



Industry Forum

[HP] - Hydrogen & Power to X Technologies

Dr. Hyungwoong Ahn (Univ. of Edinburgh), Dr. Sangwon Kim (KIST Europe)

Wednesday, August 16, 2023

[HP1] Low-carbon emitting technologies in industries

R.10 (Venus 2) | 13:00 - 14:30

Chair: Dr. Hyungwoong Ahn | Univ. of Edinburgh

TIME	TITLE	PRESENTER
13:00	Turquoise hydrogen: one of the best options for the industry's low-carbon energy transition	Uendo Lee Korea Institute of Industrial Technology
13:20	[KEYNOTE] Technology development strategy of a CCU process	In Hyoup Song Korea research Institute of chemical technology
13:40	Optimization for the integration design of the ship's existing systems and CCS capture to save energy needed for capturing CO2 in ships	Ilgu Hong HD HE KSOE
14:00	PSA-SPUR: An Advanced Adsorption Process for Heavy Component Recovery and Its Application for On-board Carbon Capture	Hyungwoong Ahn Univ. of Edinburgh

[HP2] The Green Hydrogen Society of the Future

R.10 (Venus 2) | 14:50 - 16:20

Chair: Dr. Sangwon Kim | KIST Europe

TIME	TITLE	PRESENTER
14:50	Molecular Engineering Approach Toward Improving Hydrogen Storage and Releasing Performance of LOHC	Ji Hoon Park Korea Research Institute of Chemical Technology
15:10	New Concept Development on Green Hydrogen Production & Liquefaction Platform	Jihyun Hwang Korea Institute of Energy Technology
15:30	Harnessing International R&D Collaboration to Advance Hydrogen Ecosystem in Korea	Sang Jin Oh National Institute of Green Technology
15:50	Photothermally boosted electrolysis for hydrogen production from water	Dowon Bae Heriot-Watt Univ.

[HP3] Green Ammonia: Future production technologies and applications

R.10 (Venus 2) | 16:40 - 18:10

Chair: Prof. Hyungju Kim | NTNU

TIME	TITLE	PRESENTER
16:40	SK innovation's Carbon to Green Strategy	Seulgi Lee SK innovation
16:45	Present and Future of Ammonia Industry	Dr. Andrea Guati Rojo Ammonia Energy Association
17:10	Green Ammonia in Norway	Prof. Hyungju Kim NTNU
17:35	Transition to Green Ammonia in Economic and Technology aspects	Dr.Lénárd-Istvan Csepei Fraunhofer IGB

[MR] - Marine Applications

Dr. Yongwon Lee (Lloyd's Register), Prof. Hyungju Kim (NTNU)

Tuesday, August 15, 2023

[MR1] Marine Application - Demonstration

R.4 (Taurus 1) | 09:00 - 10:30

Chair: Dr. Kevin Koosup Yum | SINTEF Ocean

TIME	TITLE	PRESENTER
09:00	Opening speech and Introduction of MR and MO sessions	Yongwon Lee Lloyd's Register
09:05	Congratulatory Address from HD HE KSOE	Sungjoon Kim HD HE KSOE
09:10	[KEYNOTE] On Hydrodynamic and Structural Response of Floating Offshore Wind Power Cables	Naiquan Ye SINTEF Ocean
09:30	Carbon Capture Onboard Ships: Addressing Challenges and Implementing on Case Studies	Sadi Tavakoli SINTEF Ocean
09:50	Improving cylinder airflow process in a low speed two stroke marine diesel engine at low load using variable-sized scavenge port approach	Antony John Nyongesa Korea Maritime and Ocean University
10:10	Design study for a large scale hydrogen carrier using design lab framework	Kevin Koosup Yum SINTEF Ocean

[MR2] Marine Applications - Innovation

R.4 (Taurus 1) | 10:50 - 12:20

Chair: Dr. Seong-yeob Lee | KRISO

Prof. Hyungju Kim | NTNU

TIME	TITLE	PRESENTER
10:50	Development and operation of multi modal transportation systems using low emission, autonomous transportation units.	Jon Herman Ulvensøen Univ. of South-Eastern Norway
11:10	Role and Challenges of Onboard Carbon Capture Technology in Achieving IMO's Greenhouse Gas Reduction Goals	Seong-yeob Lee KRISO
11:30	Developments of Offshore Hydrogen, Ammonia and e-Methanol Production facilities for Utilization as a ship fuels	Seongjong Han KRISO
11:50	Developments of 15MW-Class Floating Offshore Wind Turbine Platform and Floating Offshore Hydrogen Production System	Kyong-hwan Kim KRISO

