期課程 1 年	分野 ③	食糧生産との共存を目指した、バイオインフォマティクスを基盤とした環境レジリエント（強靱）なバイオマスエネルギー資源作物の創出

	銀賞 -3 (フェロー 12) 松嶋 そら	経済学府 博士後期課程 1 年	分野 ④	電離圏動的過程を取り入れた磁気圏—電離圏結合系アルゴリズム開発
	銅賞 -4 江原 巧	理学府 博士前期課程 2 年	分野 ①	時間分解電気化学的赤外分光法を用いた分子性光触媒の CO ₂ 還元メカニズムの解明
	銅賞 -5 五十川 浩希	総合理工学府 博士前期課程 2 年	分野 ①	核融合炉用トリチウム生産のための高温ガス炉における革新的トリチウム閉じ込め技術の開発
	銅賞 -6 和田 健太郎	工学府 博士前期課程 2 年	分野 ①	高温水素利用技術の安全性を確実にする高温水素中クリープ強度とメカニズムに関する研究
ポスター番号	氏名	所属	研究分野	研究タイトル
奨励賞 -7 (フェロー 13)	吉澤 大佑	経済学府 博士後期課程 1 年	分野 ④	カーシェアリングサービス普及の CO ₂ 排出削減効果
奨励賞 -8	徐 祥源	総合理工学府 博士後期課程 2 年	分野 ②	活性炭・フロン系冷媒を用いた吸着式空調システムの実用化に関する研究
奨励賞 -9 (宮本奨励賞 3)	韋 雪淞	工学府 博士後期課程 1 年	分野 ①	沸騰と水電解のアナロジーに基づく水電解性能の飛躍的な向上
奨励賞 -10 (宮本奨励賞 1)	安武 昌浩	工学府 博士後期課程 2 年	分野 ①	低触媒担持・高電流密度作動を可能とする固体高分子形水電解用の一体型アノードの開発
奨励賞 -11	篠崎 航太郎	工学府 博士前期課程 2 年	分野 ④	コモンス論とゲーム理論を用いた地熱発電の社会受容性分析
奨励賞 -12	小林 大輝	総合理工学府 博士後期課程 2 年	分野 ⑤	プラズマ背景構造の非対称性による熱および粒子輸送への影響の探究

奨励賞 -13 (フェロ-23)	Muhammad Irfan Maulana Kusdhany	統合新領域学府 博士後期課程 1 年	分野 ①	Data-Driven Optimization of Porous Hydrothermal Carbons for Energy Applications
奨励賞 -14 (フェロ-2)	三苫 春香	経済学府 博士後期課程 2 年	分野 ④	インフォーマルセクターを考慮したカーボンフットプリント分析
奨励賞 -15	下津浦 大賀	経済学府 博士前期課程 1 年	分野 ④	国際海上コンテナ船輸送ネットワークの二酸化炭素排出分析
奨励賞 -16	今田 青治	経済学府 博士前期課程 1 年	分野 ④	建築部門分析用の接続産業連関表を用いたカーボンフットプリント分析
奨励賞 -17	Mengjia Ren	工学府 博士後期課程 1 年	分野 ①	Modeling and validation of gas-sheared liquid sheet dynamics under icing condition - An academic approach for predicting the icing condition on the cold climate wind turbine sites.
奨励賞 -18	山内 崇弘	理学府 博士前期課程 2 年	分野 ①	燃料中難脱硫性硫黄化合物の可視光酸化を経由した硫黄単原子脱離による脱硫
奨励賞 -19	Enes Muhammet Can	統合新領域学府 博士後期課程 3 年	分野 ①	Gas Diffusion Layers with Jigsaw-Inspired Patterned Wettability for Improved Water Management in Fuel Cells
奨励賞 -20	Marco LAO	総合理工学府 博士後期課程 2 年	分野 ①	Combined Adsorption and Evaporative Cooling System (CAdeCS): A thermally- driven greener and cheaper alternative to compressor-based air conditioning

<Focused Session B>

<Date> 10:00-17:20, 31st January 2023
 <Venue> I²CNER Hall, I²CNER Bldg.1, Ito Campus, Kyushu University (Live streaming venue)
 <Language> Japanese

■ **Focused Session B** < Moderator > Prof. Tomofumi Tada, Q-PIT, Kyushu University
 Assoc. Prof. Selyanchyn Roman, Q-PIT, Kyushu University

Time	Program and Speaker
	Session Theme 1 R&D of decarbonization technologies
10:00-11:50	About Decarbonization research in Q-PIT ●Prof. Yoshio Matsuzaki, Q-PIT, Kyushu University Materials & Systems for Decarbonization ●Prof. Hisahiro Einaga, Kyushu University ●Assoc. Prof. Kiyoshi Miyata, Kyushu University ●Prof. Yoshihiro Yamazaki, Kyushu University ●Assoc. Prof. Tsuyoshi Yamamoto, Kyushu Universtiy
11:50-13:30	Break
13:30-14:10	●Prof. Hideki Shimada, Kyushu University ●Assoc. Prof. Daisuke Yasutake, Kyushu Universtiy
	Session Theme 2 Toward Social Implementation of R&D
14:10-15:25 (10 minutes break included)	About the Energy Society Analysis and Assessment Model ●Prof. Daisuke Sumiyoshi, Kyushu University ●Assoc. Prof. Alexander Ryota Keeley, Kyushu University ●Prof. Shigemi Kagawa, Kyushu University
15:25-15:50	Special Lecture ●Saibu Gas Group's Efforts to Go Carbon Neutral Mr. Kazuhide Nakama, Executive Manager, Carbon Neutral Promotion Dept., Saibu Gas Co., Ltd.
15:50-16:00	Break
16:00-17:10	Panel Discussion ●Challenges and Efforts to Go Carbon Neutral Panelists : Mr. Kazuhide Nakama, Executive Manager, Saibu Gas Co., Ltd. Mr. Takashi Ono, Senior Manager, KYOCERA Corporation Prof. Junichiro Hayashi, Kyushu University Prof. Hiroshige Matsumoto, Kyushu University Prof. Akihito Ozaki, Kyushu University Prof. Yoshihiro Yamazaki, Kyushu University Assoc. Prof. Daisuke Yasutake, Kyushu University Prof. Daisuke Sumiyoshi, Kyushu University Moderator : Assoc. Prof. Munekazu Motoyama, Q-PIT, Kyushu University
17:10-17:20	Closing Remarks Dr. Susumu Fukuda, Executive Vice President, Kyushu University

Focused Session B



Special Lecture

Saibu Gas Group's Efforts to Go Carbon Neutral

Kazuhide Nakama

Executive Manager
Carbon Neutral Promotion Dept., Saibu Gas Co., Ltd.

Panel Discussion



Panelists

Kazuhide Nakama

Executive Manager
Carbon Neutral Promotion Dept., Saibu Gas Co., Ltd.



Panelists

Takashi Ono

Senior Manager
SOFC Development Section, Energy Systems R&D Division, Corporate R&D Group, KYOCERA Corporation



Panelists

Junichiro Hayashi

Professor
Institute for Materials Chemistry and Engineering, Kyushu University



Panelists

Hiroshige Matsumoto

Professor (Associate Director)
International Institute for Carbon-Neutral Energy Research, Kyushu University



Panelists

Akihito Ozaki

Professor
Faculty of Human-Environment Studies, Kyushu University



Panelists

Yoshihiro Yamazaki

Professor
Q-PIT, Kyushu University



Panelists

Daisuke Yasutake

Assoc. Professor
Faculty of Agriculture, Kyushu University



Panelists

Daisuke Sumiyoshi

Professor
Faculty of Human-Environment Studies, Kyushu University



Moderator

Munekazu Motoyama

Assoc. Professor
Q-PIT, Kyushu University

Special Lecture



Saibu Gas Group's Efforts to Go Carbon Neutral

Executive Manager,
Carbon Neutral Promotion Dept., Saibu Gas Co., Ltd.

Kazuhide Nakama

The Group's core business operations are based on the supply of city gas, electricity, and other forms of energy.

In September 2021, we announced the decarbonization strategy, "Saibu Gas Group Carbon Neutral 2050", in order to realize our universal aspiration of "contributing to local communities" amid the rapidly accelerating trend toward decarbonization after 2020.

In this context, we have set targets for 2030 (CO₂ reduction contribution of 1.5 million tons, 200,000 kW of renewable energy sources handled, and a gas carbon neutralization rate of at least 5%) and will take the lead in achieving carbon neutrality in the region with the three goals, "natural gas shift", "gas decarbonization", and "power source decarbonization".

In this presentation, we will introduce scenarios and specific initiatives to realize the three goals, as well as present trends in "methanation", the trump card for "gas decarbonization".

Research Promotion Division, Q-PIT - Introduction of Module -

● What's Module?

An interdisciplinary research group that aims to solve social issues and create innovations to realize a decarbonized society through "integrated knowledge" in humanities and social sciences, and natural sciences.

Established in three clusters, which are Energy Materials and Device Cluster, Energy System Cluster, Energy and Society Cluster, with the aim of promoting cross-disciplinary research.

Energy Materials and Device Cluster

Research on materials, devices, and processes related to energy conversion technology, energy saving technology, unused energy utilization technology, or related technologies.



Module name

Study on Advanced Microwave Technology for Utilization of Carbon Resources

Module head

Hisahiro Einaga

Professor

Faculty of Engineering Sciences, Kyushu University

To achieve "Carbon Zero by 2050," there is a strong need to promote decarbonization through the use of renewable energy and to enable the utilization and recycling of local resources such as waste plastics and unused agricultural biomass to reduce carbon dioxide emissions significantly. In our module, innovative technologies will be developed to convert carbon-based waste from industry and utilize it as a resource. The module will examine decomposition technologies for unused agricultural biomass by taking advantage of microwave-assisted catalytic reaction processes, such as rapid heating and the generation of high-temperature active sites. Create a joint research center to consolidate and utilize the "knowledge" of catalytic chemistry, chemical engineering, and agriculture, and promote collaboration with industry and other research institutions.



Module name

Developing photon energy conversion system by integration of emerging photofunctional molecules

Module head

Kiyoshi Miyata

Asst. Professor

Faculty of Sciences, Kyushu University

The use of light energy as a sustainable energy source is highly important in the utilization of energy for a decarbonized society. Molecular materials are expected to contribute further to the utilization of light energy due to their excellent versatility and designability, but further performance and functionalization are required for social implementation. In this module, young researchers who specialize in the optical functions of molecular materials and who have a proven track record among the researchers participating in Q-pit will come together to construct a highly efficient photon energy conversion system by integrating their cutting-edge molecular materials, precision molecular integration technology, wavelength conversion technology, and ultrafast spectroscopy technology. This modular research will open up a new fusion field by applying for the first time in the energy field photofunctional molecular materials developed for different purposes. We will establish the academic principles of photoenergy science for molecular assemblies, which are complex systems, and move forward to social implementation, building a foundation that will serve as a milestone for creating new fields.



Module name

Accelerated development of CO₂ reduction materials and devices by utilizing AI and experimental data

Module head

Yoshihiro Yamazaki

Professor

Q-PIT, Kyushu University

Japan has declared the goal of achieving a 46% reduction in CO₂ emissions by FY2030 compared to FY2013 and has specifically launched a course toward the realization of a carbon-neutral society in 2050. The conversion of carbon dioxide into valuable resources is essential to achieving the above goal. In this module, we aim to develop materials and devices that enable carbon dioxide recycling and propylene production at an accelerated pace by using AI and experimental data. The evaluations will be performed in a wide range of perspectives, the multiple scales from nano to handheld, materials to device systems, and the multiple angles, including economics.



Module name

Development of innovative conversion process form CO₂ to CO

Module head

Tsuyoshi Yamamoto

Assoc. Professor
Faculty of Engineering, Kyushu University

Currently, many studies on CCS and CCU are being conducted to solve global warming, but there is no effective method on CCU due to problems of CO₂ conversion ratio and energy efficiency. Carbon recycling can be realized by converting CO₂ into various hydrocarbon, and many hydrocarbons can be produced from CO and H₂. Therefore, it is considered optimal to generate CO from CO₂. However, since it is difficult to convert CO₂ into CO and it is required a high temperature field over 2000°C to thermally convert CO₂ into CO, it is not very realistic. In addition, the study using plasma achieved CO₂ conversion ratios of 23% with plasma only and 45% plasma + catalysis. On the other hand, the applicants have so far achieved CO₂ conversion ratio of 43% with plasma only. In this study, we try to achieve CO₂ conversion ratio of 80 to 90% or more by further devising.