[MR3] Marine Applications - Safety

R.4 (Taurus 1) | 13:20 - 14:50

Chair: Dr. Yongwon Lee | Lloyd's Register

Dr. Woorim Lee | HE KSOE

TIME	TITLE	PRESENTER
13:20	Maritime Safety and Its Challenges	Yongwon Lee Lloyd's Register
13:40	Challenges and Considerations in Liquid Hydrogen Systems Design for Marine Applications	Ms. Padmini Mellacheruvu Lloyd's Register
14:00	Numerical Study on Dynamic BOR of Cryogenic Tank during Voyage for Its Safety Design	Woorim Lee HE KSOE
14:20	Maritime Safety and System-Theoretic Process Analysis (STPA)	Hyungju Kim NTNU

[OW] - Offshore Wind

Dr. Martin S. D Yoo (CRUSE Offshore)

Thursday, August 17, 2023

[OW] The Rise of Offshore Floating Wind Energy: Exploring the Technology, Opportunities, and Challenges

R.11 (Venus 1) | 11:30 - 13:00

Chair: Prof. Taeseong Kim | TU Denmark

TIME	TITLE	PRESENTER
11:30	[KEYNOTE] Technological bottlenecks in designing a floating offshore wind turbine platform	Joonmo Choung Inha Univ.
11:50	Driving the European energy transition through developing, building and managing green energy assets	Sang Chull Chung Q Energy
12:10	Floating Green Hydrogen Production: LOHC as an energy transport vector	Andreas Bösmann FAU Erlangen-Nürnberg
12:30	Floating Green Hydrogen Production: Development of an Offshore H2 Generator using LOHC	Jens Cruse CRUSE Offshore

R.11 (Venus 1) | 14:00 - 15:30

TIME	TITLE	PRESENTER
14:00	Dynamic analysis of a floating wind turbine with a tension leg platform in deep water	Taeseong Kim TU Denmark
14:20	Development of an Expeditious Approach for the Time Domain Direct Strength Assessment for the FOWT Platform	Kyoungtae Kim Korean Register
14:40	Q ENERGY: Offshore Wind Ambitions and Strategy	Chan-Hee Son QENERGY

[ET] - Emerging Trends of IT Industry

Eomji Park (Encode Club)

Tuesday, August 15, 2023

[ET1] Exploring Innovative Technologies in the IT Industry

R.1 (Jupiter) | 09:00 - 10:30

Chair: Eomji Park | Encode Club

TIME	TITLE	PRESENTER
09:10	[KEYNOTE] Reproducible Research for Scalable and Trustworthy Networked Systems	Georg Carle TU Munich
09:40	Less Trust, More Truth: Exploring Web3 and Polkadot	Bill Laboon Web3 Foundation
10:00	Why Zero Knowledge is a Game-Changer	Raza Zaidi Scroll

R.1 (Jupiter) | 10:50 - 12:20

TIME	TITLE	PRESENTER
10:50	What is Decentralized Identity, and Why Does It Matter?	Allison Fromm ProofSpace
11:10	Opening the "Black Box" with Explainable AI (XAI)	Johannes Novotny VRVis
11:30	Quantum Machine Learning for Image Analysis	Suyeon Chang CERN/EPFL
11:50	Innovative First Aid Response: Exploring the VALKYRIES Project and Emerging Technologies in Disaster Management	Kwiyeon Koo Univ. of South-Eastern Norway

[ET2] Innovative Data Centric Approaches to Biomedical Research with HPC

R.1 (Jupiter) | 13:20 - 14:50

Chair: Dr. Minjoong Jeong | KIST

TIME	TITLE	PRESENTER
13:20	Deciphering complex de novo SVs in rare disease in Genomics England project	Hyunchul Jung Wellcome Sanger Institute
13:40	Identification of SARS-CoV-2 induced pathways reveal drug repurposing strategies	Woochang Hwang CardiaTec Biosciences
14:00	spatialUM: Enlightening Tumour Micro-environment in Uveal Melanoma through Spatial omics	Junsung Park EMBL-EBI
14:20	Bio data research and analysis platforms in KISTI and use cases	Junehawk Lee KISTI

[IFO] - Dual R&BD Cooperation Platform between Korea and Germany in Materials-Components-Equipments

Dr. Marin S. D Yoo (CRUSE GmbH)

Wednesday, August 16, 2023

[IFO] Dual R&BD Cooperation Platform between Korea and Germany in Materials-Components-Equipments

R.8 (Mars 1) | 14:50 - 16:20

Chair: Dr. Taeyoung Han | Fraunhofer IKTS

Prof. Jongsouk Yeo | Yonsei Univ.

TIME	TITLE	PRESENTER
14:50	Dual R&BD Cooperation Platform between Korea and Germany in Materials-Components-Equipment	Jongsouk Yeo Yonsei Univ.
15:05	Combining mechanically stable ZrO ₂ with electrically conductive TiO _x via Vat Photopolymerization	Tassilo Moritz Fraunhofer IKTS
15:20	Digital Light Processing Technology for Multi-material Additive Manufacturing	Huisuk Yun Korea Institute of Materials Science
15:35	Monitoring Technology for the Additive Manufacturing of Future Biomedical Parts - Optical Coherence Tomograph	Jörg Opitz Fraunhofer IKTS
15:50	Sol-Gel Chemistry for various applications: membrane separation technology, surface protection and fire protection	Thomas Hoyer Fraunhofer IKTS
16:05	Tribology of Seals for High Vacuum Feedthrough Development	Daeun Kim Yonsei Univ.

R.8 (Mars 1) | 16:40 - 18:10

TIME	TITLE	PRESENTER
16:40	Microfluidic devices for point-of-care diagnostics and organ-on-chip applications	Natalia Beshchasna Fraunhofer IKTS
16:55	Micropatterned Responsive Hydrogel for Biosensor and Soft Actuator Application	Wongun Koh Yonsei Univ.
17:10	N-heterocyclic Carbene integrated Ultra-fast photonic Polymerase Chain Reaction	Ohseok Kwon Sungkyunkwan Univ.
17:25	Nitric oxide donor/scavenger for the treatment of various disease	Won Jong Kim POSTECH
17:40	Sodium Batteries a Key Enabler for a Robust and Sustainable Energy Infrastructure	Matthias Schulz Fraunhofer IKTS
17:55	High capacity nickel coated carbon core-shell materials for advanced Na/NiCl ₂ batteries	Benjamin Schüßler Fraunhofer IKTS



Special Sessions



[S] - Special Sessions

Tuesday, August 15, 2023

[KBIOHealth] Introduction to KBIOHealth and proposal for global cooperation in the field of biohealth

R.11 (Venus 1) | 09:00 - 10:30

Chair: Je-Wook Lee | KBIOHealth
Felix K. Yie | KBIOHealth

TITLE	PRESENTER
Introduction to New Drug Development Center, KBIOHealth and the need for global cooperation	Je-Wook Lee KBIOHealth
Introduction of Medical Device Development Center, KBIOHEALTH	FELIX K. Yie KBIOHealth
Introduction of biopharmaceutical development platform applying artificial intelligence and data science	Won-Kyu Lee KBIOHealth
Supporting Gene & Cell therapy development of Korea	Hyo-Young Chung KBIOHealth
Joint Research with Hospitals for development of Medical Devices	Kangmoo Lee KBIOHealth

[VeKNI] Special session for Advanced Mobility Technology Expert Network

R.10 (Venus 2) | 09:30 - 10:30

Chair: Dr. Min Son | Univ. der Bundeswehr München

TITLE	PRESENTER
Hydrogen energy grid and future mobility applications in the UK	Changho Yang
A study on the weight reduction and energy utilization of air taxis for the future aviation industry	Seunghee Ko
Smart city approaches and differences between Korea and Europe	Eunyoung Jang

[KIGAM] New Vision for the Space Resource Exploration and Utilization Center

R.10 (Venus 2) | 10:50 - 12:20

Chair: Kyeong Ja Kim | KIGAM

[KRIBB] Driving Global Growth of Korea's Biotech Startups: Insights from the Korea Research Institute of Bioscience and Biotechnology (KRIBB) and European Perspectives