Energy System Cluster

Research on energy and material conversion systems that contribute to decarbonization, innovative energy technologies such as energy infrastructure and next-generation mobility, and decarbonization system scenario planning.



Module name

CO₂-free hydrogen production from potential underground energy resources

Module head

Hideki Shimada

Professor
Faculty of Engineering, Kyushu University

This study aims to establish the CO₂-free hydrogen production using the potential underground oil/coal resources. More than 50% of oil/coal is left underground because of economic and technical reasons in conventional mining methods. We will establish a technology to recover these unused resources by converting them to hydrogen in-situ gasification. In addition, CO₂ produced at the same time with gasification is left in underground, or separated and stored at the site of post coal mining/oil field, or effectively utilized to realize CO₂-free hydrogen production. It is also essential to ensure its safe operation and to obtain the agreement by local residents. In order to implement this system in society, we will establish underground and surface CO₂ monitoring systems and risk management systems. In this way, we aim to achieve social implementation of the system as a package that realizes underground in-situ CO₂-free hydrogen production by fossil fuels with social acceptance by local residents.



Module name

Startup co-creation research project for realization of smart CO₂ capture and utilization in protected agriculture

Module head

Daisuke Yasutake

Assoc. Professor
Faculty of Agriculture, Kyushu University

To tackle the increasingly severe effects of climate change, we focus our project on protected agriculture (greenhouse) as a means to realize a carbon-neutral and decarbonized society. Despite the high productivity, conventional greenhouses are considered problematic regarding CO₂ emissions. To get both increased productivity and sustainability, we are working on achieving the following two goals to develop an innovative "smart CO₂ capture and utilization system" based on the CO₂ capture (separation), storage, and utilization technologies:

The primary goals of this project are:

[Goal 1] : Improvement and verification of system for recovery, storage, and utilization of CO₂ gas exhausted from a greenhouse heater,

[Goal 2] : Development of a system for recovery and utilization of leaked CO₂ gas associated with artificial CO₂ enrichment

These goals will be achieved through start-up cocreation research by the Faculty of Agriculture, Faculty of Engineering, and International Institute for Carbon-Neutral Energy Research (Kyushu university). We aim to demonstrate a medium-term policy for practical application and technology dissemination, including economic feasibility. This module research will contribute to meeting the societal challenge of climate change (sustainability) and food production (smart agriculture) innovation.

Energy and Society Cluster

Research on future society and lifestyles considering smart wellness and wellbeing, sustainable living and urban environments, regional growth strategies such as Society 5.0, decarbonized society models, economic systems, and institutional design



Module name

Urban Energy Module

Module head

Daisuke Sumiyoshi

Professor

Faculty of Human-Environment Studies, Kyushu University

In order to realize a carbon-neutral society by 2050, the government is aiming to make variable renewable energy sources such as photovoltaic panel and wind power generation the main source of electricity. To achieve this goal, it will be necessary to increase the electrification ratio on the building side, adjust electricity supply and demand through storage batteries (including EV batteries) and demand response, and utilize hydrogen. In order to study how much of these devices and systems should be installed in a city, it is essential to have an urban energy simulator that can not only calculate the total annual amount, but also analyze energy supply and demand fluctuations by the minute. In this module, we will construct an urban energy supply-demand simulator based on GIS data as a platform that can examine future urban energy systems, and propose what the future urban energy system should be like. The simulator to be developed can evaluate the impact of the introduction of various energy element technologies into a city, and will contribute to the formulation of urban energy policies.



Module name

Development of a model for evaluating the sustainability value of energy technologies and its application to technology development

Module head

Shunsuke Managi

Professor

Faculty of Engineering, Kyushu University

As global efforts to achieve the SDGs goals progress, so-called ESG investment, in which investment targets are determined in consideration of environmental and social impacts, corporate governance, and other factors, is gaining momentum, and the importance of evaluating the sustainability value of energy technologies is growing even more. Therefore, this study aims to establish a sustainability value evaluation model for energy technology from the perspective of ESG investment and new national wealth indices, and to link this model to the development of energy technology and its application in social implementation. To this end, this study aims to establish a sustainability value assessment model for energy technologies by labeling multiple energy technologies based on HS codes considering their life cycles, calculating social, economic, and environmental values by applying the social LCA and environmental LCA methods, and using the expressed selection method to work on the construction of an evaluation model to show the impact of energy technologies on various types of capital (natural capital, produced capital, and human capital) at shadow prices by using ESG indexing and the inclusive wealth index, and on the social implementation of the evaluation model.



Module name

Environmental Economics and Policy Module

Module head

Shigemi Kagawa

Professor

Faculty of Human-Environment Studies, Kyushu University

This study focuses on durable products such as passenger cars and addresses the following three research questions. The first question is how life-cycle CO₂ emissions of durable goods can be reduced through demand-side policies such as product lifetime shifts and environmental subsidy? The second question is how life-cycle CO₂ emissions of durable goods can be reduced through supply-side policies such as energy and resource efficiency improvements and global supply chain restructuring? The third question is how life-cycle CO₂ emissions of durable goods can be mitigated through a combined policy with both demand- and supply-side policies? In addressing the above-mentioned questions, we combine the global multi-regional input-output analysis framework with the network data envelopment analysis and develop an integrated analysis framework to evaluate the economic and environmental performance of global supply chain networks of a particular durable product from the life-cycle perspective. From the results, we finally suggest a potential pathway of maximizing CO₂ reduction potentials of durable goods through strengthening the demand- and supply-side policies.



INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

ENGINEERING AND MATHEMATICS: WHERE DO WE MEET? I²CNER-IMI JOINT INTERNATIONAL WORKSHOP

DATE: JANUARY 31, 2023

TIME: 9:30 – 16:15 (JAPAN TIME)

VENUE: ONSITE (ROOM 217, I²CNER BUILDING I), ZOOM (MORNING ONLY)ORGANIZER: NGUYEN DINH HOA, I²CNER & IMI, (hoa.nd@i2cner.kyushu-u.ac.jp)

Time	Speaker	Affiliation	Title
9:30 – 9:35	Petros Sofronis	Director of I ² CNER, Kyushu University, and University of Illinois, USA	Opening speech
9:35 – 10:20	Naoki Shinohara	Kyoto University	How to increase beam efficiency in radiative wireless power transfer - Limitation of Maxwell equations
10:20 – 11:00	Tomoyuki Miyamoto	Tokyo Institute of Technology	Applicability of optical wireless power transmission for longer distance target
11:00 – 11:40	Ramesh Pokharel	Kyushu University	Magnetic Field Manipulation by Metasurface Relays for Position- Independent Inductively coupled WPT
11:40 – 12:20	Tom Nugent	PowerLight Technologies, USA	Laser Power Beaming: Challenges and Opportunities
12:20 – 13:00	Break		
13:00 – 13:40	Alex Staykov	I ² CNER, Kyushu University	
13:40 – 14:20	Kei Hirose	IMI, Kyushu University	Multivariate time series analysis for energy forecasting
14:20 – 15:00	Kaname Matsue	I ² CNER and IMI, Kyushu University	Interaction between flame and physical phenomena: asymptotic studies, results and reviews
15:00 – 15:40	Nguyen Thi Hoai Linh	IMI, Kyushu University	Fully automatized optimization of ring- opening reactions in lactone derivatives via 2-step machine learning
15:40 – 16:10	Animesh Pal	I ² CNER, Kyushu University	Functional Activated Carbons and Their Composites for Utilization of Thermal Energy
16:10 – 16:15	Kenji Kajiwara	Director of IMI, Kyushu University	Closing remarks

< Kyushu University COI >
< Sustainable Coevolutionary Society Symposium >

<Date> 17:00-19:00, January 31, 2023

<Venue> Online (ZOOM Webinar)

<Language> Japanese

Time	Program and Speaker
17:00-17:05	<p><u>Opening Remarks</u> Rin-ichiro Taniguchi , Executive Director, Vice President, Kyushu University</p>
17:05-17:15	<p><u>Introduction of the Kyushu University COI Study Group</u> Kazunari Sasaki, COI Study Group Leader / Vice President, Senior Professor, Kyushu University</p>
17:15-17:35	<p><u>The initiatives and research themes for social implementation in each field</u> ● ICT Group 「Spread of ICT-based Behavior Change Support toward a Sustainable Society」 Yutaka Arakawa, ICT Group Leader / Professor, Faculty of Information and Systems Engineering, Kyushu University</p>
17:35-17:55	<p><u>The initiatives and research themes for social implementation in each field</u> ● Mobility Group 「Development of new mobility services for community vitalization」 Ryo Ariyoshi, Mobility Group Leader / Project Associate Professor, Faculty of Urban Innovation, Yokohama National University</p>
17:55-18:05	<p>Break (10min)</p>
18:05-18:25	<p><u>The initiatives and research themes for social implementation in each field</u> ● Math for Industry group 「Initiative for social implementation of mathematics in Post-COI」 Yasuhide Fukumoto, Math for Industry group Leader / Professor, Institute of Mathematics for Industry, Kyushu University 「Multivariate time series analysis for energy forecasting」 Kei Hirose , Professor, Institute of Mathematics for Industry, Kyushu University</p>
18:25-18:45	<p><u>The initiatives and research themes for social implementation in each field</u> ● Energy Group 「Progress of sustainable model community project toward hydrogen society in Ito campus」 Yuya Tachikawa, Assistant Professor, Faculty of Engineering, Kyushu University 「Advances in cost engineering after COI – Development of hydrogen and fuel cell technologies -」 Junichiro Otomo, Professor, Department of Transdisciplinary Science and Engineering Energy Course, School of Environment and Society, Tokyo Institute of Technology</p>
18:45-18:55	<p><u>General Discussion</u></p>
18:55-19:00	<p><u>Closing Remarks</u> Yuichi Nakamura, Executive Professional, NEC Corp. / Former Project Leader, Kyushu University (C²RSC)</p>

※The program is subject to change.

九州大学—ISIT—福岡市連携 グリーントランスフォーメーション(GX)シンポジウム ～福岡発 脱炭素をビジネスに！～

<主催> 国立大学法人九州大学、公益財団法人九州先端科学技術研究所(ISIT)、福岡市
 <日時> 2023年2月1日(水曜日) 14:00-16:00
 <場所> アクロス福岡 7階 大会議室 (福岡県福岡市中央区天神1-1-1)
 <言語> 日本語

<プログラム及び講演者>

時 間	プログラム・講演者
14:00～14:10	開会挨拶 九州先端科学技術研究所 所長 山田 淳 九州大学 理事・副学長 久枝良雄
14:10-14:50	基調講演① 九州大学グローバルイノベーションセンター 准教授 早淵 百合子 氏 「温室効果ガス排出量の算定方法論—排出量の削減とは?—」
14:50-15:30	基調講演② トヨタ自動車九州株式会社 環境プラント部 部長 弥永 明彦 氏 「トヨタ九州におけるカーボンニュートラルの目標とアクション」
15:30-16:00	「福岡市・九州先端科学技術研究所(ISIT)による 市内企業の脱炭素ビジネスへの取組み支援」 「福岡グリーンイノベーションチャレンジ事業採択企業の 脱炭素ビジネス事例報告」 【登壇予定企業】 アークエルテクノロジーズ株式会社 オングリットホールディングス株式会社 株式会社 JCCL (旧: ㈱日本炭素循環ラボ)
16:00	閉会挨拶 福岡市 経済観光文化局 創業・立地推進部長 堀 浩信

※本プログラム記載事項は現時点での情報であり、今後変更となる可能性があります。

keynote Lecture ①



温室効果ガス排出量の算定方法論 ー排出量の削減とは？ー

九州大学グローバルイノベーションセンター 准教授
 (兼任) 大学院芸術工学府芸術工学専攻環境設計コース
 (兼任) 洋上風力研究教育センター脱炭素エネルギーマネジメント研究部門