R.5 (Taurus 2) | 10:50 - 12:20

Chair: Hongwon Lee | KRIBB

TITLE	PRESENTER
KRIBB as the National Hub for K-Bio Startup and Innovation	Ohsuk Kwon KRIBB
Minimalism in CRISPR technology: Target with TaRGET	Yongsam Kim GenKORE
(1) Successful phase I/II clinical studies of a cancer therapeutic and (2) founding of a startup -Omics AI company: Unexpected fruits following uncompromising research	K. Hun Mok Trinity College Dublin
Brief information on the role of KIST Europe in supporting Korean startups to enter the EU market	Jeongho Seo KIST Europe

[KIST Europe] Global R&I initiative chamber based on NST cooperation strategy
R.10 (Venus 2) | 13:20 - 16:40
Chair: Jeongho Seo | KIST Europe

TITLE	PRESENTER
Brief introduction of NST and Korea-Europe collaborative grant	Jaejun Song NST
3D cell culture-based neurotoxicity evaluation system of hazardous materials	Ki-Suk Kim Korea Institute of Toxicology
Establishment of cardiotoxicity evaluation platforms for hazardous chemical substances based on non-animal testing	Sun-Woong Kang Korea Institute of Toxicology
Global research network for the development of nanophotonics-biosensor convergence technology based on photon-avalanching nanoparticle	Sanghwan Nam Korea Institute of Toxicology
Development of a biomaterial-based in vitro artificial liver tissue model for immune associated toxicity screening	Yu bin Lee Korea Institute of Toxicology

[KIAT] Global Industry Supply Chain & Technological Cooperation Forum
R.1 (Jupiter) | 15:10 - 16:40
Chair: KIAT

TITLE	PRESENTER
Sub. Metal Additive Manufacturing; Present and Future	Seung Eon Kim Korea Institute of Materials Science
Sub. Sodium Batteries for Renewable Energy Storage-A Gamechanger?	Matthias Schulz Institute of Ceramic Technology and Systems
Sub. Recent Advances in Photodetectors Utilizing Organic Semiconductors	Sung Cheol Yoon Korea Research Institute of Chemical Technology

[NGSTF] Next Generation S& T Leaders' Forum
R.8 (Mars 1) | 15:10 - 16:40
Chair: Dr. Hyong-Ha Kim | KRISS

TITLE	PRESENTER
Korea's Status	Hyong-Ha Kim ERC NCP & HFSP
HFSP Grants & Fellowships: Impact and Mission	Pavel Kabat HFSP
Horizon Europe	R. Zarnauskaite EU DGRI
MSCA	Anouk Lafortune EU DGEAC
ERC	Ms. Jelena Luetic EU ERCEA

[KICT] Beyond Boundaries: Consilience in the Environment-Person Relationship
R.9 (Mars 2) | 15:10 - 16:40
Chair: Chang-U Chae | KICT

TITLE	PRESENTER
Reactions to walking sounds in lightweight floor structures	Pyoung-Jik Lee Univ. of Liverpool
Finding additional green space for greenhouse gas reduction	Young Kim KIST
Playground design in social context	Jaewook Kwon Spiel-Bau
Why neighbor noise is not a noise problem	Sang Hee Park KICT

Wednesday, August 16, 2023
[KEIT] Global Technology Strategy Forum
R.4 (Taurus 1) | 13:00 - 14:30
Dr. Hyojun Park | KEIT Europe
[ERC/MSCA/HFSP] 1-Introducing Grant & Fellowship opportunities funded by EU & International Organization HFSP
R.2 (Terra) | 13:00 - 14:30
Chair: Dr. Hyong-Ha Kim | KRISS

TITLE	PRESENTER
Horizon Europe (Title TBD)	R. Zarnauskaite EU DGRI
Grant and fellowships opportunities under the Marie Skłodowska-Curie Actions (MSCA)	Anouk Lafortune EU DGEAC
ERC	Jelena Luetic ERCEA
NRF Korea-EU R&D programs	Mr. Woohyun Cho KERC, NRF Korea
HFSP Grants & Fellowships: Impact and Mission	Pavel Kabat HFSP

[KOFST/VeKNI] Prospects for Science and Technology in Korea and Europe: A Roundtable Discussion
R.2 (Terra) | 14:50 - 16:20
Chair: Dr. Susam Kim | KOFST