早瀬百合子

京都議定書からパリ協定へ移行し、脱炭素社会の実現に向けて、温室効果ガス排出量の削減とカーボンニュートラル達成は不可欠です。温室効果ガス排出量は気候変動における政策や企業戦略評価の基本データであり、経済性とも密接に関連します。国際社会では温室効果ガス排出量はどのように算定されて、その削減評価はどのようなものか、国際枠組みにおける交渉経緯から算定方法とその審査、国際的課題について展望します。

keynote Lecture ②



トヨタ九州におけるカーボンニュートラルの目標と アクション

トヨタ自動車九州株式会社環境プラント部 部長

弥永 明彦

トヨタ自動車九州のカーボンニュートラルの取組について、基となるトヨタ自動車のトヨタ環境チャレンジ 2050 の6つのチャレンジを紹介させていただいた上で、トヨタ自動車九州の基本的な取組の考え方とロードマップのご紹介をいたします。その各種取組について、生産設備の改善事例、日常改善の事例、再生可能エネルギーの導入事例と水素の取組もご紹介させていただきます。皆様のカーボンニュートラルの取組の一助になれば幸いです。



INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

2023 I²CNER ANNUAL SYMPOSIUM
“OPTIMAL TRANSITIONS: FROM LABORATORY RESEARCH TO THE CARBON-NEUTRAL ENERGY MARKETS”
I²CNER HALL/ HYBRID
ITO CAMPUS, KYUSHU UNIVERSITY

WEDNESDAY, FEBRUARY 1ST, 2023

1:00 p.m. Opening Remarks
Tatsuro Ishibashi, *President, Kyushu University*
Akira Ukawa, *WPI Program Director*
Chuka Asike, *Principal Officer to the U.S. Consulate Fukuoka*
Shibata Shingo, *Managing Executive Officer, Center Executive, R&D Center, Mitsui Chemicals, Inc.*
Petros Sofronis, *Director, I²CNER, Kyushu University*

1:25 p.m. Introduction
“Establishment of Mitsui Chemicals, Inc.–Carbon Neutral Research Center (MCI-CNRC)”
Toshihiro Takai, *Director, MCI-CNRC, I²CNER, Kyushu University*

Session 1: Green hydrogen production and utilization

1:40 p.m. Invited Lecture A
“Investigating surface and interface properties and their impact on solid oxide cell electrodes”
Stephen Skinner, *Imperial College London*

2:05 p.m. Invited Lecture A'
“Current Status of SOEC Development in Denmark; from research at DTU to up-scaling and commercialization at Topsoe”
Anne Hauch, *Senior Group Manager, SOEC Cell Performance Group - Power-to-X Topsoe*

2:30 p.m. I²CNER Presentation A
“Active photocatalysts by high-pressure torsion”
Kaveh Edalati, *I²CNER, Kyushu University*

2:55 p.m. **Photo session**

3:00 p.m. **Coffee Break (Poster Session)**

Session 2: CO₂ separation and capture

- 3:30 p.m. Invited Lecture B
"Towards Integration of CO₂ capture and conversion technology"
Paul Kenis, Elio Eliakim Tarika Endowed Chair and Department Head in Chemical and Biomolecular Engineering, University of Illinois Urbana-Champaign (UIUC)
- 3:55 p.m. I²CNER Presentation B
"Prospect of functional adsorbents in attaining environmental sustainability"
Bidyut Baran Saha, I²CNER, Kyushu University

Session 3: CO₂ conversion and fixation

- 4:20 p.m. Invited Lecture C
"Electrodeposited Composite Catalysts for CO₂ and methanol electrolyzers"
Andrew Gewirth, Department of Chemistry, University of Illinois Urbana-Champaign (UIUC)
- 4:45 p.m. I²CNER Presentation C
"Conversion of carbon dioxide to methanol using Cu/ZnO catalysts"
Junji Nakamura, MCI-CNRC, I²CNER, Kyushu University

Session 4: Advanced analysis and evaluation

- 5:10 p.m. Invited Lecture D
"From Research to Markets: Case studies of Clean Energy Technologies"
Jill Engel-Cox, Director of the Joint Institute for Strategic Energy Analysis, U.S. National Renewable Energy Laboratory
- 5:35 p.m. I²CNER Presentation D
"Achieving a Sustainable Transition: Energy System Design, Behavior and Innovation"
Andrew Chapman, I²CNER, Kyushu University
- 6:00 p.m. Closing Remark
Tatsumi Ishihara, I²CNER, Kyushu University

九州地区再生可能エネルギー連携委員会 <再生可能エネルギー連携フォーラム>

<日時> 2023年2月2日(木) 13:30-16:15
 <場所> 九州大学伊都キャンパス椎木講堂 大会議室(ハイブリッド)
 <言語> 日本語

<プログラム及び講演者>

時間	プログラム・講演者
13:30-13:35	開催挨拶(5分) 九州大学総長 石橋 達朗
13:35-14:50	大学間連携による再生可能エネルギー人材育成(75分:1大学15分) 1.カーボンニュートラル社会構築に向けた教育からのアプローチ-ESDの手法を用いて- 福岡教育大学 副学長(学生指導・厚生担当)・教授 石丸 哲史 2.若手研究者のための九州海洋エネルギー人材育成プラットフォーム事業 佐賀大学 海洋エネルギー研究所長・教授 池上 康之 3.長崎大学のカーボンニュートラル研究教育への取り組み 長崎大学 海洋未来イノベーション機構海洋エネルギー利用研究部門長・副学長・教授 山本 郁夫 4.九州大学洋上風力研究教育センターの取組みについて 九州大学 洋上風力研究教育センター副センター長・教授 古川 勝彦 5.再生可能エネルギーに関する教材開発およびオンデマンド講義への活用 宮崎大学 工学教育研究部副学部長・教授 西岡 賢佑
14:50-15:00	休憩(10分)
15:00-16:10	パネル討論(70分) モデレーター:九州大学エネルギー研究教育機構 教授 吉田 謙太郎 パネリスト:九州大学洋上風力研究教育センター副センター長・教授 古川 勝彦 佐賀大学海洋エネルギー研究所長・教授 池上 康之 長崎大学海洋未来イノベーション機構海洋エネルギー利用研究部門長・副学長・教授 山本 郁夫 宮崎大学工学教育研究部副学部長・教授 西岡 賢佑 鹿児島大学理事・副学長 岩井 久 琉球大学工学部 教授 千住 智信
16:10-16:15	閉会挨拶(5分) 九州大学理事・副学長 福田 晋