TITLE	PRESENTER
Carbon Neutral Conversion and Government Support: The Status of European Steelmakers	Seungmin Na POSCO Europe

[NRF] Brain to Korea
R.9 (Mars 2) | 14:50 - 16:20
Chair: Yungchul Kim | NRF

TITLE	PRESENTER
My Brain-Pool program journey: from a salaryless postdoc to an assistant professor	Je-Kyung Ryu Seoul National Univ.
How Brain Pool(BP) program helped me getting a permanent research scientist position in South Korea	Il-Hwan Kim Korea Research Institute of Standards and Science

[POSCO] Posco Holdings, LiB Business & R&D strategy
R.2 (Terra) | 16:40 - 18:10
Chair: Youngjun Hong | Posco Holdings

TITLE	PRESENTER
Posco Holdings, LiB Business Strategy	Hanjoo Lee Posco Holdings
Posco Holdings, LiB materials R&D status	Sangcheol Nam Posco Holdings

[NST/STEPI] Under the US-China war for technological hegemony and the re-emergence of the concept of critical technology, the direction of international cooperation in STI between Korea and European countries

R.11 (Venus 1) | 16:40 - 18:10

Chair: Kyung-Mo Sung | STEPI

TITLE	PRESENTER
Current Status and Strategy of KIST R&D in National Critical Technology	Juyoung Ham KIST
European Innovation System & KIC Europe	Jongwoon Hwang KIC Europe
The direction to promote Korea-UK cooperation in the field of quantum biology	Youngchan Kim Univ. of Surrey
The direction to promote Korea-EU cooperation in terms of innovation	Jongwoon Hwang KIC Europe
The direction to promote Korea-France cooperation in the field of biotechnology	Jongwook Lee ASCoF

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[ERC/MSCA/HFSP] 2-Testimonials & Experience-sharing by Korean Grantees & Fellows

R.9 (Mars 2) | 11:30 - 13:00

TITLE	PRESENTER
Key considerations when applying HFSP fellowship	Hansol Choi Harvard Medical School
MSCA Fellowship	Teun-Teun Kim Univ. Of Ulsan
Lessons Learned: My experience with the MSCA Fellowship Application	Inha Heo J&J
My journey to ERC Starting Grant	Minchul Kim IGBMC
The impact of HFSP and ERC grants	Chirlmin Joo TU Delft

[FhG/NST] Quantum Technology

R.8 (Mars 1) | 14:00 - 15:30

Chair: Dr. Jungjin Ju | ETRI

TITLE	PRESENTER
Quantum Security Evaluation and Migration Plan for PQC in Korea	Yousung Kang ETRI
ASICs for Post-Quantum Cryptography in RISC-V Processors	Georg Sigl Fraunhofer AISEC
Quantum Radiometry and Its Applications	Keesuk Hong KRISS
Fraunhofer capabilities for enabling Quantum Computing and Sensing by microtechnology	Thomas Knieling Fraunhofer IMS, ISIT
Single Photon Source for Photonic Integrated Circuits	Jindong Song KIST

[EKAMA/Hanwha] Hanwha System's Satellite Activities for Pioneering the New Space Frontier

R.2 (Terra) | 15:50 - 17:20

Chair: Prof. Hyuk Park | UPC-BarcelonaTech

TITLE	PRESENTER
Introduction of Hanwha System	Sangje Cho Hanwha Systems
Introduction of Hanwha systems' micro SAR satellite	Youngbum Song Hanwha Systems
Introduction of Hanwha micro SAR Payload	Kyeongrok Kim Hanwha Systems
Discussions and Q/A for the trend of space technology and Space development plan of Hanwha Sytems	Hyuk Park UPC-BarcelonaTech

[KOSEN] Contribution of overseas Korean scientists and engineers to global research cooperation

R.10 (Venus 2) | 15:50 - 17:20

Chair: Jungsun Yoon | KISTI

TITLE	PRESENTER
Strategies and cases for vitalizing Korean-German research cooperation	Sangwon Kim KIST Europe, Saarland Univ.
Things to consider for joint R&D planning with UK partners	Dowon Bae Heriot-Watt Univ.
Introduction to ITER international organization job opportunities and KOSEN-use cases	Byoung Yoon Kim ITER Organization, I-DREAM