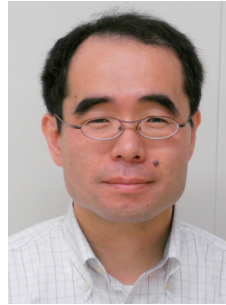
University of Teacher Education Fukuoka



Tetsuji Ishimaru

Vice-President of Student Guidance and Welfare
Professor of Faculty of Education

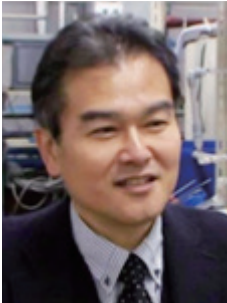
Kyushu University



Katsuhiko Furukawa

Deputy Director of Public Relations of Research and Education Center for Offshore Wind, Kyushu University

Saga University



Yasuyuki Ikegami

Institute of Ocean Energy
Director, Professor

Nagasaki University



Ikuo Yamamoto

VICE PRESIDENT
Professor

University of Miyazaki



Kensuke Nishioka

Faculty of Engineering, Vice Dean
Professor

Kagoshima University



Hisashi Iwai

Executive Director and Vice-President for Planning and University-Community Partnerships

University of the Ryukyus



Tomonobu Senju

Professor



INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

I²CNER THRUST WORKSHOP: TOWARD CARBON NEUTRALITY

ADVANCED ENERGY MATERIALS THRUST (AEM),
ADVANCED ENERGY CONVERSION SYSTEMS THRUST (AECS),
AND MULTISCALE SCIENCE AND ENGINEERING FOR ENERGY AND THE ENVIRONMENT THRUST (MS3E)

DATE: FEBRUARY 2ND, 2023, THURSDAY

TIME: 9:30 AM – 2:30 PM (JST)

VENUE: I²CNER HALL/HYBRID, ITO CAMPUS, KYUSHU UNIVERSITY

Time	Speaker	Affiliation	Title
9:30 a.m.	Hiroshige Matsumoto	I ² CNER	Opening Remarks
Session 1: Advanced Energy Materials Thrust (AEM)			
9:35 a.m.	Robert O. Ritchie <i>(virtual presentation)</i>	UC Berkeley/ Lawrence Berkeley National Laboratory	TBA
10:00 a.m.	Yoshinori Sawae	Kyushu University/ I ² CNER	Polymer tribology in hydrogen
10:25 a.m.	Toshihiro Tsuchiyama	Kyushu University/ I ² CNER	Alloy design of low-Ni high-strength austenitic steels with interstitial elements
Session 2: Advanced Energy Conversion Systems Thrust (AECS)			
10:50 a.m.	Deibert Wendelin	Forschungszentrum Jülich GmbH	Membrane Reactor for Dehydrogenation of Alkanes
11:15 a.m.	Motonori Watanabe	I ² CNER	D-π-A type sensitized TiO ₂ photocatalyst for H ₂ production under NIR light
11:40 a.m.	Aleksandar Staykov	I ² CNER	Design of Energy-related Materials using First Principle Calculations
Lunch at I²CNER lounge			
<i>SOIFIT lunch meeting (*invitees only) at I²CNER meeting room</i>			
Session 3: Multiscale Science and Engineering for Energy and the Environment Thrust (MS3E)			
1:10 p.m.	Caleb Brooks	UIUC	Cultural and demographic considerations for energy transition: a case study in the U.S.
1:35 p.m.	Anutosh Chakraborty	Nanyang Technological University (NTU)	Adsorption Assisted Xenon and Hydrogen Storage
2:00 p.m.	Roman Selyanchyn	I ² CNER	Gas separation membrane - based extraction of CO ₂ from air and its potential for distributed direct air capture
2:25 p.m.	Petros Sofronis	Director, I ² CNER	Closing Remarks

(Coffee Break)

九州水素・燃料電池フォーラム & 水素先端世界フォーラム 2023

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

【開催日時】 2023年2月2日（木）13:00-16:35

【開催会場】 九州大学 病院キャンパス百年講堂 + オンライン配信 (Teams)

【言語】 日本語

時間	プログラム・講演者
13:00-13:10	開会・主催者挨拶 経済産業省 九州経済産業局長 苗村 公嗣 福岡県水素グリーン成長戦略会議 顧問 福岡県知事 服部 誠太郎
13:10-13:40	講演 『カーボンニュートラル時代における水素政策の今後の方向性』 経済産業省資源エネルギー庁 省エネルギー・新エネルギー部 新エネルギーシステム課 水素・燃料電池戦略室 室長 安達 知彦
13:40-14:10	講演 『政府の水素政策を踏まえた九州への期待』 国立大学法人九州大学 副学長兼水素エネルギー国際研究センター長 佐々木 一成
14:10-14:30	講演 『トヨタ自動車九州の水素エネルギー取組について』 トヨタ自動車九州株式会社 環境プラント部兼カーボンニュートラル推進 G 部長 弥永 明彦
14:30-15:00	講演 1 『液化水素海上輸送要素技術の開発 －液化水素キャリアー部品への G F R P 素材複合めっき技術の適用－』 株式会社九州電化 専務取締役 山田 亮 講演 2 『「水素燃料ガス計測装置」の製品開発状況』 矢部川電気工業株式会社 取締役会長 阪本 一平
15:00-15:05	休憩
15:05-15:35	講演 『バイオものづくりの展開 - 水素酸化細菌を用いた CO ₂ からの物資生産に向けて』 神戸大学 教授 近藤 昭彦
15:35-16:05	講演 『ISO/TC197（水素技術）の活動内容および国内の取組み』 水素供給利用技術協会（HySUT）理事・事務局長 池田 哲史
16:05-16:20	WIPO グリーンの概要と取組み説明
16:20-16:25	閉会挨拶 九州大学 水素材料先端科学研究センター センター長 杉村 丈一
16:25-16:35	質疑応答

化学工学部門 特別講演会 Special seminar, Department of Chemical Engineering

日時(Date): 令和 5 年 2 月 2 日(木) 14:00~15:00
February 2nd, 2023 2:00 - 3:00 pm
Presentation and Discussion are included.

場所(Room): ウエスト4号館 7 階 732 室
West Zone Building IV, 7F Room 732

講師(Lecturer): Prof. Jeng-Yu Lin
Professor, Laboratory of Interfacial Electrochemistry
Department of Chemical and Materials Engineering,
Tunghai University, Taiwan

題目(Title): Fabrication of Electrode Materials for Energy Conversion/Storage
Devices by Using Electrodeposition Techniques

概要(Abstract):
In this presentation, we will introduce the use of electrodeposition techniques to fabricate electrode materials for energy conversion/storage devices (like solar cells, supercapacitors, and Na-ion batteries) due to its unique features of low temperature, free-standing deposits, good selectivity, large-scale fabrication, and high throughput. The electrodeposition techniques including functional electrolyte additives, template-assisted deposition, pulse deposition, and activation strategies for electroless deposition will be introduced in this lecture. For example, we have successfully developed a facile pulse-reversal electrodeposition method to deposit free-standing Ni_3S_2 thin films on Ni foam for hybrid supercapacitor (SC) applications. The optimal pulsed Ni_3S_2 //carbon fiber cloth hybrid SC can be reversibly charged and discharged at a stable cell voltage of 1.8 V and generate an impressive specific capacity of 25.5 mAh g^{-1} at a current density of 0.5 A g^{-1} , which can deliver a maximum energy density of 28.8 Wh kg^{-1} at a power density of 684 W kg^{-1} .

言語(Language): English

連絡先(Contact): 7講座 井上元 (Gen Inoue) ginoue@chem-eng.kyushu-u.ac.jp



INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

-CENTER FOR ENERGY SYSTEMS DESIGN -
KICK-OFF WORKSHOP

DATE: THURSDAY, FEBRUARY 2ND & FRIDAY, FEBRUARY 3RD, 2023

TIME: 3:00PM –8:00PM & 9:30AM – 1:00PM (JST)

VENUE: I²CNER HALL/HYBRID, ITO CAMPUS, KYUSHU UNIVERSITY

Time	Speaker	Affiliation	Title
Thursday, February 2			
3:00 p.m.	Hiroshige Matsumoto	Kyushu University	About Center for Energy Systems Design
Session1: Data Science			
3:20 p.m.	Guillaume Lambard	National Institute for Materials Science (NIMS)	Data-driven design of materials
3:45 p.m.	Aleksandar Staykov	Kyushu University	Autonomous design of ring opening reactions through machine learning and first principle simulations
Session2: Materials / Transport			
4:00 p.m.	Shin-ichi Orimo	Tohoku University	Advanced Hydride Materials Design for Energy-Related Applications
4:25 p.m.	Masanobu Kubota	Kyushu University	Mitigation of hydrogen embrittlement by impurities and creep in hydrogen
Session3: Materials Conversion			
4:40 p.m.	Yoichi Yamada	RIKEN	Development of Spatial Catalysts for Organic Transformations
5:05 p.m.	Ken-ichi Shimizu	Hokkaido University	Computational, data science, and spectroscopic studies for design of heterogeneous catalysis
5:30 p.m.	Miho Yamauchi	Kyushu University	Inorganic Nanomaterials to Achieve Efficient Hydrogenation Reactions
6:00 p.m.	Free Discussion		
Friday, February 3			
Session4: Electric Conversion			
9:30 a.m.	Tatsumi Ishihara	Kyushu University	Intermediate temperature steam and CO ₂ electrolysis by using LaGaO ₃ electrolyte cells

Session5: Photo Conversion			
9:45 a.m.	Shintaro Ida	Kumamoto University	About Institute of Industrial Nanomaterials
10:10a.m.	Toshinori Matsushima	Kyushu University	Efficient and stable solar power conversion from hybrid perovskites
Session6: Energy Analysis			
10:25 a.m.	Andrew Chapman	Kyushu University	The Role of Energy Analysis Toward Sustainability and Carbon Neutrality
10:40 a.m.	Junichiro Otomo <i>(virtual presentation)</i>	Tokyo Institute of Technology	Integrated Energy Science in Tokyo Tech
11:05 a.m.	General Discussion		
11:35 a.m.	Lunch Break 1: CESD Lunch meeting at I ² CNER meeting room <i>*invitees only</i>		
11:35 a.m.	Lunch Break 2: Lunch on your own <i>*Bringing your own lunch is recommended.</i>		

- HYDROGEN-MATERIALS INTERACTIONS -

HYDROGENIUS, I²CNER, HYDROMATE AND SINTEF JOINT RESEARCH SYMPOSIUM 2023

< Date and hour > February 2nd (Thu), 20:00—23:00 (Japan time)
 February 3rd (Fri), 20:00—23:00 (Japan time)
 < Venue > Online (ZOOM Webiner)
 < Language > English

Day 1 Program (February 2nd (Thu), 20:00—23:00)

Time	Presentation Title and Speaker
20:00-20:10	Opening Remarks Hisao Matsunaga (Kyushu University, Japan)

Session 1 (Chair: Hisao Matsunaga, Kyushu University)

20:10-20:50	Direct Observations of Hydrogen Atoms: Insights for Hydrogen Embrittlement Yi-Sheng Chen (The University of Sydney, Australia)
20:50-21:30	Materials Characterization in Cryogenic and High-Pressure Hydrogen Gas Environments - NIMS Initiatives for a hydrogen energy society - Yoshinori Ono (NIMS, Japan)
21:30-21:40	Break

Session 2 (Chair: Vigdis Olden, SINTEF)

21:40-22:20	Characterisation of the hydrogen interaction with austenitic steels Lisa Claeys (Ghent University, Belgium)
22:20-23:00	Strain-life testing in hydrogen gas as a probe for materials effects May Martin (NIST, USA)

Day 2 Program (February 3rd (Fri), 20:00—23:00)

Time	Presentation Title and Speaker
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Session 3 (Chair: Masanobu Kubota, Kyushu University)

20:00-20:40	Hydrogen Diffusion Coupled with Crystal Plasticity FEM Adrienne Muth (Fraunhofer Institute for Mechanics of Materials IWM, Germany)
20:40-21:20	Reasonable Design Concept of Cr-Mo Steel Components in Consideration of Hydrogen Embrittlement Junichiro Yamabe (Fukuoka University, Japan)
21:20-21:30	Break

Session 4 (Chair: Brian Somerday, University of Illinois at Urbana Champaign)

21:30-22:10	Mechanical Performance Assessment of Subsea Pipeline Base Metals for Hydrogen Transport Aleksander Omholt Myhre (NTNU, Norway)
22:10-22:50	Microstructural Engineering to Achieve Low Cost, High Performance Solutions for Hydrogen Storage and Delivery Kip Findley (Colorado School of Mines, USA)
22:50-23:00	Closing Remarks Brian Somerday (University of Illinois at Urbana-Champaign, USA)



INTERNATIONAL INSTITUTE FOR CARBON-NEUTRAL ENERGY RESEARCH

JSPS CORE-TO-CORE PROGRAM
-SOLID OXIDE INTERFACES FOR FASTER ION TRANSPORT-
SOIFIT, THE FINAL SEMINAR

DATE: FRIDAY, FEBRUARY 3RD, 2023

TIME: 1:00 PM – 5:10PM (JST)

VENUE: I²CNER HALL/HYBRID, ITO CAMPUS, KYUSHU UNIVERSITY

Time	Speaker	Affiliation	Title
1:00 p.m.	John Kilner	Imperial College London	Opening Remarks
1:10 p.m.	Stephen Skinner	Imperial College London	Enhancing the ionic transport in scheelite structured electrolytes
1:40 p.m.	Thomas Lippert	Paul Scherrer Institute	Thin films by pulsed laser deposition as model systems for studies on energy materials
2:10 p.m.	Harry Tuller	Massachusetts Institute of Technology	Reversing cathode poisoning in solid oxide fuel cells by controlled surface acidity
2:40 p.m.	Kulbir Ghuman	Institut national de recherche scientifique	Understanding the role of interfaces and grain boundaries present in SOFC electrolytes
3:10 p.m.	Coffee Break		
3:40 p.m.	Tatsumi Ishihara	I²CNER, Kyushu University	Interface between SrO and Co ₃ O ₄ for oxygen dissociation
4:00 p.m.	Masatomo Yashima	Tokyo Institute of Technology	Search for High Ionic Conductors and their Mechanism
4:20 p.m.	Ainara Agüadero	Imperial College London	Importance of wetting to improve the performance of all-solid state batteries
4:40 p.m.	Aleksandra Mielewczyk-Gryń	Gdańsk University of Technology	Complex properties of barium lanthanide cobalites
5:00 p.m.	Hiroshige Matsumoto	I²CNER, Kyushu University	Closing Remarks

2023 HYDROGENIUS & I²CNER TRIBOLOGY SYMPOSIUM
HYDROGENIUS Tribology Division and I²CNER Advanced Energy Materials Thrust
Co-organized by Hydrogen Tribology Technical Committee,
Japanese Society of Tribologists (JAST)

< Date > 10:00-17:20, 3rd February 2023
 < Venue > Centennial Hall, Kyushu University, and Online (ZOOM Meetings)
 < Language > English

Preliminary Program

Time	Title and Speaker
10:00-10:10	Opening Remarks
10:10-10:50	Keynote lecture Sliding of polymers in LH2 Géraldine Theiler, Bundesanstalt für Materialforschung und -prüfung (BAM), Germany
10:50-11:30	Invited lecture Gas emission from polymer composites sliding against metal in hydrogen Yoshinori Sawae, Kyushu University, Japan
11:30-12:10	Invited lecture TBA TBA, DuPont
12:10-13:30	Lunch
13:30-14:10	Keynote lecture TBA Andreas A. Polycarpou, Texas A&M University, USA
14:10-14:50	Invited lecture In Situ Observation of Friction Behavior of DLC in Hydrogen Gas Atmosphere Hidenori Hibino, Denso Corporation, Japan
14:50-15:30	Invited lecture Hydrogen material interactions: research at VTT Helena Ronkainen, VTT Technical Research Centre of Finland, Finland
15:30-15:50	Coffee Break
15:50-16:30	Keynote lecture The role of hydrogen in white etching cracking under rolling contact fatigue Ling Wang, University of Southampton, UK
16:30-17:10	Invited lecture Effect of Additives on Hydrogen Generation by Contact of Greases with Nascent Clean Steel Surface Toshiaki Wakabayashi, Kagawa University, Japan
17:10-17:20	Closing Remarks

International Symposium of Hydrogen Polymers Team, HYDROGENIUS

< Date > 11:00-17:05, Friday, 3rd February 2023 (JST)

< Venue > Centennial Hall, Kyushu University School of Medicine / ZOOM Meetings

< Language > English

< Tentative Program and Speaker >

Time	Program and Speaker
11:00-11:10	Opening Remarks Prof Shin NISHIMURA , Kyushu University (Japan)
11:10-12:00	Research activities of Hydrogen Polymer Team, HYDROGENIUS Prof Shin NISHIMURA , Kyushu University (Japan)
12:00-13:20	Lunchtime Break
13:20-14:10	Green Hydrogen - Practical and Visionary Applications Prof Zoltan MAJOR , Johannes Kepler Universität (Austria)
14:10-15:00	AI analysis of the hydrogen compatible polymeric materials (tentative) Prof Hiroaki ONO , Kyushu University (Japan)
15:00-15:20	Coffee break
15:20-16:10	Observed low-pressure hydrogen effects on thermoplastics Dr Kevin SIMMONS , Pacific Northwest National Laboratory (USA)
16:10-17:00	Real-time effects of hydrogen swell on elastomers in a novel high-pressure hydrogen observation cell Dr Wenbin Kuang , Pacific Northwest National Laboratory (USA)
17:00-17:05	Closing Remarks Prof Shin NISHIMURA , Kyushu University (Japan)

Local Time for the symposium

	Japan (JST)	China (CST)	US West (PST)	US East (EST)	Europe (CET)	UK (GMT)
Prof Nishimura	11:10	10:10	18:10*	21:10*	03:10	02:10
Prof Major	13:20	12:20	20:20*	23:20*	05:20	04:20
Prof Ono	14:10	13:10	21:10*	00:10	06:10	05:10
Dr Simmons	15:20	14:20	22:20*	01:20	07:20	06:20
Dr Kuang	16:10	15:10	23:10*	02:00	08:10	07:10

* Thursday, 2 February